

2022 Annual Report of the National Poison Data System[®] (NPDS) from America's Poison Centers[®]: 40th Annual Report

David D. Gummin, James B. Mowry, Michael C. Beuhler, Daniel A. Spyker, Laura J. Rivers, Ryan Feldman, Kaitlyn Brown, Nathaniel P.T. Pham, Alvin C. Bronstein & Carol DesLauriers

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2022 Annual Report of the National Poison Data System® (NPDS) from America's Poison Centers®: 40th Annual Report

David D. Gummin, James B. Mowry, Michael C. Beuhler, Daniel A. Spyker, Laura J. Rivers, Ryan Feldman, Kaitlyn Brown, Nathaniel P.T. Pham, Alvin C. Bronstein and Carol DesLauriers

ABSTRACT

Introduction: This is the 40th Annual Report of America's Poison Centers National Poison Data System. As of 1 January, 2022, all 55 of the nation's poison centers uploaded case data automatically to NPDS.

Methods: We analyzed the case data tabulating specific indices from the National Poison Data System. The methodology was similar to that of previous years. Where changes were introduced, the differences are identified. Cases with medical outcomes of death were evaluated by a team of medical and clinical toxicologist reviewers using an ordinal scale of 1-6 to assess the Relative Contribution to Fatality of the exposure.

Results: In 2022, 2,483,183 closed encounters were logged by the National Poison Data System: 2,064,875 human exposures, 50,381 animal exposures, 363,099 information requests, 4,790 human confirmed nonexposures, and 38 animal confirmed nonexposures. The upload interval was 4.72 [4.40, 9.27] (median [25%, 75%]) minutes, effectuating a near real-time national exposure and information database and surveillance system. Total encounters showed a 12.9% decrease from 2021, and human exposure cases decreased by 0.771%, while health care facility human exposure cases increased by 0.214%. All information requests decreased by 48.4%, medication identification (Drug ID) requests decreased by 21.2%, and medical information requests showed a 76.92% decrease, although these remain twice the median number before the COVID-19 pandemic. Drug Information requests showed a 52.4% decrease, due to declining COVID-19 vaccine calls to poison centers but still comprised 5.55% of all information contacts. Human exposures with less serious outcomes have decreased 1.70% per year since 2008, while those with more serious outcomes (moderate, major or death) have increased 4.41% per year since 2000.

Consistent with the previous year, the top 4 substance classes most frequently involved in all human exposures were analgesics (11.5%), household cleaning substances (7.23%), antidepressants (5.61%), and cosmetics/personal care products (5.23%). Antihistamines (4.81%) replaced sedatives/hypnotics/antipsychotics as the 5th substance class. As a class, analgesic exposures increased most rapidly, by 1,514 cases/year (3.26%/year) over the past 10 years for cases with more serious outcomes.

The top 5 most common exposures in children age 5 years or less were household cleaning substances (10.3%), analgesics (9.54%), cosmetics/personal care products (9.49%), dietary supplements/herbals/homeopathic (6.65%), and foreign bodies/toys/miscellaneous (6.61%). The National Poison Data System documented 3,255 human exposures resulting in death; 2,622 (80.6%) of these were judged as related (Relative Contribution to Fatality of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory).

Conclusions: These data support the continued value of poison center expertise and the need for specialized medical toxicology information to manage the increasing number of more serious exposures. Unintentional and intentional exposures continue to be a significant cause of morbidity and mortality in the US. The near real-time status of the National Poison Data System represents a national public health resource to collect and monitor US exposure cases and information requests. The continuing mission of the National Poison Data System is to provide a nationwide infrastructure for surveillance for all types of exposures (e.g., foreign body, infectious, venomous, chemical agent, or commercial product), and the identification and tracking of significant public health events. The National Poison Data System is a model system for the near real-time surveillance of national and global public health.

Table of Contents

ABSTRACT	720
Introduction	721
<i>The NPDS Products Database</i>	721
<i>What's New in the 2022 NPDS Annual Report?</i>	721
<i>PoisonHelp.org</i>	721
Methods.....	721
<i>Characterization of Participating Poison Centers and Population Served</i>	721
<i>Encounter Management – Specialized Poison Exposure Emergency Providers</i>	722
<i>NPDS – Near Real-time Data Capture</i>	722
<i>Statistical Methods</i>	722
<i>NPDS Surveillance</i>	722
<i>Emerging Trends</i>	723
<i>Fatality Case Review and Abstract Selection</i>	724
<i>Pediatric Fatality Case Review</i>	724
Results	724
<i>Data Upload Frequency</i>	724
<i>Information Requests to Poison Centers</i>	724
<i>Exposure Cases Logged at Poison Centers</i>	725
<i>Age and Gender Distributions</i>	728
<i>Caller Site and Exposure Site</i>	728
<i>Exposures in Pregnancy</i>	728
<i>Chronicity</i>	729
<i>Reason for Exposure</i>	729
<i>Scenarios</i>	729
<i>Reason by Age</i>	730
<i>Route of Exposure</i>	730
<i>Clinical Effects</i>	730
<i>Case Management Site</i>	730
<i>Medical Outcome</i>	731
<i>Decontamination Procedures and Specific Antidotes</i>	731
<i>Top Substances in Human Exposures</i>	731
<i>Changes Over Time</i>	731
<i>Emerging Trends – Fentanyl Exposures and Tissue Concentrations</i>	732
<i>2022 Snapshot – 40 Years of Annual Reports NPDS</i>	736
<i>Distribution of Suicides</i>	737
<i>Plant Exposures</i>	738
<i>Deaths and Exposure-related Fatalities</i>	739
<i>All Fatalities – All Ages</i>	742
<i>Pediatric fatalities – age ≤ 5 years</i>	745
<i>Pediatric fatalities – ages 6-12 years</i>	747
<i>Adolescent fatalities – ages 13-19 years</i>	747
<i>Pregnancy and Fatalities</i>	748
<i>America's Poison Centers Surveillance Results</i>	748
Discussion	748
Summary	749
Disclaimer	749
Disclosure statement	749
Funding.....	749
References.....	749
APPENDIX A – Table 21. Listing of fatal nonpharmaceutical and pharmaceutical exposures.....	751
APPENDIX B – Table 22(A) & Table 22(B), Demographic profile of SINGLE SUBSTANCE exposure cases by generic category.....	873
<i>Nonpharmaceuticals (Table 22(A))</i>	873
<i>Pharmaceuticals (Table 22(B))</i>	894
APPENDIX C - Abstracts of Selected Cases.....	917
<i>Selection of Abstracts for Publication</i>	917
<i>Abstracts</i>	917
APPENDIX D - POISONHELP.ORG.....	932

APPENDIX E - Acknowledgments.....	933
<i>Poison Centers (PCs)</i>	933
<i>America's Poison Centers Fatality Review Team</i>	936
<i>America's Poison Centers Micromedex Joint Coding Group</i>	937
<i>America's Poison Centers Rapid Coding Team</i>	937
<i>America's Poison Centers PoisonHelp.org Committee</i>	937
<i>America's Poison Centers Surveillance Team</i>	937
<i>Regional Poison Center Fatality Awards</i>	937
APPENDIX F - DATA DEFINITIONS.....	938
<i>Reason for Exposure</i>	938
<i>Medical Outcome</i>	938
<i>Relative Contribution to Fatality (RCF)</i>	939

List of Figures and Tables

Figure 1. Human Exposure Cases, Information Requests and Animal Exposure Cases by Day since 1 January 2000.....	724
Figure 2. All Drug Identification and Law Enforcement Drug Identification Requests by Day since 1 January 2000.....	725
Figure 3. Health Care Facility (HCF) Exposure Cases and HCF Information Requests by Day since 1 January 2000.....	728
Figure 4. Decontamination Procedure Trends by Year from 1 January 2003 (20 Years).....	738
Figure 5. Substance Categories with the Greatest Rate of Exposure Increase since 1 January 2013 for More Serious Outcomes (Top 4).....	742
Figure 6. Change in Human Exposures by Outcome from Year 2000.....	742
Figure 7. Closed Human Fentanyl Exposure Cases by Day from 1 January 2000.....	743
Figure 8. NPDS Fentanyl Exposures, CDC WONDER Fentanyl Deaths, and NPDS More Serious Fentanyl Exposures Relationship with CDC WONDER Fentanyl Deaths by Month.....	743
Figure 9. Log Transformed Whisker Plot of Fentanyl Tissue Concentrations Reported in the NPDS Fatality Database (mg/L).....	744
Table 1A. America's Poison Centers Population Served and Reported Exposures (1983-2022).....	726
Table 1B. Non-Human Exposures by Animal Type.....	726
Table 1C. Distribution of Information Requests.....	726
Table 2. Site of Call and Site of Exposure, Human Exposure Cases.....	728
Table 3A. Age and Gender Distribution of Human Exposures.....	729
Table 3B. Population-Adjusted Exposures by Age Group.....	729
Table 4. Distribution of Age and Gender for Fatalities.....	730
Table 5. Number of Substances Involved in Human Exposure Cases.....	730
Table 6A. Reason for Human Exposure Cases.....	731
Table 6B. Scenarios for Therapeutic Errors by Age.....	732
Table 7. Distribution of Reason for Exposure by Age.....	732
Table 8. Distribution of Reason for Exposure and Age for Fatalities.....	733
Table 9. Route of Exposure for Human Exposure Cases.....	733
Table 10. Management Site of Human Exposures.....	733
Table 11. Medical Outcome of Human Exposure Cases by Patient Age.....	734
Table 12. Medical Outcome by Reason for Exposure in Human Exposures.....	734
Table 13. Duration of Clinical Effects by Medical Outcome.....	734
Table 14. Decontamination and Therapeutic Interventions.....	734
Table 15. Therapy Provided in Human Exposures by Age.....	735
Table 16. Decontamination Trends for Human and Pediatric Exposures ≤ 5 Years: Last decade.....	737
Table 17A. Substance Categories Most Frequently Involved in Human Exposures (Top 25).....	738
Table 17B. Substance Categories with the Greatest Rate of Exposure Increase (Top 25).....	739
Table 17C. Substance Categories Most Frequently Involved in Pediatric (≤ 5 years) Exposures (Top 25).....	739
Table 17D. Substance Categories Most Frequently Involved in Adult (≥ 20 years) Exposures (Top 25).....	740
Table 17E. Substance Categories Most Frequently Involved in Pediatric (≤ 5 years) Deaths.....	740
Table 17F. Substance Categories Most Frequently Identified in Drug Identification Calls (Top 25).....	741
Table 17G. Substance Categories Most Frequently Involved in Pregnant Exposures (Top 25).....	741
Table 18. Categories Associated with Largest Number of Fatalities (Top 25).....	746
Table 19A. Comparisons of Death Data (1985-2022).....	746
Table 19B. Comparisons of Direct and Indirect Death Data (2000-2022).....	747
Table 19C. Detail of Cases Included in Fatality Tables.....	747

Table 20. Frequency of Plant Exposures (Top 25).....	748
Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures.....	751
Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category.....	873
Table 22B. Demographic profile of Single Substance Pharmaceuticals exposure cases by generic category.....	894
Table A. Comparison of Annual Reports 1983 to 2022.....	745
Table B. Top 5 Exposures by Major Generic Code Categories 1982, 2022.....	745

Contents – 2022 AR Narratives

Case 96. Acute disc battery and penny ingestion: probably responsible.....	917
Case 98. Acute envenomation (<i>crotalinae</i>): undoubtedly responsible.....	917
Case 99. Acute envenomation (<i>crotalinae</i>): undoubtedly responsible.....	918
Case 100. Acute envenomation (<i>Loxosceles reclusa</i>): probably responsible.....	918
Case 102. Acute envenomation (<i>crotalinae</i>): undoubtedly responsible.....	918
Case 120. Acute sodium nitrate ingestion: undoubtedly responsible.....	919
Case 126. Acute sodium nitrite ingestion: undoubtedly responsible.....	919
Case 132. Acute sodium nitrite ingestion: undoubtedly responsible.....	919
Case 157. Acute ethylene glycol ingestion: undoubtedly responsible.....	919
Case 160. Chronic cobalt exposure: probably responsible.....	920
Case 166. Acute borate ingestion, inhalation/nasal, dermal: probably responsible.....	920
Case 209. Acute sodium hydroxide ingestion: undoubtedly responsible.....	920
Case 213. Hand sanitizer (methanol) ingestion: undoubtedly responsible.....	920
Case 216. Acute mineral oil ingestion, aspiration: probably responsible.....	921
Case 233. Acute hydrogen sulfide inhalation: undoubtedly responsible.....	921
Case 275. Acute chlorine gas inhalation: probably responsible.....	921
Case 290. Acute chlorine gas inhalation/nasal: undoubtedly responsible.....	921
Case 302. Acute-on-chronic mercury (elemental) inhalation and amphetamine, benzodiazepine, marijuana, cocaine, oxycodone ingestion: undoubtedly responsible.....	922
Case 327. Acute botulism parenteral: contributory.....	922
Case 330. Acute <i>Amanita phalloides</i> ingestion: probably responsible.....	923
Case 339. Acute bifenthrin, chlorpyrifos ingestion, dermal: undoubtedly responsible.....	923
Case 344. Acute methyl bromide, ethanol (beverage): undoubtedly responsible.....	923
Case 348. Acute metolachlor ingestion: probably responsible.....	923
Case 359. Acute diazinon ingestion: undoubtedly responsible.....	924
Case 363. Acute <i>Taxus</i> species ingestion: undoubtedly responsible.....	924
Case 365. Acute cardiac glycoside plant (oleander) ingestion: undoubtedly responsible.....	924
Case 378. Acute fentanyl (non-prescription) ingestion and inhalation: undoubtedly responsible.....	924
Case 379. Acute salicylate ingestion: undoubtedly responsible.....	924
Case 394. Acute colchicine ingestion: undoubtedly responsible.....	925
Case 528. Acute tramadol ingestion: undoubtedly responsible.....	925
Case 1510. Acute fentanyl (non-prescription), tramadol, cocaine ingestion: undoubtedly responsible.....	925
Case 1528. Acute lidocaine parenteral: undoubtedly responsible.....	926
Case 1569. Acute bupropion ingestion: undoubtedly responsible.....	926
Case 1580. Acute-on-chronic bupropion ingestion: undoubtedly responsible.....	926
Case 1719. Acute diphenhydramine ingestion: undoubtedly responsible.....	927
Case 1739. Acute-on-chronic ivermectin ingestion, dermal burn: probably responsible.....	927
Case 1740. Acute-on-chronic hydroxychloroquine ingestion: undoubtedly responsible.....	927
Case 1751. Chronic methotrexate ingestion: probably responsible.....	927
Case 1880. Acute digoxin ingestion: undoubtedly responsible.....	928
Case 2033. Acute benzonatate ingestion: probably responsible.....	928
Case 2040. Acute iron ingestion: undoubtedly responsible.....	928
Case 2093. Acute glipizide ingestion: undoubtedly responsible.....	929
Case 2205. Acute methamphetamine, dextromethorphan/guaifenesin ingestion: undoubtedly responsible.....	929
Case 2506. Acute camphor ingestion: contributory.....	929

Introduction

This is the 40th Annual Report of America's Poison Centers National Poison Data System (NPDS) [1]. Fifty-five regional poison centers (PCs) serving the entire population of the 50 United States, American Samoa, District of Columbia, Federated States of Micronesia, Guam, Marshall Islands, Northern Mariana Islands, Palau, Puerto Rico, and the US Virgin Islands, submitted information and exposure case data collected during the course of providing patient-specific exposure management and poison information for the entire year of 2022.

NPDS is the data warehouse for the nation's poison centers (PCs). Poison centers place emphasis on exposure management, accurate data collection and coding, and responding to the continuing need for poison-related public and professional education. The PCs' healthcare professionals are available free of charge to users, 24 hours a day, every day of the year. Poison centers respond to questions from the public, health care professionals, and public health agencies. The number of exposures and information encounters averages over 3.3 million annually since the year 2000. Poison center encounters involve either an exposed human or animal (Exposure case) or a request for information with no person or animal exposed to any foreign body, viral, bacterial, venom, chemical agent or commercial product (Information request). A unique feature of PC case management is the use of follow-up calls to monitor case progress, provide ongoing treatment recommendations, and to determine the medical outcome of the case.

The NPDS Products Database

The NPDS products database contains nearly 468,000 products ranging from viral and bacterial pathogens to commercial chemical and drug products. The products database is maintained and continuously updated by data analysts at the Micromedex® POISINDEX® System (Micromedex® [electronic version], Merative™, Ann Arbor, MI, USA. Available at: <https://www.micromedexsolutions.com/>). A robust generic coding system categorizes the product data into 1,115 active AAPCC Generic Codes™. These generic codes collapse into Pharmaceutical (553) and Nonpharmaceutical (562) groups. These two groups are divided into Major (68) and Minor (188) categories. The generic coding schema undergoes continuous improvement through the work of the America's Poison Centers – Micromedex Joint Coding Committee. The group consists of America's Poison Centers members and Micromedex editorial and lexicon staff working to meet best terminology practices. The generic code system provides enhanced report granularity as reflected in [Appendix B \(Table 22\)](#). The following generic code was introduced in 2022:

Generic Code Added in 2022*

1. Minor Cannabinoids

*Because the new code was added during 2022, the number of cases for this generic code in [Appendix B \(Table 22\)](#) does not reflect the entire year. For completeness, certain categories require customized data retrieval until they have been in place for more than 1 calendar year.

What's New in the 2022 NPDS Annual Report?

- Removal of Table 16A (Decontamination Trends 1985-2021) and Table 16B (Decontamination Trends: Total Human and Pediatric Exposures ≤5 Years)
- New [Table 16](#) (Decontamination Trends for Human and Pediatric Exposures ≤5 Years: Last decade)
- Emerging trends: Fentanyl exposures and tissue data
- Data Snapshot: Historical review - 40 years of poison center annual reports
- PoisonHelp.org: New ability to account for test cases in PoisonHelp.org
- PoisonHelp.org: New timeline for data reporting (3 years instead of 5 years)

PoisonHelp.org

Since the advent of the smartphone and tablet in 2006, consumers increasingly turn to web-based resources to obtain poisoning and other health-related information. In response to this trend, in 2015 America's Poison Centers devised an online tool for consumers to obtain simple individualized poisoning recommendations. The Get Help tool provides an alternative to directly contacting a poison center and guides the consumer to a poison center when poison specialist input would be more appropriate. The platform launched during National Poison Prevention Week in 2016 with initial goals that included a system that would be credible, fast, easy to use, readily accessible from a variety of devices, and available free of charge to consumers. Data collection began in 2017, documenting web-based contacts which are defined as a completed case form submission on poisonhelp.org. New to 2022 was the ability for consumers to mark PoisonHelp.org cases as "test" contacts to differentiate between true exposure contacts and information contacts.

PoisonHelp.org features an interactive Get Help tool that provides critical triage and recommendations on how to manage exposures to potentially toxic products, substances, and medications. Users are prompted to answer a few questions regarding a human exposure to any of the nearly 468,000 unique products. Recommendations are vetted by specially trained physicians, pharmacists, and nurses from our nation's 55 poison control centers. The website can be accessed from any computer or mobile device and is free, confidential, and available 24/7.

[Appendix D](#) contains web-based contact data obtained during the years of PoisonHelp.org activity. [Tables in Appendix D](#) show the demographic information and the most frequent substances queried for human exposure contacts.

Methods

Characterization of Participating Poison Centers and Population Served

Fifty-five US poison centers submitted data to NPDS through 31 December 2022. The entire population of the 50 United States, American Samoa, the District of Columbia, The

Federated States of Micronesia, Guam, Marshall Islands, Northern Marianas Islands, Palau, Puerto Rico, and the US Virgin Islands was served by the US PC network in 2022[2].

Encounter Management – Specialized Poison Exposure Emergency Providers

Poison center Managing Directors are primarily responsible for patient care/information service operations, clinical education, and supervising staff instruction. Most are PharmDs or RNs with American Board of Applied Toxicology (ABAT) certification in clinical toxicology. Medical direction is provided by Medical Directors who are board-certified physician medical toxicologists. At some PCs, the Managing and Medical Director roles are held by the same individual.

Encounters with US PCs are managed by healthcare professionals who have received specialized training in toxicology to provide assessment, triage, management and monitoring of toxic emergencies. These personnel include medical and clinical toxicologists, registered nurses (RNs), pharmacists (PharmD or BS), physicians and physician assistants. Most commonly, RNs and pharmacists make up the contingent of “Specialists in Poison Information” (SPIs) or “Certified Specialists in Poison Information” (CSPIs) in the US. (C)SPIs triage lay public callers to the most appropriate level of care and provide health care professionals with the most up-to-date management recommendations to care for their poisoned/overdosed patients. For a SPI to become nationally certified as a CSPI, they must log a minimum of 1,200 hours in a PC and handle 2,000 human exposure cases prior to being considered eligible to take the certification examination. RNs, pharmacists, physicians and physician assistants are the only individuals eligible to sit for the CSPI examination. Of note is the lack of an appropriate, core toxicology training within most graduate medical education curricula to allow these medical professionals to be prepared for PC patient management operations. These individuals must receive significant additional training beyond their degree programs to become (C)SPIs. Such training is only offered within the PCs. “Poison Information Providers” (PIPs) are allied healthcare professionals who are allowed to manage information-type and lower acuity cases while working under the supervision of a CSPI; they have been utilized to a lesser degree by PCs in recent years. Poison centers undergo a rigorous accreditation process administered by America’s Poison Centers and must submit an annual accreditation report and an extensive reaccreditation application every 7 years.

NPDS – Near Real-time Data Capture

Extensively enhanced over its predecessor, the Toxic Exposure Surveillance System (TESS), which began collecting data in 1983 and near real-time data since 2003, NPDS was launched on 12 April 2006. NPDS is the data repository for all US PCs and includes all case information collected by its predecessor. In 2022, all 55 US PCs uploaded case data automatically to NPDS in near real-time, making NPDS one of the few

operational systems of its kind. Poison center staff record cases contemporaneously in 1 of 5 electronic medical record systems. Each PC uploads case data automatically.

The web-based NPDS software facilitates the detection, analysis, and reporting of surveillance anomalies. System software offers a myriad of surveillance uses allowing America’s Poison Centers, its member centers, and public health agencies to utilize NPDS exposure data. Users can access regional data for their own areas and view national aggregate data. Custom surveillance definitions are available, along with ad hoc reporting tools. Information in the NPDS database is dynamic. Each year the database is locked prior to extraction of annual report data to ensure consistent, reproducible reports. Additional information including autopsy data on fatalities may be added after the lock date as an addendum to the fatality abstract. The 2022 database was locked on 4 August 2023 at 05:00PM EDT.

Note: NPDS entries are called human or animal “exposure cases,” rather than “calls,” because a single call may describe more than one case and because the management of an NPDS case often requires more than a single telephone call or contact. The information in this report reflects only individual case entries that are not duplicates, and only those cases that have been designated by the regional PC as being “closed.” A case is closed when the PC has determined that no further follow-up/recommendations are required or when no further information is available. Exposure cases are followed to obtain the most precise medical outcome possible, when appropriate to do so. Depending on the case specifics, most cases are “closed” within a few hours of the initial contact. Cases involving complex hospitalized patients or resulting in death may remain open for months while data continue to be collected. Follow-up contacts provide a proven mechanism for monitoring the appropriateness of management recommendations, enabling continual updates of case information, augmenting patient guidelines, providing poison prevention education, and obtaining final medical outcomes to make the data collected as accurate and complete as possible.

Statistical Methods

All tables except Tables 1A, 3B, 17B, and Tables D-1, D-2, and D-3 were generated directly by the NPDS web-based application and can thus be reproduced by each PC. The analyses for Figures 1-3 and Figures 5-6 were done using SAS JMP® Pro version 16.2.0 (SAS Institute, Cary, NC) with summary counts generated by the NPDS web-based application. The analyses for Figure 4, and Figures 7-9, Tables 1A, 3B, 17B, D-1, D-2, and D-3, and Figure D-1 were created using Microsoft Excel 365 (Microsoft, Redmond, WA) with summary counts and data generated by the NPDS web-based application.

NPDS Surveillance

As previously noted, all active US PCs upload case data automatically to NPDS. This unique near real-time upload is the foundation of the NPDS surveillance system, making both

spatial and temporal case volume and case-based surveillance possible. NPDS allows creation of volume and case-based definitions. Definitions can be applied to national, regional, state, or ZIP code coverage areas. Geocentric definitions can also be created, which use cases reported from a geographic location regardless of which PC managed the case. This functionality is available to every PC as well as the America's Poison Centers Toxicsurveillance Team. Poison centers also have the ability to share NPDS near real-time surveillance technology with external organizations such as their state and local health departments or other regulatory agencies. Another NPDS feature is the ability to generate system alerts on adverse drug events and other drug or commercial products of public health interest such as contaminated food or product recalls. Thus, NPDS can provide near real-time adverse event monitoring, surveillance, response, and situational awareness.

Surveillance definitions can be created to monitor a variety of parameters (i.e., volume or case-based) on any desired substance or commercial product in the Micromedex® products database; and/or set of clinical effects or other parameters. The products database contains nearly 468,000 entries ranging from viral and bacterial agents to commercial chemical and drug products. Surveillance definitions may be constructed using volume or case-based definitions with a variety of mathematical options and historical baseline periods from 1 to 5 years. NPDS surveillance tools include:

- Volume Alert Surveillance Definitions
 - Total Encounter Volume
 - Human Exposure Case Volume
 - Animal Exposure Case Volume
 - Information Request Volume
 - Clinical Effects Volume (signs and symptoms, or laboratory abnormalities)
 - Syndromic Surveillance Volume allows Boolean based definitions utilizing various NPDS data fields to be run based on historical trends for user defined periods of interest
- Case-based Surveillance Definitions utilizing various NPDS data fields linked in Boolean expressions
 - Substance
 - Clinical Effects
 - Species
 - Medical Outcome and others

Incoming data are monitored continuously, and anomalous signals generate an automated email alert to the America's Poison Centers designated PC or public health agency staff. These anomaly alerts are reviewed by the America's Poison Centers Toxicsurveillance team, the PC, or the public health agency that created the surveillance definition. When reports of potential public health significance are detected, additional information is obtained from reporting PCs via the NPDS surveillance correspondence system or phone. The PC then can alert respective local or state health department (if not already done). Public health issues are brought to the attention of the Health Studies Branch, National Center for Environmental Health, Centers for Disease Control and Prevention (HSB/NCEH/CDC).

Clinical and medical toxicologists on the America's Poison Centers Toxicsurveillance Team review surveillance

definitions on a regular basis to fine-tune the queries. The CDC, as well as state and local health departments with NPDS access granted by their respective PCs, also can create surveillance definitions for routine surveillance tasks or to respond to emerging public health events.

Emerging Trends

Each year since the 2007 annual report, the authors have highlighted a trend in NPDS with public health importance. For example, previous reports have focused on the poison center response to COVID-19, e-cigarette vaping-associated lung injury, adolescent suicides, and cannabinoid exposures. In 2022, the authors are highlighting the changing trends of fentanyl exposures that have been reported to U.S. Poison Centers. The trend highlights not only incidence data but also analyzes tissues concentrations of fentanyl reported antemortem or postmortem for fentanyl related deaths.

NPDS was queried for closed human exposure cases by day from January 1, 2000 - June 30, 2023 for the generic codes: Fentanyl (Prescription), and Non-prescription Fentanyl with previous generic code mapping. Cases were excluded if they had a coded medical outcome of confirmed non-exposure or death, indirect. Generic codes were activated in NPDS for Non-prescription Fentanyl on October 30, 2019. Monthly frequency of NPDS fentanyl exposures is reported for whole years ending on December 31, 2022. Trends in NPDS fentanyl exposures are then compared to a data set of fentanyl implicated deaths derived from the Centers for Disease Control (CDC) Wide-ranging ONline Data for Epidemiologic Research (WONDER).

CDC WONDER data for underlying cause-of-death codes X40–X44, X60–X64, X85, and Y10–Y14 and multiple cause-of-death code T40.4 (Other Synthetic Narcotics) were used [3,4]. Past research analyzing T40.4 coded deaths found that in 2016 95.3% were fentanyl related, rising to 99.1% in 2021 [5]. As 2022 CDC WONDER data is provisional, and the percentage of fentanyl related deaths in T40.4 coded deaths has increased each year, we estimated the percentage of fentanyl involvement in T40.4 coded deaths for 2022 at 99.9% utilizing linear regression ($RSqr\ 0.949, y = .007335 \times Year - 13.8335$). The corresponding annual percentage from each year was then applied to corresponding monthly T40.4 coded deaths within that year from the CDC WONDER coded multiple cause-of-death data to create the data set for NPDS comparison.

Data for fentanyl tissue concentrations found in fatalities reported to U.S. Poison Centers were generated from the NPDS fatality database. All deaths with reported fentanyl tissue concentrations were included from 2008–2022. Specific subpopulations of interest were then taken from the data set. It has been suggested that fentanyl may undergo postmortem redistribution and that postmortem concentrations as well as concentrations from central blood compartments (e.g., femoral artery or heart blood) may display higher concentrations than antemortem or peripheral blood samples. Thus antemortem, postmortem, and samples coded as peripheral blood/serum or central blood/serum (femoral or heart blood) were individually analyzed. Further subpopulations included single substance

fentanyl deaths and polysubstance deaths in which fentanyl was found. Finally, as deaths with both fentanyl and psychostimulants have been rising nationally, deaths with both fentanyl and methamphetamine detected were analyzed. Whisker plots of fentanyl concentrations were constructed to visualize the differences in these groups using log-transformed concentrations due to the wide variability in concentrations. Time from exposure to fentanyl and sample collection as well as time from death to sample collection plays a significant role in the concentration of fentanyl that may be found during analysis. This variable was not able to be controlled for and varied significantly between decedents. Interpretation of the data should be made considering these limitations.

Fatality Case Review and Abstract Selection

NPDS fatality cases are recorded as Death or Death (Indirect Report). Medical outcome of Death means that the PC was notified of the death of the case in which PC personnel were involved in some aspect of the management or responded to a specific case query. Deaths (Indirect Report) are deaths that the PC acquired, typically from medical examiners or media, but did not manage or answer any questions related specifically to that case.

The definitions used for the Relative Contribution to Fatality (RCF) classification are defined in Appendix F, and the methods to select abstracts for publications are described in Appendix C. Although PCs may report death as an outcome, the death might not necessarily result from the exposure. We define exposure-related fatality as a death judged by the America's Poison Centers Fatality Review Team to be at least contributory to the exposure (RCF 1-3). The America's Poison Centers fatality review process was first published in detail in the 2008 NPDS Annual Report [1].

Pediatric Fatality Case Review

A focused Pediatric Fatality Review team comprised of six toxicologists with pediatric expertise evaluated cases for

patients under 19 years of age. The panel reviewed the documentation of all such cases, with specific focus on the conditions behind the poisoning exposure and finding commonalities which might inform efforts at prevention. The reviewed pediatric fatality cases exhibited a bimodal age distribution. As has been true for several years, the circumstances of the case are often not captured in the reason code or the narrative. The pediatric fatality review team encourages that additional detail be obtained from law enforcement or child protective services, postmortem investigation, and regarding the means by which the child accessed the substances responsible for the fatality.

Results

Data Upload Frequency

The time to upload data for all PCs is 4.72 [4.40, 9.27] (median [25%, 75%]) minutes creating a near real-time national exposure database and surveillance system.

Information Requests to Poison Centers

A total of 22,152,346 information requests have been logged into NPDS since the year 2000. Data from 363,099 information requests to PCs in 2022 (Table 1C) were entered into NPDS, including requests in optional reporting categories such as medical information (67,780), drug information (77,342), caller referred (62,275), poison information (42,261), administrative (20,737), and prevention/safety/education (17,003). Total information requests to PCs decreased 48.4% from 2021 (703,086 requests) to 2022 (363,099 requests) as shown in Figure 1.

Figure 2 shows that all Medication Identification (Drug ID) requests have decreased dramatically since mid-2008. Answering Drug ID requests is optional for PCs and some have stopped answering such requests from the public. Law enforcement Drug ID requests also showed a decline.

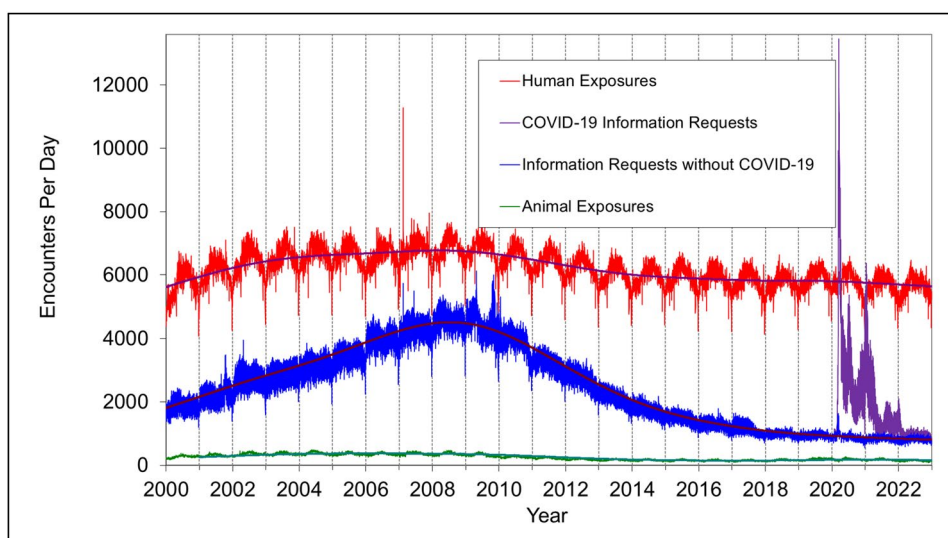


Figure 1. Human Exposure Cases, Information Requests, and Animal Exposure Cases by Day since 1 January 2000. Smoothing spline fits using $\lambda = 1200$ for human exposures had associated $RSqr = 0.506$, information requests $RSqr = 0.941$ (excluding COVID-19 information requests), and animal exposures $RSqr = 0.881$. COVID-19 information requests on the disease, vaccines, home tests, and monoclonal antibodies are plotted separately from other information requests.

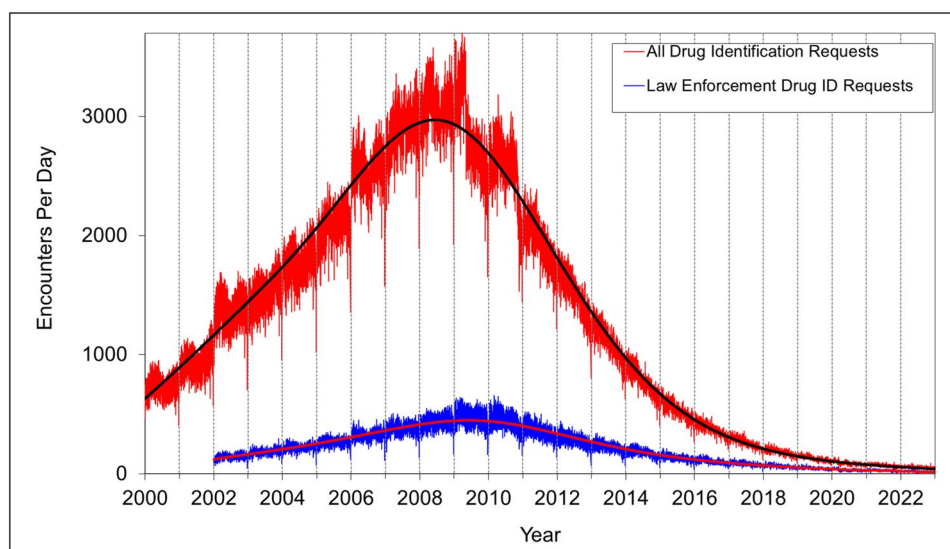


Figure 2. All Drug Identification and Law Enforcement Drug Identification Requests by Day since 1 January 2000. Smoothing spline fits used $\lambda = 1200$, all drug identification requests had associated $RSqr = 0.975$ and law enforcement drug ID requests $RSqr = 0.915$.

Drug ID requests fell to 7th most frequent information request for 2022, comprising 20,141 requests for PCs during the year. Of these, 9,518 (47.3%) were identified as drugs with known abuse potential. However, these cases were categorized based on the drug's abuse potential without knowledge of whether abuse was intended.

Drug information requests decreased 52.4% from 2021 (162,612) to 2022 (77,342) due to a decrease in requests to PCs about COVID-19 vaccines. The most common drug information requests were drug-drug interactions (6.22%), other drug info (3.20%), and medication availability (3.10%).

The number of medical information requests decreased 76.9% from 2021 (293,685) to 2022 (67,780), but the overall number of medical information requests was 3-fold higher in 2022 compared to 22,505 in 2019 and 19,894 in 2018. The majority (66.1%) of the medical information requests were related to COVID-19 disease, tests, and vaccines. The most common medical information requests were other medical, diagnostic or treatment recommendations, explanation of disease states, and disease prevention. Environmental inquiries comprised 2.46% of all information requests. Of these environmental inquiries, specific questions related to pesticides were most common, followed by potential toxicity of chemicals in the environment, air quality, and safe disposal of chemicals.

Of all the information requests, poison information comprised 11.6% of the requests with inquiries involving general toxicity the most common followed by questions involving other poisons, safe use of household products, food preparation / handling practices, and food poisoning.

Exposure Cases Logged at Poison Centers

In 2022, participating PCs logged 2,483,183 total encounters including 2,064,875 closed human exposure cases (Table 1A), 50,381 animal exposures (Table 1B), 363,099 information contacts (Table 1C), 4,790 human confirmed non-exposures, and

38 animal confirmed non-exposures. An additional 9 cases were still open at the time the database was locked. The cumulative America's Poison Centers database now contains over 79 million human exposure case records.

The average number of human exposure cases managed per day by all US PCs was 5,657. Similar to other years, higher volumes were observed in the warmer months, with a mean of 6,041 cases per day in May compared with 5,229 per day in January. On average, US PCs experienced a new encounter involving a human exposure every 15.3 seconds.

Figure 1 shows the human exposures, information requests and animal exposures by day since 1 January 2000. Smoothing spline fit of these data shows departure from linearity (declining rate of cases since mid-2007) for Human Exposure cases with some flattening over the last 3 years. Animal Exposure cases have been declining since mid-2005. Information requests had been declining until early 2020 when PCs response to COVID-19 showed a sustained increase in information requests which have since declined, although not to pre-pandemic levels.

A hallmark of PC case management is the use of follow-up contacts to monitor case progress and medical outcome. PCs made over 2,512,000 follow-up contacts in 2022. (Note: there exists some variation in the way that this number is determined between the 5 data entry systems presently used by America's Poison Centers members). Follow-up was performed in 44.4% of human exposure cases. One follow-up contact was made in 19.6% of human exposure cases and multiple follow-ups (range 2-114) were performed in 23.6% of cases. For human exposure cases in which follow-up contacts were documented, an average of 2.81 contacts per case were done.

Figure 3 shows a graphic summary and analyses of Health Care Facility (HCF) exposure cases and HCF information requests. The trend in HCF exposure cases slightly departs from linearity but continues to increase. HCF information requests increased dramatically in 2020 and 2021

Table 1A. America's Poison Centers Population Served and Reported Exposures (1983-2022)

Year	No. of participating centers	Population served (in millions)	Human exposures	Exposures per thousand population
1983	16	43.1	251,012	5.82
1984	47	99.8	730,224	7.32
1985	56	113.6	900,513	7.93
1986	57	132.1	1,098,894	8.32
1987	63	137.5	1,166,940	8.49
1988	64	155.7	1,368,748	8.79
1989	70	182.4	1,581,540	8.67
1990	72	191.7	1,713,462	8.94
1991	73	200.7	1,837,939	9.16
1992	68	196.7	1,864,188	9.48
1993	64	181.3	1,751,476	9.66
1994	65	215.9	1,926,438	8.92
1995	67	218.5	2,023,089	9.26
1996	67	232.3	2,155,952	9.28
1997	66	250.1	2,192,088	8.76
1998	65	257.5	2,241,082	8.70
1999	64	260.9	2,201,156	8.44
2000	63	270.6	2,168,248	8.01
2001	64	281.3	2,267,979	8.06
2002	64	291.6	2,380,028	8.16
2003	64	294.7	2,395,582	8.13
2004	62	293.7	2,438,643	8.30
2005	61	296.4	2,424,180	8.18
2006	61	299.4	2,403,539	8.03
2007	61	305.6	2,482,041	8.12
2008	61	308.5 ^b	2,491,049	8.07
2009	60	310.9 ^b	2,479,355	7.97
2010	60 ^a	313.3 ^b	2,384,825	7.62
2011	57 ^c	315.7 ^b	2,334,004	7.39
2012	57	318.0 ^b	2,275,141	7.15
2013	57 ^d	320.2 ^e	2,188,013	6.83
2014	56 ^d	322.9 ^e	2,165,142	6.71
2015	55 ^f	325.4 ^e	2,168,371	6.66
2016	55	327.0 ^e	2,159,032	6.60
2017	55	330.4 ^e	2,115,186	6.40
2018	55	330.0 ^e	2,099,751	6.36
2019	55	334.0 ^e	2,148,141	6.43
2020	55	336.4 ^e	2,128,198	6.33
2021	55	338.7 ^e	2,080,917	6.14
2022	55	337.0 ^e	2,064,875	6.13
Total			79,246,981	

^aAs of 1 July 2010 there were 60 Participating Centers.

^bAmerica's Poison Centers Total as of 1 July Mid Year US Census (2012 data for 50 United States, District of Columbia and Puerto Rico; 2011 data for Guam; 2010 data for American Samoa, the Federated States of Micronesia, and the US Virgin Islands).

^cAs of 1 July 2011 there were 57 Participating Centers.

^dOne Participating Center closed in September 2013. Its data is included in the 2013 totals but not in the 2014 data.

^eAmerica's Poison Centers Total as of 1 July Mid Year US Census (data for 50 United States, District of Columbia and Puerto Rico, Guam, American Samoa, Federated States of Micronesia, Marshall Islands, Northern Mariana Islands, Palau, and the US Virgin Islands) [2].

^fOne Participating Center closed in July 2014. Its data is included in the 2014 totals but not in the 2015 data.

due to the COVID-19 pandemic before returning to a pre-pandemic rate in 2022. This increasing use of the PCs for the more serious cases (HCF exposures) is important in the face of the overall decline in exposure and information encounters.

Tables 22A (Nonpharmaceuticals) and 22B (Pharmaceuticals) found in Appendix B provide summary demographic data on patient age, reason for exposure, medical outcome, and use of an HCF for all 2,064,875 human exposure cases, presented by substance categories. The Pharmaceuticals category includes both licit and illicit drugs.

Table 1B. Non-Human Exposures by Animal Type

Animal	N	%
Dog	45,325	89.96
Cat	4,394	8.72
Bird	132	0.26
Rodent / lagomorph	102	0.20
Horse	63	0.13
Sheep / goat	51	0.10
Cow	24	0.05
Aquatic	16	0.03
Other	274	0.54
Total	50,381	100.00

Table 1C. Distribution of Information Requests

Information request type	N	% of Info. requests
Drug identification		
Public inquiry: Drug sometimes involved in abuse	4,841	1.33
Public inquiry: Drug not known to be abused	4,437	1.22
Public inquiry: Unknown abuse potential	276	0.08
Public inquiry: Unable to identify	2,167	0.60
HCP inquiry: Drug sometimes involved in abuse	233	0.06
HCP inquiry: Drug not known to be abused	275	0.08
HCP inquiry: Unknown abuse potential	21	0.01
HCP inquiry: Unable to identify	164	0.05
Law Enf. inquiry: Drug sometimes involved in abuse	4,444	1.22
Law Enf. inquiry: Drug not known to be abused	1,758	0.48
Law Enf. inquiry: Unknown abuse potential	179	0.05
Law Enf. inquiry: Unable to identify	803	0.22
Other drug ID	543	0.15
Subtotal	20,141	5.55
Drug information		
Adverse effects (no known exposure)	4,082	1.12
Brand / generic name clarifications	283	0.08
Calculations	69	0.02
Compatibility of parenteral medications	97	0.03
Compounding	97	0.03
Contraindications	1,024	0.28
Dietary supplement, herbal, and homeopathic	325	0.09
Dosage	9,471	2.61
Dosage form / formulation	1,079	0.30
Drug use during breast-feeding	828	0.23
Drug-drug interactions	22,574	6.22
Drug-food interactions	1,467	0.40
Foreign drug	27	0.01
Generic substitution	107	0.03
Indications / therapeutic use	3,291	0.91
Medication administration	4,829	1.33
Medication availability	11,273	3.10
Medication disposal	579	0.16
Pharmacokinetics	660	0.18
Pharmacology	276	0.08
Regulatory	651	0.18
Stability / storage	1,451	0.40
Therapeutic drug monitoring	1,192	0.33
Other drug info	11,610	3.20
Subtotal	77,342	21.30
Environmental information		
Air quality	834	0.23
Carbon monoxide - no known patient(s)	408	0.11
Carbon monoxide alarm use	285	0.08
Chem / bioterrorism / weapons (suspected or confirmed)	29	0.01
Clarification of media reports of environmental contamination	7	0.00
Clarification of substances involved in a HAZMAT incident - no known victim(s)	85	0.02

(Continued)

Table 1C. Distribution of Information Requests – Continued.

Information request type	N	% of Info. requests
General questions about contamination of air and / or soil	174	0.05
HAZMAT planning	39	0.01
Lead - no known patient(s)	225	0.06
Mercury thermometer cleanup	575	0.16
Mercury (excluding thermometers) cleanup	488	0.13
Notification of a HAZMAT incident - no known patient(s)	369	0.10
Pesticide application by a professional pest control operator	241	0.07
Pesticides (other)	1,185	0.33
Potential toxicity of chemicals in the environment	968	0.27
Radiation	25	0.01
Safe disposal of chemicals	802	0.22
Water purity / contamination	390	0.11
Other environmental	1,798	0.50
Subtotal	8,927	2.46
Medical information		
Dental questions	37	0.01
Diagnostic or treatment recommendations for diseases or conditions - non-toxicology	19,382	5.34
Disease prevention	2,723	0.75
Explanation of disease states	6,292	1.73
General first-aid	788	0.22
Interpretation of non-toxicology laboratory reports	141	0.04
Medical terminology questions	41	0.01
Rabies - no known patient(s)	207	0.06
Sunburn management	1,574	0.43
Other medical	36,595	10.08
Subtotal	67,780	18.67
Occupational information		
Occupational treatment / first-aid guidelines - no known patient(s)	27	0.01
Information on chemicals in the workplace	58	0.02
MSDS interpretation	13	0.00
Occupational MSDS requests	95	0.03
Routine toxicity monitoring	7	0.00
Safe handling of workplace chemicals	74	0.02
Other occupational	112	0.03
Subtotal	386	0.11
Poison information		
Analytical toxicology	583	0.16
Carcinogenicity	60	0.02
Food poisoning - no known patient(s)	1,369	0.38
Food preparation / handling practices	4,235	1.17
General toxicity	19,806	5.45
Mutagenicity	15	0.00
Plant toxicity	996	0.27
Recalls of non-drug products (including food)	642	0.18
Safe use of household products	4,362	1.20
Toxicology information for legal use / litigation	119	0.03
Other poison	10,074	2.77
Subtotal	42,261	11.64
Prevention / Safety / Education		
Confirmation of poison center number	10,686	2.94
General (non-poison) injury prevention requests	323	0.09
Media requests	282	0.08
Poison prevention material requests	4,697	1.29
Poison prevention week date inquiries	87	0.02
Professional education presentation requests	88	0.02
Public education presentation requests	143	0.04
Other prevention	697	0.19
Subtotal	17,003	4.68
Teratogenicity information		
Teratogenicity	300	0.08
Subtotal	300	0.08
Other information		
Other	44,699	12.31
Subtotal	44,699	12.31

(Continued)

Table 1C. Distribution of Information Requests – Continued.

Information request type	N	% of Info. requests
Substance Abuse		
Drug screen information	707	0.19
Effects of illicit substances - no known patient(s)	74	0.02
New trend information	50	0.01
Withdrawal from illicit substances - no known patient(s)	81	0.02
Other substance abuse	336	0.09
Subtotal	1,248	0.34
Administrative		
Expert witness requests	20	0.01
Faculty activities	16	0.00
Funding	3	0.00
Personnel issues	86	0.02
Poison center record request	157	0.04
Product replacement / malfunction (issues intended for the manufacturer)	201	0.06
Scheduling of poison center rotations	41	0.01
Other administration	20,213	5.57
Subtotal	20,737	5.71
Caller Referred		
Immediate referral - animal poison center or veterinarian	34,418	9.48
Immediate referral - drug identification	162	0.04
Immediate referral - drug information	341	0.09
Immediate referral - health department	8,934	2.46
Immediate referral - medical advice line	394	0.11
Immediate referral - pediatric triage service	44	0.01
Immediate referral - pesticide hotline	152	0.04
Immediate referral - pharmacy	577	0.16
Immediate referral - poison center	4,892	1.35
Immediate referral - private physician	1,408	0.39
Immediate referral - psychiatric crisis line	136	0.04
Immediate referral - teratology information program	108	0.03
Other call referral	10,709	2.95
Subtotal	62,275	17.15
Total	363,099	100.00

Column 1: Name of the major, minor generic categories and their associated generic substances. Note that for pharmaceuticals, the generic category or generic substance listed is for the initial FDA approved indication and may not reflect current indications or uses for the pharmaceutical.

Column 2: Number of Case Mentions (all exposures) in grey shading, displays the number of times the specific generic code was reported in any human exposure case. If a human exposure case has multiple instances of a specific generic code it is only counted once.

Column 3: Number of Single Exposures displays the number of human exposure cases that identified only 1 substance (1 case, 1 substance).

The succeeding columns (Age, Reason, Treatment Site, and Outcome) show selected details from these single-substance exposure cases. Death cases include both cases that have the outcome of Death or Death (indirect report). These death cases are not limited by the RCF.

Tables 22A and 22B (Appendix B) restrict the breakdown columns to single-substance cases. Prior to 2007, when multi-substance exposures were included, a relatively innocuous substance could be mentioned in a death column when, for example, the death was attributed to an antidepressant, opioid, or cyanide. The restriction of the breakdowns to single-substance exposures should increase precision and reduce misrepresentation of the results in this by-substance table. Single substance

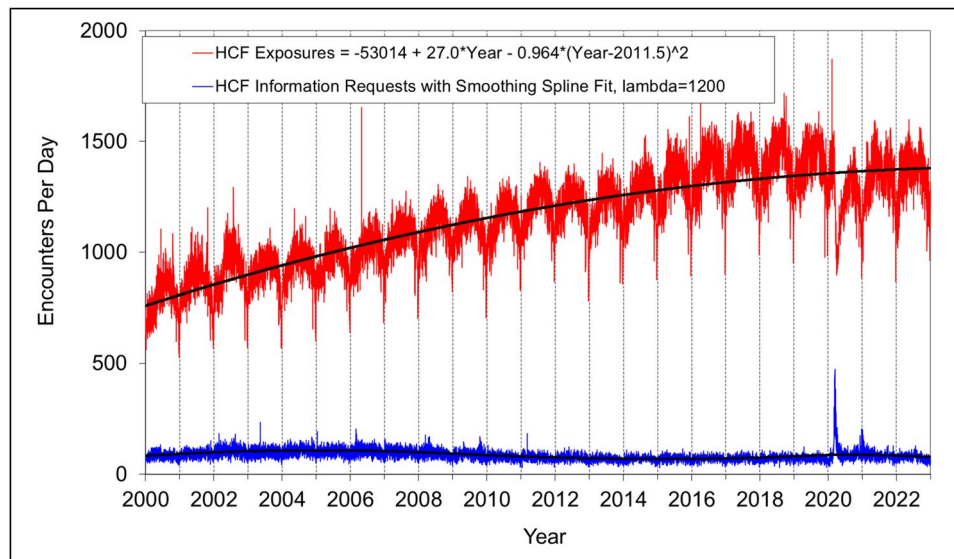


Figure 3. Health Care Facility (HCF) Exposure Cases and HCF Information Requests by Day since 1 January 2000

Both linear and second order (quadratic) terms were statistically significant ($p < 0.0001$) for regression of HCF human exposure with associated $RSqr = 0.705$ and $RSqr = 0.737$ respectively. The quadratic coefficient is negative meaning the case counts are increasing slower than linearly. Smoothing spline fit with $\lambda = 1200$ for HCF information requests had associated $RSqr = 0.250$.

Table 2. Site of Call and Site of Exposure, Human Exposure Cases

Site	Site of caller		Site of exposure	
	N	%	N	%
Residence				
Own	1,382,767	66.97	1,873,527	90.73
Other	22,550	1.09	37,368	1.81
Workplace	21,779	1.05	39,845	1.93
Health care facility	490,868	23.77	7,072	0.34
School	10,801	0.52	30,732	1.49
Restaurant / food service	390	0.02	3,383	0.16
Public area	7,618	0.37	23,288	1.13
Other	121,044	5.86	26,544	1.29
Unknown	7,058	0.34	23,116	1.12

cases reflect the majority (87.3%) of all exposures. In contrast, only 45.3% of fatalities are single substance exposures (Table 5).

Tables 22A and 22B (Appendix B) tabulate 2,500,333 case mentions, of which 1,801,654 were single-substance exposures, including 870,695 (48.3%) nonpharmaceuticals and 930,959 (51.7%) pharmaceuticals. In 22.7% of single-substance exposures that involved pharmaceutical substances, the reason for exposure was intentional, compared to only 4.35% when the exposure involved a nonpharmaceutical substance. Correspondingly, treatment in an HCF was provided in a higher percentage of exposures that involved pharmaceutical substances (33.2%) compared with nonpharmaceutical substances (17.6%). Exposures to pharmaceuticals also had more severe outcomes. Of 1,627 single-substance exposure-related fatal cases, 1,272 (78.2%) were pharmaceuticals compared with 355 (21.8%) nonpharmaceuticals.

Age and Gender Distributions

The age and gender distribution of human exposures is outlined in Table 3A. Children younger than 3 years of age were

involved in 28.7% of exposures and children ≤ 5 years accounted for 40.2% of human exposures. A male predominance was found among cases involving children ≤ 12 years, but this gender distribution was reversed in teenagers and adults, with females comprising the majority of reported exposures. The overall rate of poison exposures reported to PCs is 613/100,000 population (Table 3B). The highest rates of poison exposures are in 1-year-old children (6,954/100,000 population) and 2-year-old children (6,556/100,000 population). Rates declined with age from 480/100,000 population in children 6–12 to 349/100,000 population in adults ≥ 20 years. Table 4 shows the age and gender distribution for the 1,491 exposure-related fatalities (excluding death, indirect).

Caller Site and Exposure Site

As shown in Table 2, of the 2,064,875 human exposure cases reported, 68.1% of cases originated from a residence (own or other) while 92.5% of exposures occurred at a residence (own or other). Another 23.8% of cases originated from an HCF. Beyond residences, exposures occurred in the workplace (1.93% of cases), schools (1.49%), HCF (0.342%), and restaurants or food services (0.164%).

Exposures in Pregnancy

Exposure during pregnancy occurred in 5,934 women (0.287% of all human exposures). Of those with known pregnancy duration ($n = 5,581$), 44.3% occurred in the first trimester, 30.3% in the second trimester, and 25.4% beyond the second trimester. Most (72.6%) were unintentional exposures and 19.8% were intentional exposures. There were 3 deaths of pregnant females recorded in 2022 (Fatality cases 605 and 647. The third case was not selected for publication as it was assigned an RCF of unknown).

Table 3A. Age and Gender Distribution of Human Exposures

Age (y)	Male		Female		Unknown gender		Total		Cumulative total	
	N	% of age group total	N	% of age group total	N	% of age group total	N	% of total exposures	N	%
Children (<20)										
< 1	50,190	51.82	46,204	47.70	467	0.48	96,861	4.69	96,861	4.69
1	130,501	51.80	120,767	47.94	654	0.26	251,922	12.2	348,783	16.89
2	127,741	52.29	115,849	47.42	714	0.29	244,304	11.83	593,087	28.72
3	70,273	54.75	57,596	44.87	490	0.38	128,359	6.22	721,446	34.94
4	37,305	56.46	28,426	43.02	340	0.51	66,071	3.20	787,517	38.14
5	23,355	57.53	16,974	41.81	270	0.67	40,599	1.97	828,116	40.10
Unknown ≤5	1,168	44.28	1,142	43.29	328	12.43	2,638	0.13	830,754	40.23
Child 6-12	76,350	55.55	59,768	43.49	1,317	0.96	137,435	6.66	968,189	46.89
Teen 13-19	64,889	34.82	120,456	64.63	1,021	0.55	186,366	9.03	1,154,555	55.91
Unknown Child	2,140	41.51	1,815	35.21	1,200	23.28	5,155	0.25	1,159,710	56.16
Subtotal	583,912	50.35	568,997	49.06	6,801	0.59	1,159,710	56.16	1,159,710	56.16
Adults (≥20)										
20-29	82,846	42.65	110,973	57.14	408	0.21	194,227	9.41	1,353,937	65.57
30-39	73,034	43.67	93,997	56.21	203	0.12	167,234	8.10	1,521,171	73.67
40-49	48,298	41.49	67,984	58.41	116	0.10	116,398	5.64	1,637,569	79.31
50-59	42,320	39.67	64,274	60.25	87	0.08	106,681	5.17	1,744,250	84.47
60-69	35,919	38.02	58,469	61.89	89	0.09	94,477	4.58	1,838,727	89.05
70-79	24,047	35.87	42,947	64.06	52	0.08	67,046	3.25	1,905,773	92.29
80-89	10,984	34.82	20,531	65.08	30	0.10	31,545	1.53	1,937,318	93.82
≥90	2,416	32.07	5,108	67.81	9	0.12	7,533	0.36	1,944,851	94.19
Unknown adult	39,289	37.16	64,256	60.78	2,177	2.06	105,722	5.12	2,050,573	99.31
Subtotal	359,153	40.32	528,539	59.33	3,171	0.36	890,863	43.14	2,050,573	99.31
Other										
Unknown age	4,597	32.14	6,585	46.04	3,120	21.82	14,302	0.69	2,064,875	100.00
Total	947,662	45.89	1,104,121	53.47	13,092	0.63	2,064,875	100.00	2,064,875	100.00

Table 3B. Population-Adjusted Exposures by Age Group

Age Group	Exposures/100k population	Number of Exposures ^a	Population ^b
Children (<20)			
< 1	2,606	96,861	3,717,047
1	6,954	251,922	3,622,534
2	6,556	244,304	3,726,665
3	3,400	128,359	3,775,766
4	1,710	66,071	3,863,011
5	1,030	40,599	3,940,227
Child 6-12	480	137,435	28,617,648
Teen 13-19	609	186,366	30,595,021
Subgroup	1,417	1,159,710	81,857,919
Adults (≥20)			
20-29	428	194,227	45,387,351
30-39	363	167,234	46,018,425
40-49	280	116,398	41,502,255
50-59	252	106,681	42,257,869
60-69	235	94,477	40,210,112
70-79	254	67,046	26,380,654
80-89	294	31,545	10,732,105
90+	288	7,533	2,613,317
Subgroup	349	890,863	255,102,088
Overall Total	613	2,064,875	336,960,007

^aNumber of Exposures excludes unknown ages from the individual age categories, but includes them in the Subtotals and Overall Total (see Table 3A).

^bAmerica's Poison Centers Total as of 1 July 2020, 336,960,007 (see Table 1A) [2].

Chronicity

Most human exposures, 1,743,457 (84.4%), were acute cases (single, repeated or continuous exposure occurring over 8 hours or less) although these comprised only 1,139 (35.0%) of the 3,255 fatalities. Chronic exposures (continuous or repeated exposures occurring over more than 8 hours) comprised 2.61% (53,938) of all human exposures. Acute-on-chronic exposures (single exposure that was preceded by a continuous, repeated, or intermittent exposure occurring over a period greater than 8 hours) numbered 229,159 (11.1%).

Reason for Exposure

The reason category for most human exposures was unintentional (76.4%), including: unintentional general (45.1%), therapeutic error (16.1%), and unintentional misuse (8.57%) (Table 6A).

Scenarios

Of the total 331,539 cases involving therapeutic errors (Table 6A) the most common scenarios for all ages included: inadvertent double-dosing (30.8%), other incorrect dose (16.4%),

Table 4. Distribution of Age^a and Gender for Fatalities^b

Age (y)	Male	Female	Unknown	Total (%)	Cumulative total (%)
< 1 year	1	1	0	2 (0.13%)	2 (0.13%)
1 year	7	5	0	12 (0.80%)	14 (0.94%)
2 years	2	1	0	3 (0.20%)	17 (1.14%)
3 years	3	3	0	6 (0.40%)	23 (1.54%)
4 years	1	1	0	2 (0.13%)	25 (1.68%)
5 years	2	0	0	2 (0.13%)	27 (1.81%)
Child 6-12 years	5	4	0	9 (0.60%)	36 (2.41%)
Teen 13-19 years	35	47	0	82 (5.50%)	118 (7.91%)
20-29 years	87	80	0	167 (11.20%)	285 (19.11%)
30-39 years	114	82	1	197 (13.21%)	482 (32.33%)
40-49 years	112	109	0	221 (14.82%)	703 (47.15%)
50-59 years	134	129	0	263 (17.64%)	966 (64.79%)
60-69 years	118	131	0	249 (16.70%)	1,215 (81.49%)
70-79 years	69	88	0	157 (10.53%)	1,372 (92.02%)
80-89 years	38	56	0	94 (6.30%)	1,466 (98.32%)
≥ 90 years	7	8	0	15 (1.01%)	1,481 (99.33%)
Unknown adult	6	1	0	7 (0.47%)	1,488 (99.80%)
Unknown age	1	1	1	3 (0.20%)	1,491 (100.00%)
Total	742	747	2	1,491 (100.00%)	1,491 (100.00%)

^aAge includes cases with both actual and estimated ages as shown in Table 21.

^bIncludes cases with RCF of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory. This excludes reports with outcome of Death, indirect.

Table 5. Number of Substances Involved in Human Exposure Cases

No. of Substances	Human exposures		Fatal exposures ^a	
	N	%	N	%
1	1,801,654	87.25	675	45.27
2	168,317	8.15	371	24.88
3	52,574	2.55	179	12.01
4	21,369	1.03	118	7.91
5	9,607	0.47	57	3.82
6	4,783	0.23	39	2.62
7	2,538	0.12	18	1.21
8	1,517	0.07	17	1.14
≥9	2,516	0.12	17	1.14
Total	2,064,875	100.00	1,491	100.00

^aIncludes cases with RCF of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory. This excludes reports with outcome of Death, indirect.

wrong medication taken or given (15.0%), doses given/taken too close together (11.1%), and inadvertent exposure to someone else's medication (8.47%). The types of therapeutic errors observed are different for each age group and are summarized in Table 6B.

Reason by Age

Intentional exposures accounted for 18.9% of human exposure cases. Suicidal intent was suspected in 13.3% of cases, intentional misuse in 2.58%, and intentional abuse in 2.16%. Unintentional exposures outnumbered intentional exposures in all age groups with the exception of ages 13-19 years (Table 7). In contrast, of the 1,491 reported fatalities with RCF 1-3, the major reason reported for children ≤ 5 years was unintentional, while most fatalities in adults (≥20 years) were intentional (Table 8).

Route of Exposure

Ingestion was the route of exposure in 82.7% of cases (Table 9), followed in frequency by inhalation/nasal (7.64%), dermal (6.85%), and ocular routes (4.10%). For the 1,491 exposure-related fatalities, ingestion (83.4%), and inhalation/

nasal (7.31%) were the predominant exposure routes. Each exposure case may have more than one route.

Clinical Effects

The NPDS database allows for the coding of up to 169 individual clinical effects (signs, symptoms, or laboratory abnormalities) for each case. Each clinical effect can be further defined as related, not related, or unknown if related. Clinical effects were coded in 810,056 (39.2%) cases (17.3% had 1 effect, 10.0% had 2 effects, 5.43% had 3 effects, 2.83% had 4 effects, 1.45% had 5 effects, and 2.26% had >5 effects coded). Of clinical effects coded, 75.6% were deemed related to the exposure, 10.1% were considered not related, and 14.3% were coded as unknown if related.

Case Management Site

The majority of cases reported to PCs were managed outside of a HCF (66.6%), usually at the site of exposure, primarily the patient's own residence (Table 10). Evaluation or treatment in a HCF occurred in 30.6% of cases. Only 1.22% of cases were referred to a HCF but refused referral.

Of the 632,063 cases managed in a HCF, 298,815 (47.3%) were treated and released, 71,103 (11.2%) were admitted to a critical care unit, 82,725 (13.1%) were admitted to a

Table 6A. Reason for Human Exposure Cases

Reason	N	% Human exposures
Unintentional		
Unintentional - General	930,488	45.06
Unintentional - Therapeutic error	331,539	16.06
Unintentional - Misuse	176,895	8.57
Unintentional - Environmental	53,134	2.57
Unintentional - Occupational	31,351	1.52
Unintentional - Bite / sting	31,232	1.51
Unintentional - Food poisoning	18,506	0.90
Unintentional - Unknown	4,561	0.22
Subtotal	1,577,706	76.41
Intentional		
Intentional - Suspected suicide	275,504	13.34
Intentional - Misuse	53,316	2.58
Intentional - Abuse	44,650	2.16
Intentional - Unknown	16,416	0.80
Subtotal	389,886	18.88
Adverse Reaction		
Adverse reaction - Drug	38,313	1.86
Adverse reaction - Other	10,113	0.49
Adverse reaction - Food	6,375	0.31
Subtotal	54,801	2.65
Unknown		
Unknown reason	22,847	1.11
Subtotal	22,847	1.11
Other		
Other - Contamination / tampering	9,511	0.46
Other - Malicious	7,918	0.38
Other - Withdrawal	2,206	0.11
Subtotal	19,635	0.95
Total	2,064,875	100.00

noncritical unit, and 93,225 (14.7%) were admitted to a psychiatric facility.

The percentage of patients treated in a HCF varied considerably with age. Only 12.6% of children ≤ 5 years and 20.3% of children between 6 and 12 years were managed in a HCF compared to 67.7% of teenagers (13-19 years) and 45.5% of adults (age ≥ 20 years).

Medical Outcome

Table 11 displays the medical outcome of human exposure cases distributed by age. Older age groups exhibit a greater number of more serious medical outcomes. Table 12 compares medical outcome and reason for exposure and shows a greater frequency of serious outcomes in intentional exposures.

The duration of effect is required for all cases which report at least 1 clinical effect and have a medical outcome of minor, moderate or major effect ($n = 518,201$; 25.1% of exposures). Table 13 demonstrates an increasing duration of the clinical effects observed with more severe outcomes.

Decontamination Procedures and Specific Antidotes

Tables 14 and 15 outline the use of 112 decontamination procedures, specific physiological antagonists (antidotes), and measures to enhance elimination in the treatment of patients reported in the NPDS database.

For the last 20 years Table 16A detailed low rates of ippecac use ($<0.01\%$) and declining rates of activated charcoal use ($<2.5\%$) (Figure 4). Table 16A (Decontamination trends 1985-2021) and 16B (Decontamination Trends: Total Human and Pediatric Exposures ≤ 5 Years) have been replaced with a single Table 16 (Decontamination Trends for Human and Pediatric Exposures ≤ 5 Years: Last decade).

Top Substances in Human Exposures

Table 17A presents the 25 most common substance categories listed by frequency of human exposure. This ranking provides an indication where prevention efforts might be focused, as well as the types of more serious exposures PCs regularly manage (resulting in death, major effect or moderate effect). It is relevant to know whether exposures to these substances are increasing or decreasing.

To better understand these relationships, we examined exposures with more serious outcomes per year over the last 10 years for the change over time for each of the 68 major generic categories via least squares linear regression. The serious outcome exposure cases per year over this period were increasing for 43, static for 4, and decreasing for 21 of the 68 categories with data for the entire time period. The change over time for the 10 yearly values was statistically significant ($p < 0.05$) for 37 of the 68 categories with data for the entire time period. Table 17B shows the 25 categories which were increasing the most rapidly over the past 10 years. Statistical significance of the linear regressions can be verified by noting the 95% confidence interval on the rate of increase excludes zero for all but 4 of the 25 categories. Figure 5 shows the change over time and linear regressions for the top 4 increasing categories in Table 17B for the 10-year period.

Tables 17C and 17D present exposure results for children and adults, respectively, and show the differences between substance categories involved in pediatric and adult exposures.

Table 17E reports the 25 categories of substances most frequently involved in pediatric (≤ 5 years) fatalities in 2022.

Table 17F reports the 25 Drug ID categories most frequently queried in 2022, highlighting the value of Drug ID information to America's Poison Centers, public health, public safety, and regulatory agencies. The top 10 substance categories include antibiotics, drugs with widespread use and abuse potential such as opioids and benzodiazepines, and drugs with the potential for serious toxicity.

Table 17G reports the 25 substance categories most frequently reported in exposures involving pregnant patients.

Changes Over Time

Total encounters peaked in 2008 at 4,333,012 including 2,491,049 human exposure cases and 1,703,762 information contacts. Total encounters decreased 12.9% from 2,851,166 in 2021 to 2,483,183 in 2022. Information requests decreased by 48.7% from 703,086 in 2021 to 363,099 in 2022, with a 76.9% decrease in medical identification requests although still increased 3-fold compared to 2019. An 11.6% decrease in HCF information requests, and a 52.4% decrease in drug

Table 6B. Scenarios for Therapeutic Errors^a by Age^b

Scenario	N	≤ 5 y (Row %)	6-12 y (Row %)	13-19 y (Row %)	≥ 20 y (Row %)	Unknown child (Row %)	Unknown adult (Row %)	Unknown age (Row %)
Inadvertently took/ given medication twice	102,145	14.81	10.54	5.86	61.70	0.08	6.68	0.33
Other incorrect dose	54,386	28.80	11.21	6.58	48.38	0.09	4.60	0.33
Wrong medication taken/given	49,877	17.42	10.52	5.61	60.51	0.07	5.56	0.30
Medication doses given/taken too close together	36,742	15.95	8.73	6.56	61.46	0.07	6.94	0.30
Inadvertently took/ given someone else's medication	28,071	13.73	16.88	6.37	57.56	0.03	5.18	0.24
Other/unknown therapeutic error	21,861	18.29	10.56	6.77	56.37	0.19	7.23	0.58
Incorrect dosing route	17,406	7.71	3.03	6.95	69.57	0.08	11.71	0.95
More than 1 product containing same ingredient	8,029	8.57	15.72	12.53	55.62	0.09	7.20	0.27
Incorrect formulation or concentration given	6,651	50.91	18.27	4.39	24.04	0.08	2.12	0.20
Confused units of measure	6,299	54.09	14.13	4.52	24.46	0.14	2.59	0.06
Health professional/ iatrogenic error (pharmacist/nurse/ physician)	6,204	21.87	10.62	5.77	56.95	0.15	4.09	0.55
Drug interaction	5,465	5.67	7.96	6.29	65.36	0.18	13.80	0.73
Dispensing cup error	3,287	65.62	16.09	3.22	13.45	0.18	1.37	0.06
10-fold dosing error	2,021	63.48	6.48	2.33	25.78	0.15	1.53	0.25
Incorrect formulation or concentration dispensed	1,549	50.87	15.88	4.33	25.63	0.19	2.78	0.32
Exposure through breast milk	203	93.60	0.00	0.00	4.43	0.49	1.48	0.00

^aAll cases with a scenario category of therapeutic error regardless of reason.

^bOf the human exposure cases reported to U.S. Poison Centers in 2022, 471,535 (22.8%) were coded to 1 or more of 54 scenarios.

Table 7. Distribution of Reason for Exposure by Age

Reason	≤ 5 y		6-12 y		13-19 y		≥ 20 y		Unknown child		Unknown adult		Unknown age		Total	
	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	Row %	N	%
Unintentional	822,953	55.39	113,767	7.66	58,843	3.96	480,716	32.35	4,481	0.30	87,354	5.88	9,592	0.65	1,577,706	76.41
Intentional	41	0.01	18,043	4.72	119,525	31.25	242,330	63.36	320	0.08	7,087	1.85	2,540	0.66	389,886	18.88
Adverse reaction	3,330	6.98	2,656	5.57	4,033	8.45	36,858	77.25	123	0.26	6,967	14.60	834	1.75	54,801	2.65
Unknown	2,775	12.96	1,514	7.07	2,466	11.51	13,774	64.32	85	0.40	1,346	6.29	887	4.14	22,847	1.11
Other	1,655	10.02	1,455	8.81	1,499	9.07	11,463	69.38	146	0.88	2,968	17.97	449	2.72	19,635	0.95
Total	830,754	42.52	137,435	7.03	186,366	9.54	785,141	40.18	5,155	0.26	105,722	5.41	14,302	0.73	2,064,875	100.00

information requests reflects decreased COVID-19 vaccine calls to PCs. Human exposures decreased by 0.771% from 2,080,917 to 2,064,875 cases over the same time period.

Figure 6 shows the year-to-year change through 2022 as a percentage of year 2000 for human exposure cases broken down into cases with more serious outcomes (death, major effect, and moderate effect) and less serious outcomes (minor effect, no effect, not followed (non-toxic), not followed (minimal toxicity possible), unable to follow (potentially toxic), and unrelated effect). Since 2000, cases with more serious outcomes have increased by 4.14% (95% CI [4.11%, 4.70%]) per year from 108,148 cases in 2000 to 206,103 cases in 2022. Cases with less serious outcomes have decreased since 2008 by 1.70% [-2.07%, -1.32%] per year from 2,339,460 in 2008 to 1,857,589 cases in 2022. The decrease in less serious exposures has largely driven the overall decrease in human

exposures since 2008, with less serious exposures decreasing 0.418% from 2021 to 2022. We see a consistent increase in exposure cases from HCFs (Figure 3), as well as for the most severe exposures (Figure 6), while there is a continued trend toward decreasing cases involving less severe exposures.

Emerging Trends – Fentanyl Exposures and Tissue Concentrations

From January 1, 2000 to June 30, 2023, there were 53,144 fentanyl exposures reported into the NPDS database (Figure 7). Exposures were most common in males (56.6%). The age distribution of exposures was 4.37% <6 years old, 0.542% 6-12 year olds, 6.21% 13-19 year olds, and the remaining 88.9% were adult. While reported exposures increased annually, 2019 demonstrated a significant shift from prescription

Table 8. Distribution of Reason for Exposure and Age for Fatalities^a

Reason	≤ 5 y	6 - 12 y	13 - 19 y	≥ 20 y	Unknown child	Unknown adult	Unknown age	Total
Unintentional								
Unintentional - General	19	3	1	22	0	0	0	45
Unintentional - Environmental	3	2	0	24	0	0	0	29
Unintentional - Occupational	0	0	0	9	0	0	0	9
Unintentional - Therapeutic error	2	0	0	35	0	0	0	37
Unintentional - Misuse	0	0	1	15	0	0	0	16
Unintentional - Bite / sting	0	1	0	6	0	0	0	7
Unintentional - Food poisoning	0	0	0	1	0	0	0	1
Unintentional - Unknown	0	0	0	6	0	0	0	6
Subtotal	24	6	2	118	0	0	0	150
Intentional								
Intentional - Suspected suicide	0	1	47	752	0	4	1	805
Intentional - Misuse	0	0	1	72	0	0	0	73
Intentional - Abuse	0	1	18	134	0	0	0	153
Intentional - Unknown	0	0	4	81	0	0	0	85
Subtotal	0	2	70	1,039	0	4	1	1,116
Other								
Other - Contamination / tampering	0	0	0	1	0	0	0	1
Other - Malicious	2	0	0	2	0	0	0	4
Other - Withdrawal	0	0	0	2	0	0	0	2
Subtotal	2	0	0	5	0	0	0	7
Adverse reaction								
Adverse reaction - Drug	0	0	0	49	0	1	0	50
Adverse reaction - Food	0	0	0	1	0	0	0	1
Adverse reaction - Other	0	0	0	3	0	0	0	3
Subtotal	0	0	0	53	0	1	0	54
Unknown								
Unknown reason	1	1	10	148	0	2	2	164
Subtotal	1	1	10	148	0	2	2	164
Total	27	9	82	1,363	0	7	3	1,491

^aIncludes cases with RCF of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory. This excludes reports with outcome of Death, indirect.

Table 9. Route of Exposure for Human Exposure Cases

Route	Human exposures			Fatal exposures ^a		
	N	% of All Routes	% of All Cases	N	% of All Routes	% of All Cases
Ingestion	1,708,090	78.60	82.72	1,244	76.79	83.43
Inhalation/nasal	157,784	7.26	7.64	109	6.73	7.31
Dermal	141,535	6.51	6.85	13	0.80	0.87
Ocular	84,598	3.89	4.10	0	0.00	0.00
Bite/sting	31,310	1.44	1.52	7	0.43	0.47
Unknown	22,701	1.04	1.10	191	11.79	12.81
Parenteral	19,022	0.88	0.92	40	2.47	2.68
Other	3,736	0.17	0.18	6	0.37	0.40
Otic	1,541	0.07	0.07	0	0.00	0.00
Vaginal	1,176	0.05	0.06	0	0.00	0.00
Rectal	966	0.04	0.05	0	0.00	0.00
Aspiration (with ingestion)	771	0.04	0.04	10	0.62	0.67
Total Number of Routes	2,173,230	100.00	105.25	1,620	100.00	108.65^b

^aIncludes cases with RCF of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory. This excludes reports with outcome of Death, indirect.

^bEach exposure case may have more than one route.

fentanyl to non-prescription fentanyl in NPDS. The NPDS data for more serious outcomes (moderate, major and death) related to fentanyl correlates strongly with CDC WONDER data on fentanyl-related deaths (Figure 8). Though WONDER documented approximately 10-times the number of fentanyl deaths compared to NPDS cases with more serious outcomes, the shared trend demonstrates the ability of NPDS exposures to function as surveillance tool for detection of nationwide trends with a high degree of correlation ($R^2=0.917$).

In total, 577 fentanyl concentrations were logged in the NPDS Fatality module. The values ranged from 0.00032ng/mL to 18.9mg/L. Only two values were > 1mg/L and the remaining 575 (99.6%) ranged from 0.0003mg/L to 0.49mg/L. The postmortem peripheral blood value of 18.9mg/L was found to be verbally reported to the poison center by a medical examiner and not entered from a written autopsy. As this is an outlier that could not be confirmed, it was excluded from analysis.

Table 10. Management Site of Human Exposures

Site of management	N	%
Managed on site, non-health care facility	1,374,575	66.57
Managed in healthcare facility		
Treated/evaluated and released	298,815	14.47
Admitted to psychiatric facility	93,225	4.51
Patient lost to follow-up / left AMA	86,195	4.17
Admitted to noncritical care unit	82,725	4.01
Admitted to critical care unit	71,103	3.44
Subtotal (managed in HCF)	632,063	30.61
Other	19,086	0.92
Refused referral	25,278	1.22
Unknown	13,873	0.67
Total	2,064,875	100.00

The only other value that exceeded 1mg/L was 9.2mg/L taken 1 hour after admission in a decedent who arrived in cardiac arrest and briefly had return of spontaneous circulation. For

Table 11. Medical Outcome of Human Exposure Cases by Patient Age^a

Outcome	≤ 5 y		6-12 y		13-19 y		≥ 20 y		Unknown child		Unknown adult		Unknown age		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
No effect	173,384	20.87	22,944	16.69	35,076	18.82	98,440	12.54	688	13.35	9,481	8.97	1,676	11.72	341,689	16.55
Minor effect	66,396	7.99	19,702	14.34	52,960	28.42	161,757	20.60	390	7.57	11,215	10.61	1,750	12.24	314,170	15.21
Moderate effect	10,339	1.24	5,472	3.98	33,489	17.97	113,620	14.47	54	1.05	1,996	1.89	322	2.25	165,292	8.00
Major effect	1,535	0.18	526	0.38	4,932	2.65	31,520	4.01	3	0.06	173	0.16	50	0.35	38,739	1.88
Death	44	0.01	11	0.01	103	0.06	1,889	0.24	0	0.00	17	0.02	8	0.06	2,072	0.10
No follow-up, nontoxic	105,665	12.72	14,777	10.75	5,800	3.11	36,535	4.65	512	9.93	10,771	10.19	910	6.36	174,970	8.47
No follow-up, minimal toxicity	444,462	53.50	67,137	48.85	38,611	20.72	267,929	34.12	2,910	56.45	58,216	55.07	5,452	38.12	884,717	42.85
No follow-up, potentially toxic	17,134	2.06	3,793	2.76	10,739	5.76	40,427	5.15	462	8.96	9,817	9.29	3,696	25.84	86,068	4.17
Unrelated effect	11,778	1.42	3,070	2.23	4,635	2.49	31,904	4.06	136	2.64	4,023	3.81	429	3.00	55,975	2.71
Death, indirect report	17	0.00	3	0.00	21	0.01	1,120	0.14	0	0.00	13	0.01	9	0.06	1,183	0.06
Total	830,754	100.00	137,435	100.00	186,366	100.00	785,141	100.00	5,155	100.00	105,722	100.00	14,302	100.00	2,064,875	100.00

^aTotal number of cases where Death was an outcome (2,072+1,183) is greater than the number of fatalities (1,491) judged to be exposure-related (RCF of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory).

Table 12. Medical Outcome by Reason for Exposure in Human Exposures^a

Outcome	Unintentional		Intentional		Other		Adverse reaction		Unknown		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
No effect	267,777	16.97	67,586	17.33	2,177	11.09	2,068	3.77	2,081	9.11	341,689	16.55
Minor effect	186,172	11.80	109,802	28.16	3,744	19.07	11,976	21.85	2,476	10.84	314,170	15.21
Moderate effect	44,154	2.80	107,478	27.57	1,511	7.70	7,512	13.71	4,637	20.30	165,292	8.00
Major effect	4,321	0.27	30,238	7.76	275	1.40	1,151	2.10	2,754	12.05	38,739	1.88
Death	217	0.01	1,379	0.35	15	0.08	105	0.19	356	1.56	2,072	0.10
No follow-up, nontoxic	168,811	10.70	3,268	0.84	927	4.72	1,415	2.58	549	2.40	174,970	8.47
No follow-up, minimal toxicity	825,938	52.35	29,437	7.55	7,010	35.70	19,234	35.10	3,098	13.56	884,717	42.85
No follow-up, potentially toxic	45,102	2.86	30,306	7.77	2,430	12.38	3,342	6.10	4,888	21.39	86,068	4.17
Unrelated effect	35,166	2.23	9,322	2.39	1,543	7.86	7,991	14.58	1,953	8.55	55,975	2.71
Death, indirect report	48	0.00	1,070	0.27	3	0.02	7	0.01	55	0.24	1,183	0.06
Total	1,577,706	100.00	389,886	100.00	19,635	100.00	54,801	100.00	22,847	100.00	2,064,875	100.00

^aTotal number of cases where Death was an outcome (2,072+1,183) is greater than the number of fatalities (1,491) judged to be exposure-related (RCF of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory).

Table 13. Duration of Clinical Effects by Medical Outcome

Duration of effect	Minor effect		Moderate effect		Major effect	
	N	%	N	%	N	%
≤ 2 hours	83,168	26.47	5,317	3.22	1,121	2.89
>2 hours, ≤ 8 hours	98,039	31.21	37,386	22.62	5,167	13.34
>8 hours, ≤ 24 hours	58,857	18.73	60,498	36.60	8,738	22.56
>24 hours, ≤ 3 days	16,238	5.17	30,573	18.50	11,590	29.92
>3 days, ≤ 1 week	3,630	1.16	8,122	4.91	6,259	16.16
>1 week, ≤ 1 month	1,039	0.33	1,712	1.04	1,869	4.82
>1 month	321	0.10	390	0.24	211	0.54
Anticipated permanent	127	0.04	103	0.06	392	1.01
Unknown	52,751	16.79	21,191	12.82	3,392	8.76
Total	314,170	100.00	165,292	100.00	38,739	100.00

purposes of displaying measures of central tendency and range, the 18.9mg/L and 9.2mg/L values were deemed outliers and excluded from the Figure 9 data table (of note, these would have been included in the "all samples" population). The 18.9mg/L value was also excluded from Figure 9 as it could not be confirmed as a non-error. The value of 9.2mg/L was included in the box and whisker plot.

The highest mean and median fentanyl tissue concentration are observed in single substance death postmortem

Table 14. Decontamination and Therapeutic Interventions

Therapy	N	%
Decontamination Only	940,790	45.56
Therapeutic Intervention Only	255,896	12.39
Decontamination and Therapeutic Intervention	90,004	4.36
Not Coded	778,185	37.69
Total	2,064,875	100.00

Table 15. Therapy Provided in Human Exposures by Age

Therapy	≤ 5 y	6-12 y	13-19 y	≥ 20 y	Unknown child	Unknown adult	Unknown age	Total
Decontamination								
Cathartic	125	103	573	996	0	6	2	1,805
Charcoal, multiple doses	26	20	214	476	0	6	0	742
Charcoal, single dose	3,440	1,075	11,131	16,711	1	71	23	32,452
Dilute/irrigate/wash	361,584	46,285	26,484	182,442	1,930	36,020	2,812	657,557
Food/snack	108,607	11,867	6,723	34,741	906	6,072	340	169,256
Fresh air	5,529	3,249	4,768	45,092	596	13,521	1,649	74,404
Ipecac	3	3	9	32	0	1	2	50
Lavage	6	7	90	217	0	0	0	320
Other emetic	6,432	844	1,825	7,920	15	685	115	17,836
Whole bowel irrigation	73	25	221	683	0	4	0	1,006
Other Therapies								
2-PAM	2	0	5	48	0	0	0	55
Alkalinization - Systemic	49	57	1,074	5,198	0	4	5	6,387
Alkalinization - Urinary	30	65	722	1,511	0	2	0	2,330
Amyl nitrite	0	0	1	2	0	0	0	3
Anthrax vaccine	0	0	0	1	0	0	0	1
Antiarrhythmic	14	4	74	862	0	6	0	960
Antibiotics	1,423	636	1,404	14,150	4	296	32	17,945
Anticonvulsants ^a	179	63	435	2,426	1	7	1	3,112
Antiemetics	1,512	1,345	12,135	20,327	2	81	13	35,415
Antifungals	6	3	3	84	0	1	0	97
Antihistamines	1,507	980	1,843	8,508	27	664	63	13,592
Antihypertensives	25	16	208	3,020	0	7	0	3,276
Antipsychotics	14	83	1,157	6,708	0	22	5	7,989
Antivenom (Immune Fab fragment) – Not Specified	121	202	209	2,048	0	3	1	2,584
Antivenom (Immune Fab) – Centruroides (Scorpion)	112	39	12	156	0	0	1	320
Antivenom (Immune Fab) – Latrodectus	0	1	3	16	0	0	0	20
Antivenom - Elapidae	2	1	7	29	0	1	0	40
Antivenom - Latrodectus	3	1	4	17	0	0	0	25
Antivenom/antitoxin (Non-Fab) – Not Specified	17	19	17	217	0	0	0	270
Antivirals	19	2	14	158	0	0	1	194
Atropine	161	58	242	1,733	0	3	1	2,198
BAL	19	2	0	7	0	0	0	28
Benzodiazepines	1,243	851	9,890	34,253	0	114	30	46,381
Blood Products	45	12	90	1,077	0	3	3	1,230
Botulinum antitoxim	5	1	0	20	0	0	0	26
Bronchodilators	312	161	349	3,954	4	172	20	4,972
Calcium	2,929	398	662	5,086	3	53	7	9,138
Cardioversion	4	2	39	271	0	2	0	318
Colony Stimulating Factors	1	0	0	21	0	0	0	22
Continuous Renal Replacement Therapy (CRRT)	10	4	64	874	0	3	0	955
CPR	150	27	315	2,007	0	12	6	2,517
Deferoxamine	10	4	48	28	0	0	0	90
Digoxin Immune Fab	3	1	3	409	0	0	0	416
Direct-acting Oral Anticoagulant Reversal Agents	1	0	1	13	0	0	0	15
DMP5	0	1	0	0	0	0	0	1
ECMO	10	3	39	95	0	0	0	147
EDTA	11	0	0	2	0	0	0	13
Ethanol	1	0	4	33	0	1	0	39
Extracorp. procedure (other)	5	1	8	30	0	0	0	44
Fluids, IV	6,111	3,825	35,882	104,004	8	221	73	150,124
Flumazenil	60	8	97	691	0	1	0	857
Folate	11	3	62	2,733	0	4	1	2,814
Fomepizole	88	34	293	2,365	0	9	1	2,790

(Continued)

sample population (mean = 0.02047 mg/L, median = 0.012 mg/L). Postmortem blood/serum samples (n=430) showed the highest variation in fentanyl concentrations (SD = 0.03788 mg/L) and also the highest maximum value (0.49 mg/L), indicating that postmortem blood/serum samples tend to vary substantially and can reach very high concentrations. Antemortem blood/serum samples show the lowest

mean (0.00598 mg/L) and median (0.0043 mg/L) fentanyl concentrations. This might be due to fentanyl metabolism and elimination before death (e.g. someone with a fentanyl concentration drawn on day 5 after overdosing vs. on arrival to hospital), or that the dose that caused death was not extraordinarily high. However, this group was small, and time from ingestion to measurement of sample was not able to be

Table 15. Therapy Provided in Human Exposures by Age – Continued.

Therapy	≤ 5 y	6-12 y	13-19 y	≥ 20 y	Unknown child	Unknown adult	Unknown age	Total
Glucagon	31	10	145	1,980	0	1	0	2,167
Glucarpidase	0	0	0	2	0	0	0	2
Glucose, > 5%	415	77	492	4,821	0	11	5	5,821
Granulocyte Stimulating Growth Factors	0	0	0	4	0	0	0	4
Hemodialysis	7	6	117	2,335	0	9	2	2,476
Hemoperfusion	1	0	1	24	0	0	0	26
High Dose Insulin/ Glucose	0	3	36	603	0	0	0	642
Hydroxocobalamin	11	11	13	191	0	0	1	227
Hyperbaric oxygen	28	39	33	269	0	3	1	373
Hypothermia Protocol	7	2	24	206	0	0	0	239
Insulin	13	11	136	2,179	0	2	2	2,343
Intubation	523	160	1,833	15,998	1	72	31	18,618
L-Carnitine	6	5	90	525	0	1	0	627
Leucovorin	4	1	12	210	0	0	0	227
Lipid Emulsion Therapy	6	4	71	371	0	0	0	452
Magnesium	37	167	2,812	12,425	0	13	5	15,459
Methylene blue	14	10	45	446	0	5	1	521
Molecular Adsorbant Recirculating System (MARS)	0	0	4	6	0	0	0	10
NAC, IV	294	788	9,844	17,801	1	31	7	28,766
NAC, PO	18	38	489	767	0	2	1	1,315
Nalmefene	0	0	1	10	0	0	0	11
Naloxone	1,677	272	2,775	22,266	3	164	47	27,204
Neuromuscular blocker	83	21	293	1,816	0	3	4	2,220
Octreotide	90	11	50	570	0	1	0	722
Opioid analgesia	326	207	789	8,543	0	26	12	9,903
Other	14,583	4,482	8,199	46,788	76	2,932	448	77,508
Oxygen	1,882	753	3,940	40,794	4	226	62	47,661
Pacemaker	1	0	4	242	0	1	0	248
Penicillamine	0	0	1	5	0	0	0	6
Physostigmine	2	7	56	59	0	0	0	124
Phytonadione	22	20	205	698	0	4	0	949
Plasmapheresis	2	1	9	29	0	0	0	41
Potassium	305	411	5,295	19,571	0	26	8	25,616
Potassium iodide	0	1	20	69	0	0	0	90
Propofol	117	59	1,020	9,429	0	31	8	10,664
Prussian blue	0	1	0	9	0	1	0	11
Pyridoxine	8	3	31	591	0	4	1	638
Rabies immune globulin	23	44	48	253	0	10	2	380
Rabies vaccine	32	58	59	340	2	18	4	513
Raxibacumab	2	1	0	6	0	0	0	9
Sedation (other)	427	169	1,858	11,745	1	40	26	14,266
Silibinin	0	0	1	11	0	0	0	12
Sodium bicarbonate - metabolic acidosis	29	27	405	2,624	0	10	4	3,099
Sodium bicarbonate - nebulized	7	3	15	146	0	2	0	173
Sodium nitrite	0	0	1	11	0	0	1	13
Sodium thiosulfate	2	1	2	26	0	1	1	33
Steroids	534	291	483	4,401	5	217	17	5,948
Succimer	128	11	6	50	1	0	0	196
Surgical intervention	208	105	98	702	1	3	1	1,118
Thiamine	6	7	113	5,025	0	11	2	5,164
Transplantation	3	0	8	20	0	0	0	31
Vasopressors	152	69	796	9,202	0	30	12	10,261
Ventilation, Non-invasive (CPAP, BiPAP)	90	28	138	3,402	0	23	2	3,683
Ventilator	521	151	1,914	16,411	0	70	28	19,095

^aExcludes benzodiazepines.

controlled for. The group with fentanyl and methamphetamine (n=25) had a lower mean (0.00768mg/L) and median (0.0052mg/L) fentanyl concentration compared with most other postmortem groups studied, though not statistically significant. Notably there is significant variation across all categories. This may reflect individual differences in tolerance, metabolism, amount of drug exposure, time from exposure to sample collection, collection site differences, or postmortem redistribution. Analysis of these concentrations is greatly impacted by inability to control for time of exposure to sample drawn, time the exposed person was alive to metabolize

drug prior to sample being drawn, and time from death to sample collection (postmortem redistribution).

2022 Snapshot – 40 Years of Annual Reports NPDS

The 2022 Annual Report of America's Poison Centers marks 40 years since the Association's first annual report published in 1983. Sixteen poison centers with an annualized service population of 25.8 million, submitted data to the pilot system for all or part of each year [1]. Many agencies and individuals dating back to 1956 contributed to making the pilot system

Table 16. Decontamination Trends for Human and Pediatric Exposures ≤5 Years: Last decade

	Total Exposures		Activated Charcoal		Cathartic		Ipecac		Lavage		Other emetic		Whole bowel irrigation											
	Human	Children	Human Exposures	Exposures Children	Human Exposures	Exposures Children	Human Exposures	Exposures Children	Human Exposures	Exposures Children	Human Exposures	Exposures Children	Human Exposures	Exposures Children										
	N	N	N	%	N	%	N	%	N	%	N	%	N	%										
2013	2,188,013	1,049,475	50,459	2.31	9,334	0.89	9,701	0.44	858	0.08	134	0.01	2,776	0.13	79	0.01	12,879	0.59	6,221	0.59	1,854	0.08	81	0.01
2014	2,165,142	1,031,927	46,030	2.13	7,977	0.77	8,070	0.37	657	0.06	132	0.01	2,053	0.09	57	0.01	13,482	0.62	6,604	0.64	1,744	0.08	70	0.01
2015	2,168,371	1,017,369	42,712	1.97	6,965	0.68	6,510	0.30	495	0.05	105	0.00	1,745	0.08	50	0.00	14,310	0.66	6,966	0.68	1,683	0.08	53	0.01
2016	2,159,032	1,002,344	40,633	1.88	6,333	0.63	4,985	0.23	376	0.04	88	0.00	1,440	0.07	47	0.00	14,974	0.69	7,131	0.71	1,653	0.08	61	0.01
2017	2,115,186	956,871	39,985	1.89	5,743	0.60	5,134	0.24	327	0.03	64	0.00	1,057	0.05	26	0.00	14,534	0.69	6,727	0.70	1,640	0.08	60	0.01
2018	2,099,751	927,487	36,807	1.75	5,006	0.54	3,964	0.19	275	0.03	63	0.00	777	0.04	15	0.00	15,300	0.73	6,848	0.74	1,562	0.07	60	0.01
2019	2,148,141	920,148	35,541	1.65	4,633	0.50	2,731	0.13	202	0.02	61	0.00	590	0.03	14	0.00	15,836	0.74	6,731	0.73	1,517	0.07	85	0.01
2020	2,128,198	886,342	33,654	1.58	4,007	0.45	2,045	0.10	125	0.01	70	0.00	455	0.02	20	0.00	17,941	0.84	7,249	0.82	1,131	0.05	70	0.01
2021	2,080,917	846,482	35,819	1.72	3,936	0.46	1,958	0.09	152	0.02	47	0.00	387	0.02	10	0.00	18,389	0.88	6,978	0.82	1,105	0.05	82	0.01
2022	2,064,875	830,754	33,194	1.61	3,466	0.42	1,805	0.09	125	0.02	50	0.00	320	0.02	6	0.00	17,836	0.86	6,432	0.77	1,006	0.05	73	0.01

a reality. Prior to the 1983 report, systematic US poison exposure reporting was limited [6,7].

In 1956, a committee at the annual meeting of the American Public Health Association advocated for the creation of the National Clearinghouse for Poison Control Centers (NCPCC) [7]. The clearinghouse began in 1957 with the Secretary of the Department of Health, Education, and Welfare directing the Surgeon General to establish the unit under the US Public Health Service, Accidental Prevention Program, Division of Special Health Services, Bureau of State Services. This initiative was under the authority of Section 301 of the Public Health Service Act [8]. Poison centers were collecting case data prior to the NCPCC, however, there was duplication of effort without formal sharing of case or product data. Additionally, PCs were not collecting product information or human exposure data in a systematic fashion [7]. Thus, the NCPCC was tasked to coordinate information flow among PCs. What qualified as a PC was under the purview of individual State health coordinators.

At the 1957 annual meeting of the American Academy of Pediatrics, the American Association of Poison Control Centers (AAPCC) (now known as America's Poison Centers), was founded. The number of PCs grew from 17 in 1957 to 661 in 1978 [9]. As a result, the NCPCC found it difficult to facilitate information flow among the centers. Thus, the concept of the regional poison center began to take form [10]. The NCPCC role transitioned to collection of data from journals, manufacturers, and books. Information on product ingredients, toxicity, and management was distilled onto 8" x 5" cards to provide medical treatment guidance [7,8]. Approximately 150,000 clinical cases were submitted annually from the centers. Although many centers were participating, data collection was not standardized. Recognizing this concern, the association pioneered a standardized method for data collection culminating with the 1983 Annual Report [6].

The 2022 Annual Report compiles standardized data from all 55 regional US Poison Centers serving 339 million people. The descriptive statistics of poison center calls remained remarkably consistent over time (Table A). For example, we compared the 2022 pharmaceutical and non-pharmaceutical product rankings to the top five in each category for 1983 (Table B). Similarities between the two reports included analgesics and household cleaning products claiming the number one spot in both reports. A major difference was a doubling in the number of health care facility calls over time, supporting the continued need for PCs in the information age to support the management of cases with greater severity.

Distribution of Suicides

Table 19A shows modest variation in the distribution of suicides and pediatric deaths over the past 2 decades as reported to the NPDS national database. Within the last decade, the percent of exposures determined to be suspected suicides ranged from 22.6% to 45.8% and the percent of pediatric cases has ranged from 0.779% to 2.29%. The relatively large changes seen for 2017, 2018, 2020, 2021 and 2022 reflect the

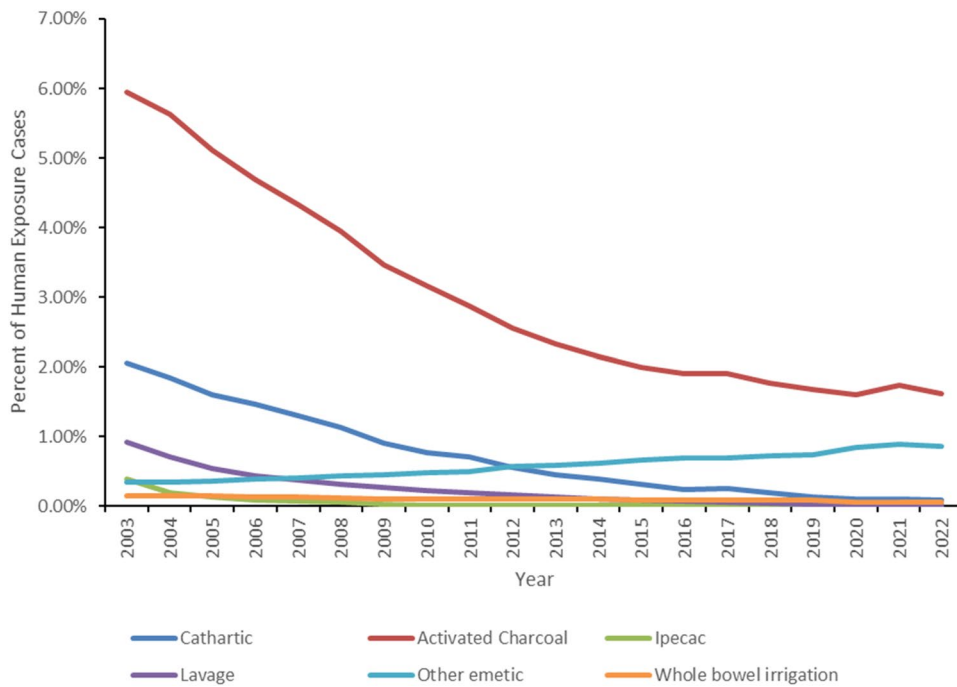


Figure 4. Decontamination Procedure Trends by Year from 1 January 2003 (20 Years)
The percentage of human exposure cases that received each decontamination procedure by year from 1 January 2012 (20 years).

Table 17A. Substance Categories Most Frequently Involved in Human Exposures (Top 25)

Substance (Major Generic Category)	All substances	% ^a	Single substance exposures	% ^b
Analgesics	289,420	11.51	186,109	10.33
Cleaning Substances (Household)	181,879	7.23	157,928	8.77
Antidepressants	141,233	5.61	63,974	3.55
Cosmetics/Personal Care Products	131,674	5.23	125,203	6.95
Antihistamines	120,906	4.81	79,204	4.40
Cardiovascular Drugs	119,267	4.74	47,812	2.65
Sedative/Hypnotics/Antipsychotics	115,702	4.60	42,037	2.33
Foreign Bodies/Toys/Miscellaneous	83,550	3.32	80,376	4.46
Dietary Supplements/Herbals/Homeopathic	81,610	3.24	69,767	3.87
Stimulants and Street Drugs	77,327	3.07	46,753	2.60
Pesticides	71,262	2.83	66,536	3.69
Alcohols	68,881	2.74	20,568	1.14
Anticonvulsants	61,687	2.45	24,211	1.34
Vitamins	61,014	2.43	48,185	2.67
Topical Preparations	59,072	2.35	57,228	3.18
Cold and Cough Preparations	57,019	2.27	36,878	2.05
Hormones and Hormone Antagonists	55,795	2.22	35,735	1.98
Chemicals	51,658	2.05	43,195	2.40
Plants	50,392	2.00	47,956	2.66
Gastrointestinal Preparations	48,030	1.91	33,358	1.85
Antimicrobials	47,755	1.90	37,142	2.06
Fumes/Gases/Vapors	41,036	1.63	37,721	2.09
Bites and Envenomations	35,036	1.39	34,375	1.91
Electrolytes and Minerals	34,121	1.36	26,566	1.47
Other/Unknown Nondrug Substances	31,474	1.25	29,374	1.63

^aPercentages are based on the total number of substances reported in all exposures (N=2,515,299).

^bPercentages are based on the total number of single substance exposures (N=1,801,654).

large increase in indirect death reports in those years (peaking at 2,482 in year 2020). Analyses of suicides and pediatric deaths for direct and indirect reports are shown in [Table 19B](#). For a more detailed review of trends in adolescent suicides, the reader is referred to the 2018 NPDS Annual Report [1].

Plant Exposures

[Table 20](#) provides the number of times a specific plant was reported to NPDS (n = 50,392). The 25 most commonly

involved plant species and categories account for 43.8% of all reported plant exposures. Three of the top 10 categories in the table are essentially synonymous for unknown plant and comprise 7.37% (3,714) of all plant exposures. For a variety of reasons, it was not possible to make a precise identification in these 3 groups. The most frequent plant exposures where positive plant identification was made were (descending order): Pokeweed (*Phytolacca americana*), Cherry Pit or Fruit, Elephant's Ear (Family: *Araceae*), *Ilex* species, Poison Ivy (*Toxicodendron radicans*), and *Epipremnum aureum*.

Table 17B. Substance Categories with the Greatest Rate of Exposure Increase (Top 25)

Substance (Major Generic Category)	Increase in serious exposures per year ^a		All serious exposures in 2022
	Mean	95% CI ^b	
Analgesics	1,514	[991, 2036]	56,003
Antidepressants	1,347	[842, 1852]	44,410
Antihistamines	910	[779, 1040]	20,874
Alcohols	746	[445, 1048]	26,386
Stimulants and Street Drugs	616	[153, 1078]	26,126
Cardiovascular Drugs	608	[357, 858]	24,229
Unknown Drug	547	[396, 697]	11,029
Anticonvulsants	407	[17, 797]	17,225
Infectious and Toxin-Mediated Diseases	147	[38, 256]	1,922
Dietary Supplements/Herbals/Homeopathic	106	[70, 141]	2,851
Gastrointestinal Preparations	104	[43, 165]	3,493
Hormones and Hormone Antagonists	102	[-3, 207]	6,716
Fumes/Gases/Vapors	90	[48, 133]	4,336
Cosmetics/Personal Care Products	89	[44, 133]	2,913
Other/Unknown Nondrug Substances	84	[31, 137]	1,494
Serums, Toxoids, Vaccines	56	[-25, 138]	209
Electrolytes and Minerals	52	[43, 60]	1,425
Narcotic Antagonists	46	[39, 53]	525
Mushrooms	45	[18, 72]	1,119
Vitamins	40	[30, 50]	1,243
Miscellaneous Drugs	40	[18, 62]	2,438
Tobacco/Nicotine/eCigarette Products	34	[-28, 97]	458
Anesthetics	32	[16, 48]	802
Chemicals	32	[-10, 73]	4,434
Miscellaneous Foods	29	[16, 42]	573

^aSerious exposures have outcomes of Moderate, Major or Death.

^bIncrease and confidence intervals are based on least squares linear regression of the number of calls per year for 2013-2022.

Table 17C. Substance Categories Most Frequently Involved in Pediatric (≤ 5 years) Exposures (Top 25)^a

Substance (Major Generic Category)	All substances	% ^b	Single substance exposures	% ^c
Cleaning Substances (Household)	89,295	10.29	85,468	10.63
Analgesics	82,770	9.54	75,495	9.39
Cosmetics/Personal Care Products	82,354	9.49	80,417	10.00
Dietary Supplements/Herbals/Homeopathic	57,671	6.65	54,696	6.80
Foreign Bodies/Toys/Miscellaneous	57,380	6.61	55,803	6.94
Antihistamines	43,620	5.03	39,090	4.86
Vitamins	42,127	4.85	36,978	4.60
Topical Preparations	35,257	4.06	34,512	4.29
Pesticides	29,254	3.37	28,410	3.53
Plants	28,605	3.30	27,681	3.44
Gastrointestinal Preparations	22,620	2.61	20,472	2.54
Cold and Cough Preparations	18,898	2.18	17,030	2.12
Cardiovascular Drugs	17,576	2.03	11,563	1.44
Antimicrobials	17,405	2.01	16,336	2.03
Electrolytes and Minerals	17,324	2.00	15,459	1.92
Stimulants and Street Drugs	15,779	1.82	14,210	1.77
Arts/Crafts/Office Supplies	14,908	1.72	14,418	1.79
Hormones and Hormone Antagonists	13,413	1.55	10,550	1.31
Essential Oils	12,500	1.44	11,884	1.48
Deodorizers	12,500	1.44	12,336	1.53
Tobacco/Nicotine/eCigarette Products	11,757	1.35	11,674	1.45
Chemicals	11,375	1.31	10,433	1.30
Antidepressants	11,244	1.30	8,426	1.05
Other/Unknown Nondrug Substances	10,173	1.17	9,720	1.21
Miscellaneous Foods	8,252	0.95	7,761	0.96

^aIncludes all children with actual or estimated ages ≤ 5 years old. Results do not include "Unknown Child" or "Unknown Age".

^bPercentages are based on the total number of substances reported in pediatric exposures (N=867,795).

^cPercentages are based on the total number of single substance pediatric exposures (N=804,402).

Deaths and Exposure-related Fatalities

A listing of cases (Table 21, Appendix A) and summary of cases (Tables 4, 5, 8, 9, and 18) are provided for fatal cases with reasonable confidence that the death was a result of the exposure (exposure-related fatalities; RCF of 1, 2 or 3 and no death,

indirect cases). Tables 11, 12, 17E, 19 and 22 consider all deaths (direct and indirect), irrespective of the RCF. Beginning in 2010, deaths recorded as Indirect Report were no longer reviewed by the America's Poison Centers fatality review team and the RCF was determined by the reporting PC. Table 19C indicates which cases are included in 12 tables reporting fatalities.

Table 17D. Substance Categories Most Frequently Involved in Adult (≥ 20 years) Exposures (Top 25)^a

Substance (Major Generic Category)	All substances	% ^b	Single substance exposures	% ^c
Analgesics	135,359	11.09	67,325	9.52
Sedative/Hypnotics/Antipsychotics	89,918	7.37	29,344	4.15
Antidepressants	89,087	7.30	34,600	4.89
Cardiovascular Drugs	86,124	7.06	28,476	4.03
Cleaning Substances (Household)	75,462	6.18	58,210	8.23
Alcohols	53,605	4.39	10,175	1.44
Anticonvulsants	46,473	3.81	15,886	2.25
Antihistamines	44,006	3.61	20,144	2.85
Stimulants and Street Drugs	37,569	3.08	17,394	2.46
Hormones and Hormone Antagonists	36,703	3.01	21,659	3.06
Pesticides	36,014	2.95	32,587	4.61
Cosmetics/Personal Care Products	32,922	2.70	29,636	4.19
Chemicals	32,905	2.70	26,546	3.75
Fumes/Gases/Vapors	31,226	2.56	28,591	4.04
Antimicrobials	23,448	1.92	16,246	2.30
Bites and Envenomations	23,146	1.90	22,710	3.21
Cold and Cough Preparations	22,511	1.84	11,185	1.58
Gastrointestinal Preparations	19,628	1.61	9,380	1.33
Topical Preparations	19,319	1.58	18,437	2.61
Hydrocarbons	18,066	1.48	16,787	2.37
Miscellaneous Drugs	17,699	1.45	10,254	1.45
Muscle Relaxants	16,915	1.39	6,288	0.89
Other/Unknown Nondrug Substances	16,465	1.35	15,139	2.14
Unknown Drug	15,525	1.27	9,271	1.31
Infectious and Toxin-Mediated Diseases	15,208	1.25	11,234	1.59

^aIncludes all adults with actual or estimated ages ≥ 20 years old. Results also include "Unknown Adult" but do not include "Unknown Age".

^bPercentages are based on the total number of substances reported in adult exposures (N=1,220,681).

^cPercentages are based on the total number of single substance adult exposures (N=707,453).

Table 17E. Substance Categories Most Frequently Involved in Pediatric (≤ 5 years) Deaths^a

Substance (Major Generic Category)	All substances	% ^b	Single substance exposures	% ^c
Analgesics	23	25.56	11	25.58
Cold and Cough Preparations	9	10.00	2	4.65
Stimulants and Street Drugs	8	8.89	4	9.30
Unknown Drug	6	6.67	2	4.65
Antihistamines	5	5.56	2	4.65
Fumes/Gases/Vapors	5	5.56	5	11.63
Batteries	4	4.44	3	6.98
Alcohols	3	3.33	2	4.65
Cleaning Substances (Household)	3	3.33	2	4.65
Other/Unknown Nondrug Substances	3	3.33	3	6.98
Antidepressants	2	2.22	1	2.33
Cardiovascular Drugs	2	2.22	1	2.33
Cosmetics/Personal Care Products	2	2.22	2	4.65
Hormones and Hormone Antagonists	2	2.22	0	0.00
Pesticides	2	2.22	0	0.00
Sedative/Hypnotics/Antipsychotics	2	2.22	0	0.00
Anticonvulsants	1	1.11	0	0.00
Dietary Supplements/Herbals/Homeopathic	1	1.11	0	0.00
Electrolytes and Minerals	1	1.11	1	2.33
Eye/Ear/Nose/Throat Preparations	1	1.11	0	0.00
Foreign Bodies/Toys/Miscellaneous	1	1.11	0	0.00
Gastrointestinal Preparations	1	1.11	0	0.00
Topical Preparations	1	1.11	1	2.33
Veterinary Drugs	1	1.11	0	0.00
Weapons of Mass Destruction	1	1.11	1	2.33

^aIncludes all children with actual or estimated ages ≤ 5 years old. Results do not include "Unknown Child" or "Unknown Age". Includes death and death, indirect regardless of RCF.

^bPercentages are based on the total number of substances reported in pediatric fatalities (N=90).

^cPercentages are based on the total number of single substance pediatric fatalities (N=43).

There were 2,072 deaths, and 1,183 indirect deaths. Of these 3,255 cases, 2,622 were judged exposure-related fatalities (RCF = 1 - Undoubtedly responsible, 2 - Probably responsible, or 3 - Contributory). The remaining 633 cases were judged as follows: 142 as RCF 4 - Probably not responsible, 66 as RCF 5 - Clearly not responsible, and 425 as RCF 6 - Unknown. Deaths are sorted in [Table 21 \(Appendix A\)](#) according to the category, then substance deemed most likely responsible for the death (Cause Rank), and then by patient age. The Cause

Rank permits the PC to judge 2 or more substances as indistinguishable in terms of cause, for example, 2 substances which appear equally likely to have caused the death could have Substance Rank of 1,2 and Cause Rank of 1,1. Additional agents implicated in the death are listed below the primary agent in the order of their contribution to the fatality.

As shown in [Table 5](#), a single substance was implicated in 87.3% of reported human exposures, and 12.7% of patients were exposed to ≥ 2 drugs or products. The exposure-related

Table 17F. Substance Categories Most Frequently Identified in Drug Identification Calls (Top 25)

Substance (Major Generic Category)	All substances	% ^a
Analgesics	6,738	29.64
Sedative/Hypnotics/Antipsychotics	3,589	15.79
Unknown Drug	2,290	10.07
Cardiovascular Drugs	2,047	9.01
Anticonvulsants	1,138	5.01
Stimulants and Street Drugs	1,074	4.72
Antidepressants	987	4.34
Antimicrobials	825	3.63
Antihistamines	759	3.34
Muscle Relaxants	723	3.18
Hormones and Hormone Antagonists	559	2.46
Gastrointestinal Preparations	489	2.15
Information Calls	338	1.49
Diuretics	261	1.15
Miscellaneous Drugs	251	1.10
Cold and Cough Preparations	108	0.48
Other/Unknown Nondrug Substances	68	0.30
Anticoagulants	67	0.29
Vitamins	63	0.28
Asthma Therapies	55	0.24
Electrolytes and Minerals	53	0.23
Anticholinergic Drugs	44	0.19
Infectious and Toxin-Mediated Diseases	39	0.17
Antineoplastics	21	0.09
Dietary Supplements/Herbals/Homeopathic	20	0.09

^aPercentages are based on the total number of substances reported in all drug identification calls (N=22,731).

Table 17G. Substance Categories Most Frequently Involved in Pregnant Exposures^a (Top 25)

Substance (Major Generic Category)	All substances	% ^b	Single substance exposures	% ^c
Analgesics	897	12.84	542	10.42
Cleaning Substances (Household)	622	8.90	447	8.59
Fumes/Gases/Vapors	493	7.06	453	8.70
Pesticides	360	5.15	318	6.11
Antidepressants	312	4.47	170	3.27
Antihistamines	298	4.27	179	3.44
Sedative/Hypnotics/Antipsychotics	224	3.21	107	2.06
Vitamins	207	2.96	121	2.33
Chemicals	204	2.92	154	2.96
Bites and Envenomations	189	2.71	187	3.59
Electrolytes and Minerals	178	2.55	147	2.82
Other/Unknown Nondrug Substances	173	2.48	164	3.15
Hormones and Hormone Antagonists	165	2.36	133	2.56
Infectious and Toxin-Mediated Diseases	155	2.22	124	2.38
Cosmetics/Personal Care Products	150	2.15	132	2.54
Alcohols	144	2.06	60	1.15
Antimicrobials	141	2.02	106	2.04
Foreign Bodies/Toys/Miscellaneous	139	1.99	134	2.57
Cardiovascular Drugs	136	1.95	85	1.63
Cold and Cough Preparations	135	1.93	86	1.65
Hydrocarbons	135	1.93	126	2.42
Plants	134	1.92	127	2.44
Gastrointestinal Preparations	126	1.80	81	1.56
Miscellaneous Foods	111	1.59	96	1.84
Stimulants and Street Drugs	108	1.55	52	1.00

^aIncludes all patient classified as pregnant and all female patients with a 'duration of pregnancy' greater than 0.

^bPercentages are based on the total number of substances reported in pregnant exposures (N=6,985).

^cPercentages are based on the total number of single substance pregnant exposures (N=5,204).

fatalities involved a single substance in 675 cases (45.3%), 2 substances in 371 cases (24.9%), 3 in 179 cases (12.0%), and 4 or more in the balance of cases.

In Table 21 (Appendix A), the Annual Report ID number [bracketed] indicates that the abstract for that case is included in Appendix C. The letters following the Annual Report ID number indicate: i=Death, Indirect report (occurred in 1,131, 43.1% of cases), p=prehospital cardiac

and/or respiratory arrest (occurred in 497, 19.0% of cases), h=hospital records reviewed (occurred in 1,212, 46.2% of cases), a=autopsy report reviewed (occurred in 1,149, 43.8% of cases). The distribution of NPDS RCF was: 1 = Undoubtedly responsible in 1,229 cases (46.9%), 2 = Probably responsible in 1,122 cases (42.8%), 3 = Contributory in 271 cases (10.3%). The denominator for these Table 21 percentages is 2,622.

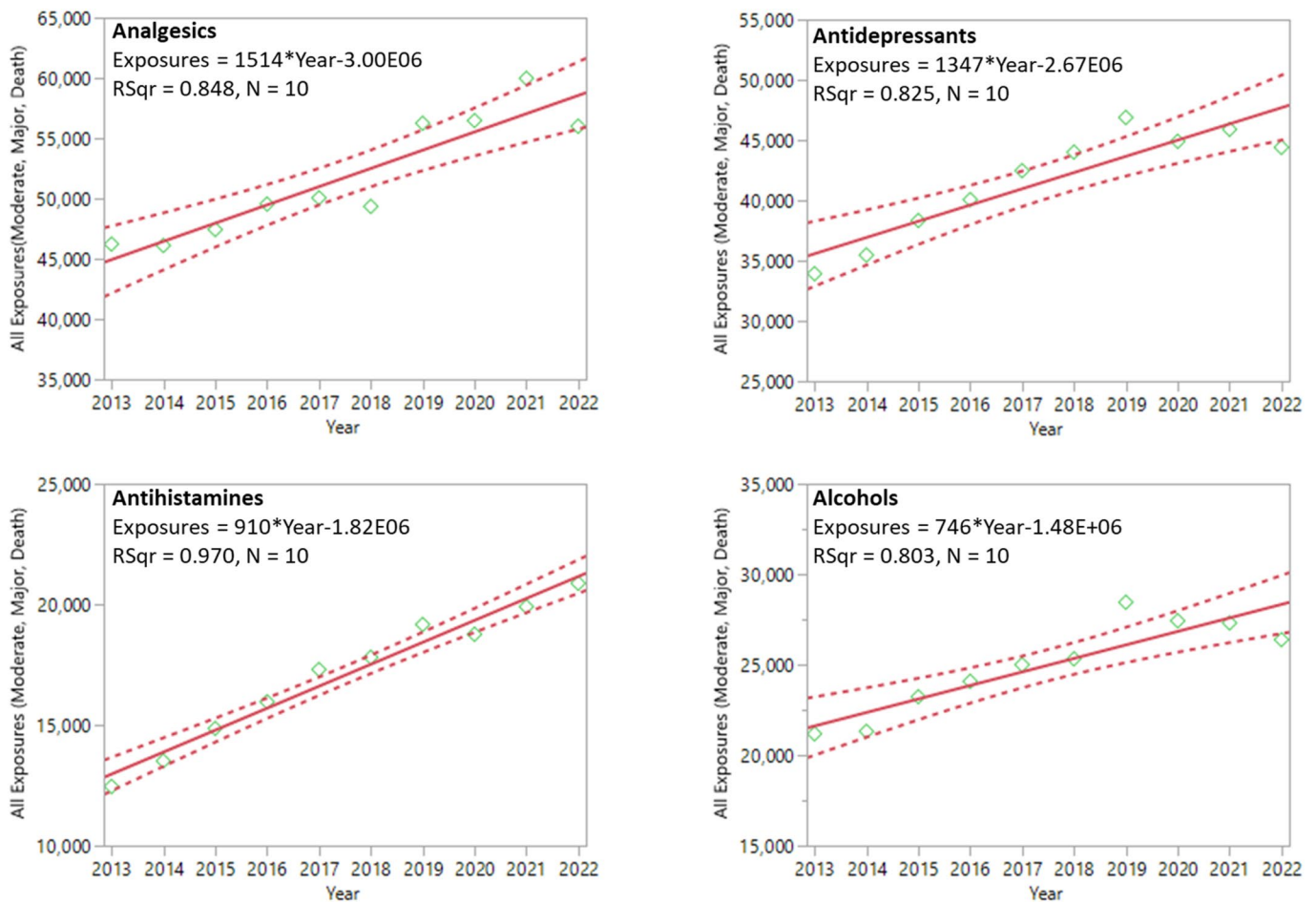


Figure 5. Substance Categories with the Greatest Rate of Exposure Increase since 1 January 2013 for More Serious Outcomes (Top 4). Solid lines show least-squares linear regressions for the human exposure cases per year for that category (◊). Broken lines show 95% confidence interval on the regression.

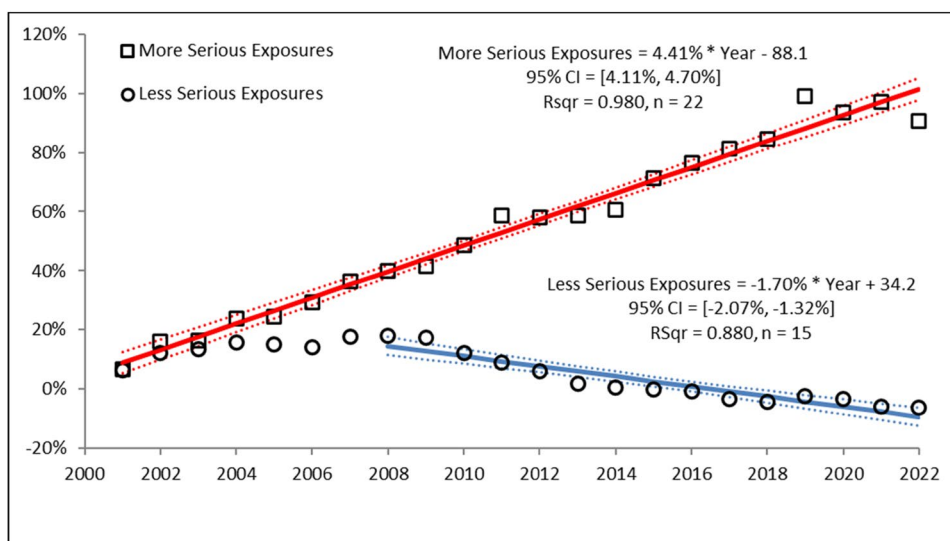


Figure 6. Change in Human Exposures by Outcome from Year 2000. The percent change from baseline (year 2000) for human exposure cases divided among the 10 medical outcomes. The more serious exposures (moderate, major and death) increased. The less serious exposures (no effect, minor effect, not followed (non-toxic), not followed (minimal toxicity possible), unable to follow (potentially toxic) and unrelated effect) decreased after 2008. Solid lines show least-squares linear regressions for the change in more serious exposures per year (◻) and less serious exposures (◊). Broken lines show 95% confidence intervals on the regression.

All Fatalities – All Ages

Table 4 presents the age and gender distribution for the 1,491 exposure-related fatalities (excluding death, indirect).

The age distribution of reported fatalities showed a decrease in deaths among children (<20 years old) compared to 2021, with 118 cases representing 7.91% of fatalities. This was an absolute decrease of 5 fatalities (4.07%) in that age group.

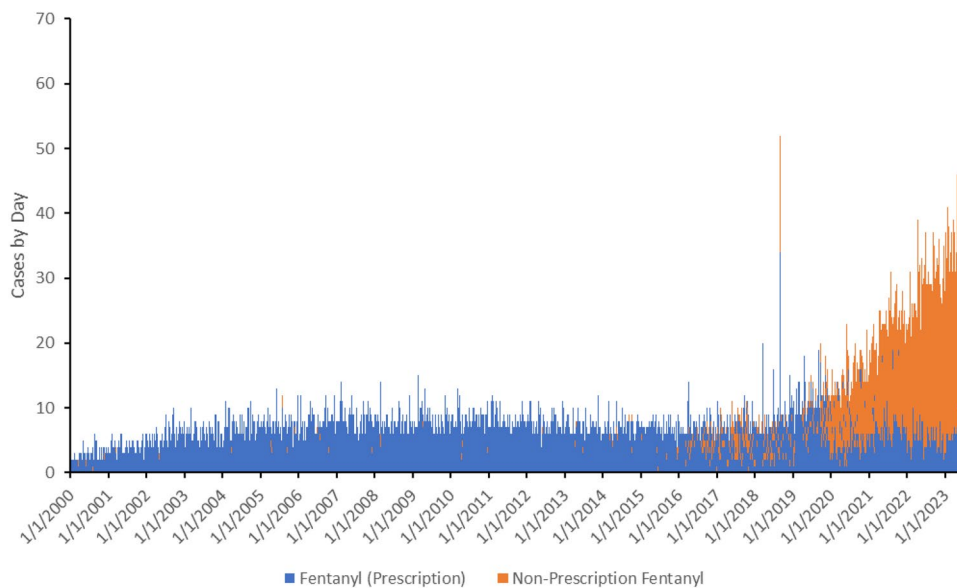


Figure 7. Closed Human Fentanyl Exposure Cases by Day from 1 January 2000

The total number of fentanyl human exposure cases by day coded to the generic codes for Fentanyl (Prescription) and Non-Prescription Fentanyl for all medical outcomes excluding confirmed non-exposures and indirect deaths. The large anomalous spike in 2018 represents a reported mass exposure event.

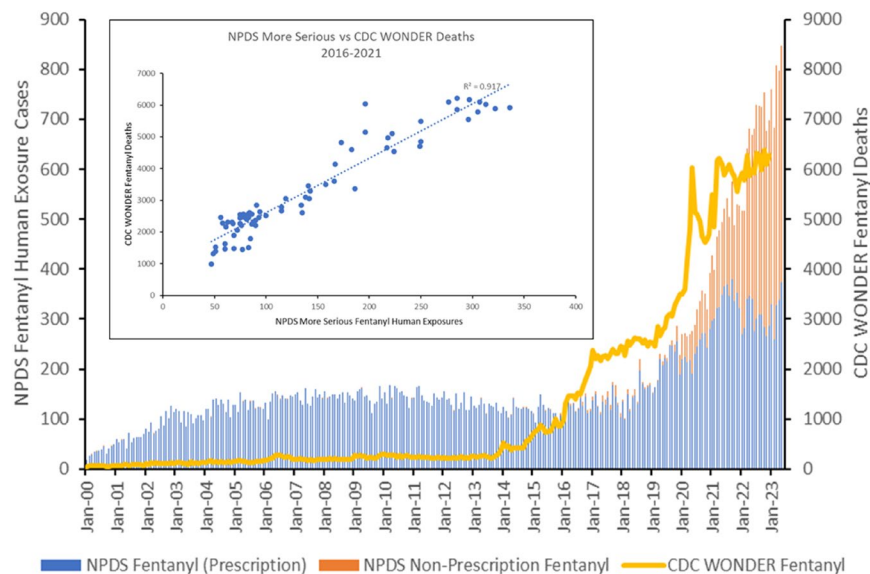


Figure 8. NPDS Fentanyl Exposures, CDC WONDER Fentanyl Deaths, and NPDS More Serious Fentanyl Exposures Relationship with CDC WONDER Fentanyl Deaths by Month

Comparison of NPDS human exposure cases (Fentanyl (Prescription) and Non-Prescription Fentanyl) to CDC WONDER Deaths by Month from 1 January 2000 to 30 June 2023. The insert compares NPDS More Serious Human Exposures (Moderate Effect, Major Effect and Death) to CDC WONDER deaths by Month from 1 January 2016 to 31 December 2021. See the Methods for derivation of CDC WONDER Fentanyl Deaths.

The age distribution of reported fatalities in adults (≥ 20 years) was similar to prior years with 1,370 of 1,491 (91.9%) fatal cases occurring in that age group and 3 (0.201%) occurring in Unknown Age patients. While children ≤ 5 years old were involved in the majority of exposures, the deaths in this group comprised just 1.81% of the exposure-related fatalities. The number of deaths in this age group increased by 1 from 2021. Most (56.9%) of the fatalities occurred in 20 to 59-year-old individuals, in line with prior years, although 34.5% occurred in older individuals (>60 years old). Exposures causing death in children ≤ 5 years of age were mostly coded as "Unintentional-General," while those in ages >13 years were mostly "Intentional."

Table 21 (Appendix A) lists each of the 2,622 human fatalities (RCF 1, 2, 3; including death, indirect) along with all the substances involved for each case. The major category headers in column 1 list the class of nonpharmaceutical the exposure substance belongs to. The substance listed in column 3 of Table 21 (alternate name) was chosen to be the most specific generic name based upon the Poisindex[®] product name and generic code selected for that substance (for example, column 1 may have the major category of alcohols and column 3 will list the specific substance, methanol). Alternate names are maintained in the NPDS for each substance involved in a fatality. The cross-references at the end of each major category section in Table 21 list all cases that identify

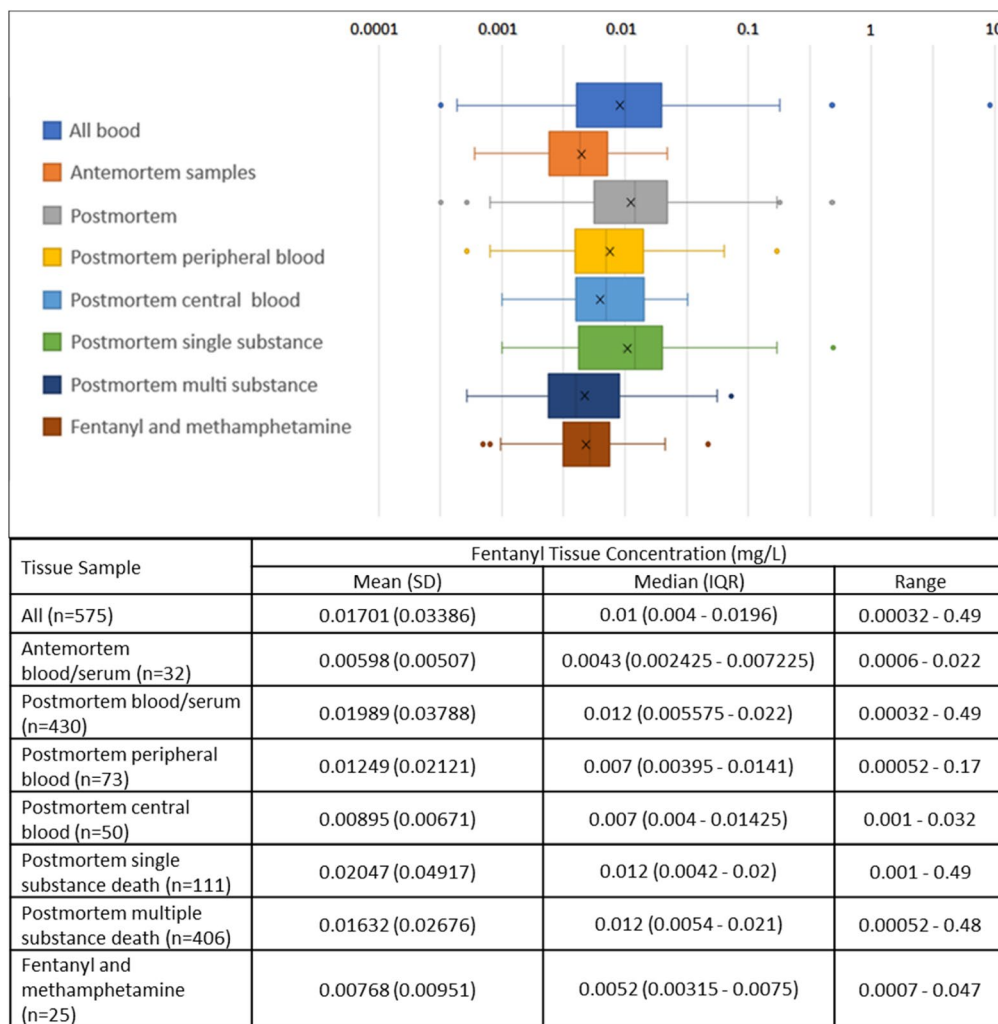


Figure 9. Log Transformed Whisker Plot of Fentanyl Tissue Concentrations Reported in the NPDS Fatality Database (mg/L)

Data for the figure were transformed into log scale due to the apparent log normal distribution. The middle line of the box represents the median. The x in the box represents the mean. The bottom line of the box represents the median of the bottom half or 1st quartile. The box represents the interquartile ratio (IQR) calculated excluding the median value. The whiskers (vertical lines) extend from the ends of the box to the local minimum value and local maximum value which define the limits of the 1st and 4th quartile values. The dots outside the whiskers represent outliers, defined as values lying more than 1.5 times the length of the IQR box from either end of the box. The associated table presents the data underlying the figure.

the substance as other than the primary substance. This alternate name may not agree with the America's Poison Centers generic categories used in the summary tables (including [Appendix B \(Table 22\)](#)).

[Table 18](#) lists the top 25 minor generic substance categories associated with reported fatalities and the number of single substance exposure fatalities for that category. The 10 substances categories associated most frequently with fatalities were miscellaneous sedative/hypnotics/antipsychotics, acetaminophen alone, pharmaceutical and illegal opioid preparations, miscellaneous alcohols, miscellaneous stimulants and street drugs, calcium antagonist, beta blockers, miscellaneous antidepressants, sedating antihistamines, and miscellaneous cardiovascular drugs. Note that [Table 18](#) is sorted by all substances to which a patient was exposed (i.e., a patient exposed to an opioid may have also been exposed to 1 or more other products) and shows single substance exposures in the right-hand column.

The first ranked substance ([Appendix A, Table 21](#)) was a pharmaceutical in 2,250 (85.8%) of the 2,622 fatalities. Of the

2,250 first ranked pharmaceuticals, the most common included:

- 1,155 analgesics (541 fentanyl (non-prescription), 221 acetaminophen, 145 narcotic, N.O.S., 53 heroin, 35 fentanyl (prescription), 25 oxycodone, 20 salicylate, 19 acetaminophen/hydrocodone, 16 morphine, 13 methadone, 8 acetaminophen/oxycodone, 7 colchicine, 6 acetaminophen/diphenhydramine, 6 tramadol, 5 oxycodone (ER), 4 hydrocodone, 4 hydromorphone).
- 302 stimulants/street drugs (215 methamphetamine, 51 cocaine, 10 amphetamine, 6 amphetamines (hallucinogenic), 3,4-methylenedioxyethylamphetamine (MDA), 4 stimulant/street drug, N.O.S., 2 amphetamine/dextroamphetamine, 2 marijuana, N.O.S., 2 *Mitragyna speciosa korthals*, 2 phentermine).
- 266 cardiovascular drugs (105 amlodipine, 26 metoprolol, 21 digoxin, 17 propranolol, 11 carvedilol, 10 calcium antagonist, N.O.S., 10 diltiazem, 10 verapamil, 6 diltiazem (ER), 6 metoprolol (ER), 5 atenolol, 5 beta blocker, N.O.S.).
- 135 antidepressants (39 bupropion, 22 amitriptyline, 18 bupropion (ER), 12 venlafaxine, 8 trazadone, 6 fluoxetine, 5 lithium, 5 nortriptyline, 4 citalopram, 3 duloxetine (ER), 3 escitalopram).
- 114 unknown drug (114 drug, N.O.S).

Table A. Comparison of Annual Reports 1983 to 2022

Case Type	1983		2022	
	(N)	%	(N)	%
Human	251,012	75.60	2,064,875	83.20
Animal	4,643	1.40	50,381	2.00
Information Requests	74,763	22.52	363,099	14.60
Unknown	1594	0.48	4,837	0.20
Total	332,012	100.00	2,478,355	100.00
Site	Site of Exposure (%)	Site of Caller (%)	Site of Exposure (%)	Site of Caller (%)
Residence	90.80	84.30	92.54	66.97
Health Care Facility	0.00	12.00	0.34	23.77
Workplace	1.90	1.50	1.93	1.05
School	0.70	0.50	1.49	0.52
Other	1.90	0.80	1.29	5.86
Unknown	4.70	0.90	1.12	0.34
Gender	% (1983)		% (2022)	
Male	49.92		45.89	
Female	47.20		53.47	
Unknown	2.89		0.63	
Age <6	64.04		40.23	
Reason	% (1983)		% (2022)	
Unintentional	90.03		76.41	
Intentional	8.18		18.88	
Adverse Reaction	1.01		2.65	
Unknown	0.78		1.11	
Route	% (1983)		% (2022)	
Ingestion	80.47		82.72	
Inhalation	4.63		7.64	
Dermal	6.01		6.85	
Ophthalmic	5.50		4.10	
Bites & Stings	5.54		1.52	
Parenteral	0.29		0.92	
Other/Unknown	0.93		1.50	
Management Site	% (1983)		% (2022)	
On-site - Non HCF	72.69		66.57	
HCF	22.77		30.61	
Other/Unknown	4.54		2.79	
Outcome	% (1983)		% (2022)	
No Effect	52.56		16.55	
Minor effect	34.99		15.21	
Major effect	5.16		1.88	
Death	0.04		0.10	
Unknown	7.25		55.49	
Fatalities	Total (%)	Suicides (%)	Total (%)	Suicides (%)
	95 (0.04)	60 (63.16)	2,072 (0.10)	953 (45.99)

82 sedative/hypnotic/antipsychotics (21 quetiapine, 16 alprazolam, 8 zolpidem, 4 aripiprazole, 4 clonazepam, 4 pentobarbital, 3 benzodiazepine, N.O.S., 3 diazepam, 3 temazepam, 2 eszopiclone). 51 hormones and hormone antagonists (34 metformin, 8 metformin (ER), 5 insulin, 1 glimepiride, 1 glipizide, 1 insulin (degludec) (ER), 1 insulin (glargine) (ER).

The exposure was acute (A) in 884 (33.7%), acute on chronic (A/C) in 399 (15.2%), chronic (C) in 144 (5.49%), and unknown (U) in 1,195 (45.6%) of fatalities.

A total of 1,477 tissue concentrations for 1 or more related analytes were reported in 803 cases. Most of these (1,305) involved fatalities with RCF of 1-3 and are listed in [Appendix A \(Table 21\)](#). Of note, all tissue concentrations are available to the PCs through the NPDS Enterprise Reports. The most frequent of the 140 analytes included: 342 acetaminophen (APAP), 160 ethanol, 73 salicylate, 42 fentanyl, 41 carboxyhemoglobin %, 34 methamphetamine, 31 amphetamine, 21 diphenhydramine, 20 ethylene glycol, 19 digoxin, 19 benzoylcegonine, 18 norfentanyl, 17 methanol, 16 alprazolam, and 16 bupropion.

Route of exposure was ingestion only in 1,176 cases (44.9%), inhalation/nasal in 133 cases (5.07%), and parenteral in 66 cases (2.52%). Most other exposures recorded a combination of routes or an unknown route.

The Intentional exposure reason was abuse in 1,126 cases (42.9%), suspected suicide in 866 cases (33.0%), misuse in 74 cases (2.82%), and unknown in 101 cases (3.85%). Unintentional exposure reasons were environmental in 50 cases (1.91%), misuse in 17 cases (0.648%), general in 52 cases (1.98%), therapeutic error in 38 cases (1.45%), occupational in 13 cases (0.496%), unknown in 11 cases (0.420%), bite/sting in 8 cases (0.305%) and food poisoning in 1 case (0.0381%). Adverse drug reaction was the reason in 52 cases (1.98%).

Pediatric fatalities – age ≤ 5 years

Although children younger than 6 years were involved in the majority of exposures, they comprised only 61 (1.87%) of the 3,255 fatalities. These numbers are similar to those reported since 1985 ([Table 19A](#), all RCFs and includes indirect deaths). [Table 8](#) (RCF 1, 2 or 3, excludes indirect deaths) shows the percentage of fatalities in children ≤ 5 years related to total pediatric exposures was 27/830,754 (0.00325%). By

Table B. Top 5 Exposures by Major Generic Code Categories 1982, 2022

Pharmaceutical Substances (Major Categories)	1982 Exposures					2022 Exposures			
	1983 Annual Report (25.8 million served)					2022 Annual Report (332 million served)			
	Rank	(N)	(N)/100k	(%)		Rank	(N)	(N)/100k	(%)
Analgesics	1	25,771	99.9	10.3	1	289,420	87.1	11.5	
Cold and Cough Preparations	2	9,751	37.8	3.9	11	57,019	17.2	2.3	
Sedative/Hypnotics/Antipsychotics	3	8,487	32.9	3.4	5	115,702	34.8	4.6	
Vitamins	4	7,765	30.1	3.1	9	61,014	18.4	2.4	
Topical Preparations	5	7,560	29.3	3.0	10	59,072	17.8	2.3	
Nonpharmaceutical Substances (Major Categories)	Rank	(N)	(N)/100k	(%)	Rank	(N)	(N)/100k	(%)	
Cleaning Substances (Household)	1	22,347	86.6	8.9	1	181,879	54.7	7.2	
Plants	2	22,326	86.5	8.9	8	50,392	15.2	2.0	
Cosmetics/Personal Care Products	3	13,192	51.1	5.3	2	131,674	39.6	5.2	
Bites and Envenomation	4	11,676	45.3	4.7	10	35,036	10.5	1.4	
Hydrocarbons	5	11,095	43.0	4.4	12	27,701	8.3	1.1	

Table 18. Categories Associated with Largest Number of Fatalities (Top 25)^a

Substance (Minor Generic Category)	All substances	% ^b	Single substance exposures	% ^c
Miscellaneous Sedative/Hypnotics/Antipsychotics	299	8.84	22	3.26
Acetaminophen Alone	270	7.98	125	18.52
Pharmaceutical and Illegal Opioid Preparations	244	7.21	46	6.81
Miscellaneous Alcohols	231	6.83	22	3.26
Miscellaneous Stimulants and Street Drugs	211	6.24	41	6.07
Calcium Antagonist	178	5.26	29	4.30
Beta Blockers	145	4.29	15	2.22
Miscellaneous Antidepressants	108	3.19	19	2.81
Sedating Antihistamines	95	2.81	14	2.07
Miscellaneous Cardiovascular Drugs	84	2.48	18	2.67
Hypoglycemic, Single Agent	83	2.45	19	2.81
Miscellaneous Chemicals	83	2.45	52	7.70
Selective Serotonin Reuptake Inhibitors (SSRI)	83	2.45	2	0.30
Miscellaneous Unknown Drug	81	2.39	24	3.56
Acetaminophen Combinations	78	2.31	20	2.96
Miscellaneous Fumes/Gases/Vapors	73	2.16	38	5.63
Anticonvulsants: Gamma Aminobutyric Acid and Analogs	65	1.92	1	0.15
Serotonin Norepinephrine Reuptake Inhibitors (SNRI)	61	1.80	7	1.04
Miscellaneous Anticonvulsants	58	1.71	4	0.59
Miscellaneous Muscle Relaxants	54	1.60	10	1.48
Acetylsalicylic Acid Alone	52	1.54	15	2.22
Nonsteroidal Antiinflammatory Drugs	52	1.54	4	0.59
Tricyclic Antidepressants (TCA)	42	1.24	10	1.48
Angiotensin Converting Enzyme Inhibitor	41	1.21	1	0.15
Cannabinoids and Analogs	37	1.09	2	0.30

^aNumbers represent total exposures associated with 1,491 fatalities (with RCF of 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory and no death, indirect cases); each fatality may have had exposure to more than one substance.

^bPercentages are based on the total number of substances reported in fatal exposures (N=3,383)

^cPercentages are based on the total number of single substance fatal exposures (N=675)

Table 19A. Comparisons of Death Data (1985-2022)^a

Year	Total fatalities		Suicides		Pediatric deaths ^b	
	N	% of cases	N	% of deaths	N	% of deaths
1985	328	0.036	174	53.05	20	6.10
1986	406	0.037	223	54.93	15	3.69
1987	398	0.034	227	57.04	22	5.53
1988	544	0.040	296	54.41	30	5.51
1989	590	0.037	323	54.75	24	4.07
1990	553	0.032	320	57.87	21	3.80
1991	764	0.042	408	53.40	44	5.76
1992	705	0.038	395	56.03	29	4.11
1993	626	0.036	338	53.99	27	4.31
1994	766	0.040	410	53.52	26	3.39
1995	724	0.036	405	55.94	20	2.76
1996	726	0.034	358	49.31	29	3.99
1997	786	0.036	418	53.18	25	3.18
1998	775	0.035	421	54.32	16	2.06
1999	873	0.040	472	54.07	24	2.75
2000	921	0.042	477	51.79	20	2.17
2001	1,085	0.048	553	50.97	27	2.49
2002	1,170	0.049	635	54.27	27	2.31
2003	1,109	0.046	592	53.38	35	3.16
2004	1,190	0.049	642	53.95	27	2.27
2005	1,438	0.059	674	46.87	32	2.23
2006	1,515	0.063	705	46.53	39	2.57
2007	1,597	0.064	737	46.15	47	2.94
2008	1,756	0.070	797	45.39	39	2.22
2009	1,544	0.062	779	50.45	37	2.40
2010	1,730	0.072	779	45.03	55	3.18
2011	2,765	0.118	865	31.28	42	1.52
2012	2,937	0.129	890	30.30	46	1.57
2013	2,477	0.113	785	31.69	51	2.06
2014	1,835	0.085	790	43.05	34	1.85
2015	1,831	0.084	814	44.46	42	2.29
2016	1,977	0.091	906	45.83	44	2.23
2017	3,208	0.151	954	29.74	25	0.78
2018	3,111	0.148	953	30.63	51	1.64
2019	2,619	0.122	909	34.71	31	1.18
2020	4,488	0.210	1,013	22.57	57	1.27
2021	4,497	0.216	1,042	23.17	56	1.25
2022	3,255	0.157	1,016	31.21	61	1.87

^aHuman exposures with medical outcome of death or death, indirect regardless of RCF.

^bIncludes all children with actual or estimated ages ≤ 5 years old. Results do not include "Unknown Child" or "Unknown Age". Includes death and death, indirect regardless of RCF.

Table 19B. Comparisons of Direct and Indirect Death Data (2000-2022)^a

Year	All deaths			Suicides			Pediatric deaths						
	Total	Direct	Indirect	Total	% of deaths	Direct	% of direct	Indirect	Total	% of deaths	Direct	% of direct	Indirect
2000	864	845	19	448	51.85	443	52.43	5	18	2.08	18	2.13	0
2001	1,066	952	114	542	50.84	503	52.84	39	26	2.44	24	2.52	2
2002	850	739	111	455	53.53	436	59.00	19	24	2.82	15	2.03	9
2003	867	826	41	464	53.52	454	54.96	10	29	3.34	22	2.66	7
2004	955	898	57	516	54.03	501	55.79	15	25	2.62	21	2.34	4
2005	1,423	1,332	91	666	46.80	656	49.25	10	32	2.25	26	1.95	6
2006	1,515	1,415	100	705	46.53	687	48.55	18	39	2.57	32	2.26	7
2007	1,597	1,502	95	737	46.15	712	47.40	25	47	2.94	41	2.73	6
2008	1,756	1,535	221	797	45.39	750	48.86	47	39	2.22	32	2.08	7
2009	1,544	1,452	92	779	50.45	748	51.52	31	37	2.40	31	2.13	6
2010	1,730	1,455	275	779	45.03	732	50.31	47	55	3.18	47	3.23	8
2011	2,765	1,503	1,262	865	31.28	758	50.43	107	42	1.52	31	2.06	11
2012	2,937	1,507	1,430	890	30.30	759	50.36	131	46	1.57	30	1.99	16
2013	2,477	1,552	925	785	31.69	698	44.97	87	51	2.06	43	2.77	8
2014	1,835	1,559	276	790	43.05	757	48.56	33	34	1.85	23	1.48	11
2015	1,831	1,670	161	814	44.46	784	46.95	30	42	2.29	34	2.04	8
2016	1,977	1,852	125	906	45.83	885	47.79	21	44	2.23	37	2.00	7
2017	3,208	1,832	1,376	954	29.74	821	44.81	133	25	0.78	19	1.04	6
2018	3,111	1,821	1,290	953	30.63	823	45.19	130	51	1.64	32	1.76	19
2019	2,619	1,923	696	909	34.71	855	44.46	54	31	1.18	22	1.14	9
2020	4,488	2,006	2,482	1,013	22.57	880	43.87	133	57	1.27	37	1.84	20
2021	4,497	2,234	2,263	1,042	23.17	941	42.12	101	56	1.25	35	1.57	21
2022	3,255	2,072	1,183	1,016	31.21	953	45.99	63	61	1.87	44	2.12	17

^aHuman exposures with medical outcome of death or death, indirect regardless of RCF.

Table 19C. Detail of Cases Included in Fatality Tables

Table	Fatalities Included	RCF	N
4	Death only	1,2,3	1,491
5	Death only	1,2,3	1,491
8	Death only	1,2,3	1,491
9	Death only	1,2,3	1,491
11	Death and Death (indirect report)	All	3,255
12	Death and Death (indirect report)	All	3,255
17E	Pediatric Death and Death (indirect report)	All	61
18	Death only	1,2,3	1,491
19A	Death and Death (indirect report)	All	3,255
19B	Death and Death (indirect report)	All	3,255
21	Death and Death (indirect report)	1,2,3	2,622
22	Death and Death (indirect report) - Single substance deaths only	All	1,627

comparison, 1,370/890,863 (0.154%) of all adult exposures involved a fatality. Of the 27 pediatric fatalities in [Table 8](#), 24 (88.9%) were reported as unintentional, 2 were malicious (7.41%), and 1 was unknown (3.70%).

The 38 fatalities in children ≤ 5 years detailed in ([Table 21](#)) (includes death, indirect reports and RCF 1-3) included 13 nonpharmaceuticals and 25 pharmaceuticals. The first ranked substances associated with these fatalities included: analgesics (14), batteries (4), fumes/gases/vapors (4), stimulants and street drugs (3), cough and cold preparations (2), household cleaning substances (2), alcohols (1), cosmetics/personal care products (1), pesticides (1), antidepressants (1), cardiovascular drugs (1), electrolytes and minerals (1), hormones and hormone antagonists (1), topical preparations (1) and veterinary drugs (1).

Pediatric fatalities – ages 6-12 years

In the age range 6 to 12 years, 11 fatalities are listed in [Appendix A \(Table 21\)](#) (includes death, indirect reports and RCF 1-3) included: fumes/gases/vapors (6), analgesics (4), bites and envenomations (1). In the 9 deaths with RCF 1-3

(no indirect reports), the exposure reasons were: 3 unintentional – general, 2 unintentional - environmental, 1 unintentional – bite/sting, 1 intentional – suspected suicide, 1 intentional – abuse, and 1 unknown. ([Table 8](#)).

Adolescent fatalities – ages 13-19 years

In the age range 13 to 19 years, there were 82 reported fatalities with RCF 1-3, a decrease of 4 (4.65%) from 2021. Reasons included 70 intentional, 10 unknown, and 2 unintentional. ([Table 8](#)). The 101 fatalities listed in [Appendix A \(Table 21\)](#) (includes death, indirect reports and RCF 1-3) included 81 pharmaceuticals and 20 non-pharmaceuticals. The first ranked pharmaceuticals associated with these fatalities included: analgesics (41), antidepressants (14), stimulants and street drugs (10), antihistamines (6), cardiovascular drugs (3), cold and cough preparations (2), sedative/hypnotics/antipsychotics (2), unknown drug (2), and anesthetics (1). The first ranked nonpharmaceutical associated with these fatalities included: chemicals (12), fumes/gases/vapors (3), hydrocarbons (3), and alcohols (2).

Table 20. Frequency of Plant Exposures (Top 25)^a

	Botanical name or Category	AAPCC Generic Codes™-Name	N
1	<i>Phytolacca americana</i> (L.) / Pokeweed	Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	2,903
2	Cherry Pit / Cherry (Species unspecified)	Amygdalin and/or Cyanogenic Glycosides	2,469
3	Unknown Botanical Name	Unknown Toxic Types or Unknown if Toxic	1,744
4	Plants-cyanogenic glycosides	Amygdalin and/or Cyanogenic Glycosides	1,289
5	Elephant's Ear	Oxalates	1,254
6	Plants-cardiac glycosides	Cardiac Glycosides (Excluding Drugs)	1,246
7	Berry (N.O.S.)	Unknown Toxic Types or Unknown if Toxic	1,013
8	Plants-general-unknown	Unknown Toxic Types or Unknown if Toxic	957
9	<i>Ilex spp.</i> (N.O.S.)	Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	773
10	Plants-toxicodendrol	Skin Irritants (Excluding Oxalate Containing Plants)	763
13	<i>Epipremnum aureum</i>	Oxalates	706
14	Plants-solanine	Solanine	657
15	<i>Euphorbia tirucalli</i> (L.)	Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	598
16	Apple Seed / Apple (Fruit)	Amygdalin and/or Cyanogenic Glycosides	597
17	<i>Spathiphyllum spp.</i>	Oxalates	574
18	Plants-oxalates	Oxalates	534
19	<i>Conium maculatum</i> (L.)	Nicotine (Excluding Tobacco Products)	511
18	Unknown Botanical Name	Amygdalin and/or Cyanogenic Glycosides	505
19	Unknown Botanical Name	Oxalates	493
20	Unknown Botanical Name	Non-Toxic	458
21	<i>Solanum tuberosum</i> (L.)	Solanine	432
22	<i>Solanum nigrum</i> (L.)	Solanine	427
23	<i>Solanum dulcamara</i> (L.)	Solanine	424
24	Unknown Botanical Name	Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	413
25	<i>Zamioculcas zamiifolia</i> (L.)	Oxalates	350

^aNumber of human exposure cases with a Major Generic Category of Plant. Unknown Botanical Name represents substances with a Major Generic Category of Plant and a NULL substance code. Total = 50,392.

Pregnancy and Fatalities

There were 3 deaths in pregnant women reported to NPDS in 2022. A total of 59 deaths of pregnant women have been reported between 2000 and 2022. The majority (50 of 59, 84.8%) were intentional exposures (misuse, abuse or suspected suicide).

America's Poison Centers Surveillance Results

Key components of the NPDS surveillance system include the automated monitoring tools available to the NPDS user community. Since Surveillance Anomaly 1, generated at 2:00 pm EDT on 17 September 2006, over 469,000 anomalies have been detected and reported. Over 2,900 were confirmed as representing public health significance with PCs working collaboratively with local health departments and, in some instances the CDC, on the identified issues.

At the time of this report, 1,789 surveillance definitions run continuously, monitoring case and clinical effects volumes and a variety of case-based definitions from food poisoning to nerve agents. These definitions represent the surveillance work by many individual PCs, health departments, America's Poison Centers, the Health Studies Branch (Division of Environmental Hazards and Health Effects, National Center for Environmental Health), and CDC. NPDS has also been used for surveillance during mass gathering events, such as the Super Bowl.

The methodology for automating surveillance continues to be improved in efforts to detect the index case of any relevant public health event. Algorithms for identifying the

index case vary greatly regarding the substance to be identified. No individual algorithm works for every application. The magnitude and penetrance of NPDS are critical to epidemiologic surveillance and to the ability to substantiate situational awareness for clinicians, policymakers, and public health officials nationwide. Typically, NPDS surveillance detects the response to an event, rather than predicting an event. This fosters situational awareness that is undoubtedly beneficial to public health activities.

Discussion

The exposure cases and information requests reported by PCs in 2022 do not reflect the full extent of PC efforts, which also include poison prevention activities, partnership with public health entities, research endeavors and public and health care professional education programs.

NPDS exposure data may be considered "numerator data" in the absence of a true denominator; that is, we do not know the number of actual exposures that occur in the population. NPDS data covers only those exposures that are reported to PCs since most poison exposures and poisoning deaths are not universally reportable events.

NPDS 2000–2022 encounter volume data clearly demonstrate an overall trend toward decreasing exposure cases. This decline has been apparent since mid-2007 and reflects the decreasing use of the PC for less serious exposures. However, during this same period, exposures with a more serious outcome (death, major, moderate) and HCF cases have continued to slightly increase. Possible contributors to the declining PC utilization include declining US birth rate

(especially since exposure rates are much higher in children ≤ 5 years of age), increasing use of text rather than voice communication (although some of these communications may end up as cases), lack of familiarity with poison center services and increasing use of and reliance on internet resources. To meet our public health goals, PCs will need to understand and provide access via the public's 21st-century communication preferences. We are concerned that failure to respond to these changes may result in a regression in the pattern of seeking care, with more people seeking medical care at HCFs for exposures that could have been managed on-site by a PC. Likewise, minor exposures may progress to more serious morbidity and mortality because of incorrect internet information or the absence of PC management. The net effect could be more serious poisoning outcomes because fewer people have taken advantage of PC services, with a resultant increased burden on the national healthcare infrastructure as may be reflected in the increased number of cases managed in a HCF this year. PoisonHelp.org (see [Appendix D](#)) was created to provide appropriate management and triage of poisoning cases by members of the public who do not initially contact a poison center.

Unlike other data sources, NPDS offers the ability to provide a near real-time view of these public health issues without the need for data source extrapolations. A limitation of NPDS data has been the perceived lack of fatality case volume compared to other reporting sources. However, when change over time is studied, NPDS is clearly consistent with other public health fatality analyses. One of the issues leading to this concern is the fact that medical record systems seldom have common output streams. This is particularly apparent with the various electronic medical record systems available. It is important to build a federated approach similar to the one modeled by NPDS to allow data sharing, for example, between hospital emergency departments and other medical record systems, including medical examiner offices, nationwide. Enhancements to NPDS could promote interoperability between NPDS and electronic medical records systems to better trend poison-related morbidity and mortality in the US and internationally.

Summary

Unintentional and intentional exposures continue to be a significant cause of morbidity and mortality in the US. The near real-time status of NPDS represents a national public health resource to collect and monitor US exposure cases and information requests. Changes in 2022 encounters from 2021 are shown in [Figures 1, 3, and 4](#), and include:

- Total encounters (all exposure cases and information requests) decreased by 12.9%.
- Information requests decreased 48.7%, Drug ID requests decreased 21.3%, Drug information requests decreased 52.4%, medical information requests remain 3-fold higher than prior to 2020 and human exposures decreased 0.771%.
- HCF information requests decreased 11.6% but remain at rates slightly higher than prior to 2020.

- Exposure cases reported from an HCF increased 0.214%, reflecting the steady increase since 2000.
- Human exposures with less serious outcomes decreased 0.418%.
- Human exposures with more serious outcomes (moderate, major or death) also decreased 3.36% compared to 2021, however serious outcome cases have increased 4.14% annually since 2000.
- The most rapidly increasing substance categories resulting in more serious outcomes over the past decade are antidepressants, analgesics, antihistamines, alcohols, and stimulants and street drugs.

The data support the continued value of PC expertise and need for specialized medical toxicology information to manage more severe exposures, despite the slight decrease in total exposures. In addition to telephonic services, PCs must consider newer communication approaches that match current and future public preferences. The continuing mission of NPDS is to provide a nation-wide infrastructure for public health surveillance for all types of exposures, public health event identification, resilience, response and situational awareness tracking. NPDS is a model system for the nation and global public health.

Disclaimer

America's Poison Centers (<https://poisoncenters.org/>) maintains the national database of information logged by the country's regional Poison Centers (PCs) serving all 50 United States, Puerto Rico, the US territories of Guam, American Samoa, Federated States of Micronesia, Marshall Islands, Northern Mariana Islands, Palau, US Virgin Islands, and the District of Columbia. Case records in this database are from self-reported encounters: they reflect only information provided when the public or healthcare professionals report an actual or potential exposure to a substance (e.g., an ingestion, inhalation, or topical exposure, etc.) or request information/ educational materials. Exposures do not necessarily represent a poisoning or overdose. America's Poison Centers is not able to verify the accuracy of every report made to member centers. Additional exposures may go unreported to PCs and data referenced from America's Poison Centers should not be construed to represent the complete incidence of national exposures to any substance(s).

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Appendix A

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
Non-Pharmaceutical Exposures										
Alcohols										
1i	4 y F	ethanol (beverage)	1	1	A	Ingst	Oth-M	1		
2p	17 y M	ethanol (beverage)	1	1	A	Ingst	Unk	3	ethanol	139 mg/dL In Blood (unspecified) @ Unknown
3ai	18 y M	ethanol (beverage)	1	1	A	Ingst	Int-A	1		
4ph	20 y F	ethanol (beverage)	1	1	A	Ingst	Int-S	3	ethanol	181 mg/dL In Blood (unspecified) @ Unknown
5pa	23 y F	ethanol (beverage)	1	1	A	Unk	Unk	3	ethanol	127 mg/dL In Plasma @ Unknown
6pha	23 y M	alcohol, N.O.S.	5	1	A	Ingst	Int-S	2		
		hand sanitizer (ethanol)	3	2						
		hand sanitizer (isopropanol)	4	3						
		hydrogen peroxide	2	4						
		e-cigarette (marijuana)	1	5						
7h	27 y M	methanol	1	1	A	Ingst	Int-U	1	methanol	90 mg/dL In Blood (unspecified) @ Unknown
8ai	27 y M	ethanol (beverage)	1	1	U	Unk	Int-A	1		
		marijuana, N.O.S.	2	2						
9ai	28 y F	ethanol (beverage)	1	1	U	Unk	Int-A	1		
10ph	30 y F	ethanol (beverage)	1	1	C	Ingst	Int-A	3		
11ha	30 y M	methanol	1	1	U	Ingst	Unk	1	methanol	171 mg/dL In Blood (unspecified) @ Unknown
12ha	30 y M	ethanol (beverage)	1	1	C	Ingst	Unk	3		
		trazodone	2	2						
13h	31 y F	ethanol (beverage)	2	1	A/C	Ingst	Unt-T	3	ethanol	126 mg/dL In Blood (unspecified) @ Unknown
14ai	31 y M	amlodipine	1	2	C	Unk	Int-A	1		
		ethanol (beverage)	1	1						
		diazepam	2	2						
15h	32 y M	methanol	1	1	A	Ingst	Int-U	1	methanol	265 mg/dL In Serum @ Unknown
		heroin	2	2					6-mam (6-monoacetylmorphine)	100 ng/mL In Urine (quantitative only) @ Unknown
		heroin	2	2					morphine	500 ng/mL In Urine (quantitative only) @ Unknown
		heroin	2	2					hydromorphone	89 ng/mL In Urine (quantitative only) @ Unknown
		methamphetamine	3	3					amphetamine	240 ng/mL In Urine (quantitative only) @ Unknown
		methamphetamine	3	3					methamphetamine	954 ng/mL In Urine (quantitative only) @ Unknown
		marijuana, N.O.S.	4	4					thc (tetrahydrocannabinol)	95 ng/mL In Urine (quantitative only) @ Unknown
16h	33 y M	ethanol (beverage)	1	1	C	Ingst	Oth-W	1	ethanol	11 mg/dL In Blood (unspecified) @ Unknown
17h	35 y M	methanol	1	1	A	Ingst	Int-U	1	methanol	208 mg/dL In Blood (unspecified) @ Unknown
18ai	36 y M	ethanol (beverage)	1	1	C	Ingst	Int-A	1		
19ai	36 y M	ethanol (beverage)	1	1	U	Unk	Int-A	3		

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
20ai	37 y F	quetiapine	2	2	U	Unk	Int-A	3		
		carbamazepine	3	3						
21ai	37 y M	ethanol (beverage)	1	1	C	Unk	Int-A	3		
22ha	37 y M	ethanol (beverage)	1	1	C	Unk	Int-A	1		
		ethanol (beverage)	1	1						
23ai	38 y M	ethanol (beverage)	1	1	U	Unk	Int-A	2		
		benzodiazepine	2	2						
24ai	39 y M	ethanol (beverage)	1	1	U	Unk	Int-A	2		
25ai	40 y M	ethanol (beverage)	1	1	U	Unk	Int-A	1		
		methanol	1	1						
		isopropanol	2	2						
26ai	40 y M	toluene	3	3	U	Unk	Int-A	1		
		ethanol (beverage)	1	1						
27h	40 y F	ethanol (beverage)	1	1	A/C	Ingst	Int-S	3	ethanol	133 mg/dL In Serum @ Unknown
28ha	41 y F	ethanol (beverage)	1	1	A/C	Ingst	Int-A	3	ethanol	203 mg/dL In Serum @ Unknown
29	41 y M	ethanol (beverage)	1	1	A/C	Ingst	Int-U	3	isopropanol	15 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	1	1					ethanol	261 mg/dL In Blood (unspecified) @ Unknown
30h	41 y F	isopropanol	2	2	C	Unk	Int-A	2		
		acetone	3	3						
		ethanol (beverage)	1	1						
		ethanol (beverage)	1	1					ethanol	265 mg/dL In Serum @ Unknown
31ai	42 y M	ethanol (beverage)	1	1	U	Unk	Int-A	1		
32ai	42 y M	ethanol (beverage)	1	1	U	Unk	Int-A	1		
		hydrocarbon (fluorinated)	2	2						
33h	43 y M	ethanol (beverage)	1	1	C	Ingst+Inhal	Int-A	3	ethanol	19 mg/dL In Blood (unspecified) @ Unknown
		viral disease (COVID-19-Confirmed)	2	2						
		acetaminophen	3	3					acetaminophen (apap)	4.4 mcg/mL In Blood (unspecified) @ Unknown
		salicylate	4	4				salicylate	7.6 mg/dL In Blood (unspecified) @ Unknown	
34ai	43 y M	ethanol (beverage)	1	1	U	Unk	Int-A	1		
35h	45 y M	ethanol (beverage)	1	1	U	Ingst	Int-A	3		
36ai	46 y M	ethanol (beverage)	1	1	U	Unk	Int-A	1		
37h	47 y M	methanol	1	1	U	Ingst	Int-S	1	methanol	187 mg/dL In Blood (unspecified) @ 40 h (pe)
		methanol	1	1					methanol	227 mg/dL In Blood (unspecified) @ 30 h (pe)
		methanol	1	1					methanol	46 mg/dL In Blood (unspecified) @ 54 h (pe)
		methanol	1	1					methanol	576 mg/dL In Blood (unspecified) @ 11.5 h (pe)
38ai	47 y M	ethanol (beverage)	1	1	U	Unk	Int-A	2		
39h	48 y M	ethanol (beverage)	1	1	C	Ingst	Unk	3	ethanol	0.104 g/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	1	1					acetaminophen (apap)	7.8 mcg/mL In Blood (unspecified) @ Unknown
40h	48 y M	acetaminophen	2	2	A	Unk	Unk	1		
		methanol	1	1						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
41ai	48 y M	ethanol (beverage)	1	1	C	Unk	Int-A	3		
42h	49 y F	ethanol (beverage)	1	1	A	Ingst	Int-U	2	ethanol	167.4 mg/dL In Blood (unspecified) @ Unknown
		isopropanol	2	2						
		ethylene glycol (antifreeze)	3	3						
		acetaminophen	4	4					acetaminophen (apap)	7 mcg/mL In Blood (unspecified) @ Unknown
43h	49 y F	ethanol (beverage)	1	1	C	Ingst	Int-A	2		
44	50 y F	ethanol (beverage)	1	1	C	Ingst	Int-A	3	ethanol	28 mg/dL In Blood (unspecified) @ Unknown
45h	51 y M	ethanol (beverage)	1	1	A	Ingst	Int-A	1	ethanol	277 mg/dL In Serum @ Unknown
46ph	51 y F	methanol	1	1	U	Ingst	Int-A	1	methanol	21 mg/dL In Serum @ Unknown
		methanol	1	1					methanol	262 mg/dL In Serum @ Unknown
		hand sanitizer (ethanol)	2	2						
47h	51 y M	ethanol (beverage)	1	1	C	Ingst	Int-M	2	ethanol	175 mg/dL In Blood (unspecified) @ Unknown
48ai	52 y F	ethanol (beverage)	1	1	U	Unk	Int-A	2		
49ai	53 y M	ethanol (beverage)	1	1	U	Unk	Int-A	3		
50ai	53 y M	isopropanol	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
		hyperthermia	3	3						
51ai	54 y M	ethanol (beverage)	1	1	U	Unk	Int-A	1		
52h	55 y M	methanol	1	1	U	Ingst+Unk	Int-S	1	methanol	71 mg/dL In Serum @ Unknown
		drug, N.O.S.	2	2						
53ai	56 y F	ethanol (beverage)	1	1	U	Unk	Int-A	1		
		buprenorphine	2	2						
		zolpidem	3	3						
54ph	56 y F	isopropanol	1	1	U	Ingst	Unk	2	isopropanol	17 mg/dL In Blood (unspecified) @ Unknown
		isopropanol	1	1					acetone	283 mg/dL In Blood (unspecified) @ Unknown
55h	57 y M	ethanol (beverage)	1	1	A	Ingst	Int-S	3	ethanol	163 mg/dL In Serum @ Unknown
		acetaminophen/antihistamine/dextromethorphan	2	2						
56ai	57 y F	ethanol (beverage)	1	1	C	Unk	Int-A	1		
57h	57 y M	ethanol (beverage)	1	1	A	Ingst	Int-A	3	ethanol	100 mg/dL In Blood (unspecified) @ Unknown
		metformin	2	2						
58h	57 y M	ethanol (beverage)	1	1	A	Ingst	Int-A	3	ethanol	105 mg/dL In Blood (unspecified) @ Unknown
59ha	57 y M	ethanol (beverage)	2	2	U	Ingst	Int-S	1		
		methanol	1	1					methanol	211 mg/dL In Blood (unspecified) @ Unknown
		methanol	1	1					methanol	260 mg/dL In Blood (unspecified) @ Unknown
		alprazolam	2	2					alprazolam	20 ng/mL In Blood (unspecified) @ Unknown
		marijuana	3	3					delta-9-thc	1.3 ng/mL In Blood (unspecified) @ Unknown
		marijuana	3	3					delta-9-carboxy-thc	9.9 ng/mL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
60	57 y F	methanol	1	1	A	Ingst	Unk	2	methanol	95 mg/dL In Blood (unspecified) @ Unknown
61h	57 y M	alkali	2	2	A	Ingst	Int-A	3		
		isopropanol	1	1					acetone	100 mg/dL In Blood (unspecified) @ Unknown
		isopropanol	1	1					isopropanol	5.6 mg/dL In Blood (unspecified) @ Unknown
62ai	58 y M	ethanol (beverage)	2	2	U	Unk	Int-A	2		
63ai	58 y M	ethanol (beverage)	1	1	U	Unk	Int-A	3		
64p	59 y F	ethanol (beverage)	1	1	A	Ingst+ Unk	Int-S	2		
		isopropanol	1	1						
		amlodipine	2	2						
		rosuvastatin	3	3						
		acetaminophen	4	4						
65h	60 y M	ethanol (beverage)	1	1	A/C	Ingst	Int-U	2	ethanol	291 mg/dL In Serum @ Unknown
66ph	60 y M	ethanol (beverage)	1	1	U	Ingst	Int-S	2	ethanol	130 mg/dL In Blood (unspecified) @ Unknown
		alprazolam	2	2						
		bupropion	3	3						
		carvedilol	4	4						
		venlafaxine	5	5						
		gabapentin	6	6						
67ai	61 y M	ethanol (beverage)	1	1	U	Unk	Int-A	3		
68	61 y M	ethanol (beverage)	1	1	A/C	Ingst	Int-A	2	ethanol	230 mg/dL In Blood (unspecified) @ Unknown
69ai	62 y F	ethanol (beverage)	1	1	C	Unk	Int-A	2		
70ai	63 y F	ethanol (beverage)	1	1	U	Unk	Int-A	2		
71ai	63 y F	ethanol (beverage)	1	1	U	Unk	Int-A	1		
72ai	63 y M	ethanol (beverage)	1	1	U	Unk	Int-A	3		
73p	63 y F	ethanol (beverage)	1	1	A	Ingst	Unk	2	ethanol	86 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen	2	2					acetaminophen (apap)	104 mcg/mL In Blood (unspecified) @ Unknown
		salicylate	3	3					salicylate	10 mg/dL In Blood (unspecified) @ Unknown
74h	64 y M	alcohol, N.O.S.	1	1	C	Ingst	Int-A	3		
		ethanol (beverage)	2	2					ethanol	76 mg/dL In Blood (unspecified) @ Unknown
75h	64 y M	ethanol (beverage)	1	1	C	Ingst	Int-A	3		
		acetaminophen	2	2					acetaminophen (apap)	23 mcg/mL In Blood (unspecified) @ Unknown
76ai	66 y M	ethanol (beverage)	1	1	U	Unk	Int-A	3		
77ai	66 y F	ethanol (beverage)	1	1	C	Ingst	Int-A	1		
78ai	70 y M	ethanol (beverage)	1	1	U	Unk	Int-A	1		
79ai	71 y M	ethanol (beverage)	1	1	U	Unk	Int-A	2		
80ai	72 y M	ethanol (beverage)	1	1	U	Unk	Int-A	3		
		marijuana, N.O.S.	2	2						
81ai	73 y F	ethanol (beverage)	1	1	U	Unk	Int-A	1		
82h	73 y M	ethanol (beverage)	4	1	U	Ingst	Int-S	2		
		acetaminophen	1	2						
		diazepam	2	3						
		plant (Ginkgo biloba)	3	4						
83	83 y M	ethanol (beverage)	1	1	A/C	Ingst	Unk	2	ethanol	12 mg/dL In Serum @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
See Also case 108, 114, 142, 156, 159, 197, 246, 253, 261, 262, 309, 324, 342, 344, 349, 351, 366, 373, 400, 413, 418, 443, 445, 450, 472, 478, 489, 506, 508, 516, 517, 522, 524, 529, 530, 538, 541, 548, 553, 556, 559, 561, 575, 588, 589, 590, 600, 612, 617, 625, 630, 633, 637, 641, 648, 657, 662, 675, 678, 685, 693, 707, 713, 714, 717, 735, 738, 761, 765, 767, 775, 790, 793, 796, 798, 803, 804, 805, 826, 832, 835, 839, 841, 844, 850, 857, 858, 862, 881, 882, 883, 889, 895, 896, 898, 899, 901, 918, 933, 943, 971, 975, 977, 992, 1000, 1001, 1002, 1019, 1030, 1032, 1048, 1055, 1071, 1074, 1075, 1084, 1086, 1092, 1093, 1101, 1102, 1107, 1108, 1115, 1118, 1120, 1132, 1139, 1142, 1148, 1150, 1160, 1165, 1166, 1168, 1170, 1171, 1190, 1195, 1198, 1202, 1206, 1213, 1239, 1240, 1250, 1258, 1285, 1292, 1293, 1295, 1296, 1297, 1324, 1328, 1333, 1339, 1341, 1348, 1357, 1363, 1372, 1378, 1386, 1403, 1408, 1410, 1414, 1422, 1440, 1458, 1476, 1478, 1498, 1530, 1541, 1551, 1556, 1558, 1582, 1589, 1601, 1609, 1613, 1615, 1616, 1619, 1625, 1627, 1632, 1634, 1635, 1645, 1647, 1648, 1653, 1655, 1660, 1671, 1673, 1676, 1678, 1682, 1683, 1688, 1693, 1696, 1712, 1715, 1718, 1723, 1724, 1727, 1732, 1741, 1759, 1762, 1763, 1769, 1774, 1776, 1780, 1781, 1786, 1788, 1797, 1804, 1805, 1811, 1812, 1813, 1821, 1823, 1830, 1841, 1842, 1844, 1846, 1847, 1860, 1862, 1864, 1867, 1870, 1888, 1893, 1894, 1896, 1911, 1917, 1919, 1920, 1926, 1931, 1959, 1964, 1968, 1998, 2026, 2034, 2042, 2050, 2059, 2061, 2088, 2097, 2099, 2100, 2125, 2132, 2136, 2139, 2146, 2147, 2152, 2157, 2161, 2162, 2165, 2172, 2185, 2197, 2203, 2206, 2207, 2210, 2222, 2229, 2234, 2235, 2238, 2247, 2253, 2254, 2258, 2259, 2262, 2268, 2272, 2275, 2285, 2299, 2336, 2363, 2370, 2374, 2381, 2391, 2399, 2422, 2427, 2431, 2449, 2468, 2489, 2524, 2540, 2547, 2569, 2605, 2606										
Automotive/Aircraft/Boat Products										
84h	37 y F	ethylene glycol (antifreeze)	1	1	A	Ingst	Int-S	1	ethylene glycol	309 mg/dL In Serum @ Unknown
		alprazolam	2	2						
		venlafaxine	3	3						
85h	42 y M	methanol	1	1	U	Ingst	Int-U	1		
86pha	44 y M	methanol	1	1	A	Ingst	Int-S	1	methanol	197 mg/dL In Blood (unspecified) @ Unknown
87h	50 y F	ethylene glycol (antifreeze)	1	1	A	Ingst	Int-S	1	ethylene glycol	46 mg/dL In Blood (unspecified) @ Unknown
		drug, N.O.S.	2	2						
88h	53 y F	ethylene glycol (antifreeze)	1	1	A	Ingst	Int-S	1	ethylene glycol	25334 mg/dL In Blood (unspecified) @ Unknown
		ethylene glycol (antifreeze)	1	1					ethylene glycol	366 mg/dL In Blood (unspecified) @ Unknown
89	54 y M	ethylene glycol (antifreeze)	1	1	A	Ingst	Int-S	3	ethylene glycol	59.5 mg/dL In Blood (unspecified) @ Unknown
90h	56 y F	ethylene glycol (antifreeze)	1	1	A	Unk	Int-S	1	ethylene glycol	15 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen/dextromethorphan/phenylephrine	2	2						
91h	64 y M	ethylene glycol (antifreeze)	1	1	C	Ingst	Int-S	1		
		acetaminophen	2	2						
		ibuprofen	3	3						
92h	76 y F	ethylene glycol (antifreeze)	1	1	A	Ingst	Int-S	1	ethylene glycol	152 mg/dL In Serum @ Unknown
93ha	85 y F	ethylene glycol (antifreeze)	1	1	U	Unk	Int-S	1	ethylene glycol	146 mg/dL In Blood (unspecified) @ Unknown
		ethylene glycol (antifreeze)	1	1					ethylene glycol	54 mg/dL In Blood (unspecified) @ Autopsy
		drug, N.O.S.	2	2						
See Also case 42, 1498										
Batteries										
94i	1 y M	battery, disc (lithium)	1	1	A	Ingst	Unt-G	1		
95i	2 y M	battery, disc (lithium)	1	1	A	Ingst	Unt-G	1		
[96h]	9 m F	battery, disc (penny)	1	1	A	Ingst	Unt-G	2		
		coin (penny)	2	2						
97h	21 m F	battery, disc	1	1	A	Ingst	Unt-G	2		
Bites and Envenomations										
[98ph]	6 y M	envenomation (crotalinae)	1	1	A	B-S	Unt-B	1		
[99ha]	38 y F	envenomation (crotalinae)	1	1	A	B-S	Unt-B	1		
[100h]	44 y M	envenomation (Loxosceles reclusa)	1	1	A	B-S	Unt-B	2		
101pai	49 y M	envenomation (Naja haje)	1	1	A	B-S	Unt-B	1		
[102h]	60 y M	envenomation (crotalinae)	1	1	A	B-S	Unt-B	1		
103h	61 y F	envenomation (Loxosceles reclusa)	1	1	A	B-S	Unt-B	3		
104ph	64 y M	envenomation (crotalinae)	1	1	A	B-S	Unt-B	2		
105h	80 y M	envenomation (crotalinae)	1	1	A	B-S	Unt-B	2		
Chemicals										
106ha	14 y M	nitrites, N.O.S.	1	1	A	Ingst	Int-S	1	nitrite	0 mg/mL In Blood (unspecified) @ Autopsy

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
107pa	15 y F	nitrites, N.O.S.	1	1	A	Ingst	Int-S	1		
108ph	15 y F	nitrites, N.O.S. isopropanol	1 2	1 2	A	Ingst	Int-S	2		
109ph	17 y M	sodium azide	1	1	A	Ingst	Int-U	2		
110hi	17 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	1		
111ph	17 y M	sodium azide	1	1	A	Ingst	Int-S	2		
112ph	17 y M	chloroform sevoflurane	1 2	1 2	A	Ingst	Int-U	2		
113ph	19 y F	methemoglobin causing chemical	1	1	U	Unk	Unk	1		
114ai	19 y M	nitrites (sodium) ethanol (beverage)	1 2	1 2	U	Unk	Int-S	1		
115h	19 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	2		
116ha	19 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	2		
117pa	20 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	1		
118ph	21 y F	nitrites (sodium)	1	1	A	Ingst	Int-S	2		
119ph	21 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	2		
[120ha]	21 y F	nitrites (sodium)	1	1	A	Unk	Int-S	1		
121pha	21 y M	nitrites (sodium) nitrites (sodium) diphenhydramine	1 1 2	1 1 2	A	Unk	Unk	1	nitrite cyanide diphenhydramine	0mg/mL In Whole Blood @ Autopsy 0mg/mL In Whole Blood @ Autopsy 0.3mg/L In Whole Blood @ Autopsy
122ai	22 y M	nitrites (sodium)	1	1	U	Unk	Int-S	1		
123h	22 y M	nitrites (sodium) salicylate	1 2	1 2	A	Ingst	Int-S	1	methemoglobin	91 % In Serum @ Unknown
124ph	22 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	2		
125p	22 y F	nitrites, N.O.S.	1	1	A	Ingst	Int-S	1		
[126pha]	23 y M	nitrites (sodium)	1	1	A	Unk	Int-S	1	nitrite	3300 µmol/L In Serum @ Autopsy
127ph	23 y F	nitrites (sodium)	1	1	A	Unk	Int-U	2		
128p	23 y M	nitrites (sodium)	1	1	A	Ingst	Int-U	2		
129ph	23 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	1		
130ph	23 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	1		
131ph	24 y F	nitrites (sodium) nitrites (sodium)	1 2	1 2	A	Ingst	Int-S	2		
[132pha]	26 y F	nitrites (sodium) nitrites (sodium)	1 1	1 1	A	Ingst	Int-S	1	methemoglobin methemoglobin	90 % In Whole Blood @ Unknown 95 % In Whole Blood @ Unknown
133ph	27 y F	nitrites (sodium)	1	1	U	Unk	Unk	2		
134ph	27 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	1		
135ph	28 y F	nitrites (sodium)	1	1	A	Ingst	Int-S	1		
136p	29 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	2		
137ph	30 y M	ethylene glycol	1	1	U	Ingst	Int-U	1	ethylene glycol	116mg/dL In Blood (unspecified) @ Unknown
138a	30 y M	metaphenylenediamine	1	1	A	Derm + Unk	Unt-O	1		
139ph	31 y M	sodium azide	1	1	A	Unk	Int-S	2		
140pa	35 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	2		
141ph	35 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	2		
142pha	37 y M	nitrites (sodium)	1	1	A	Ingst	Int-S	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		nitrites, N.O.S.	1	1					nitrite	1000 µmol/L In Blood (unspecified) @ Unknown
		nitrites, N.O.S.	1	1					nitrite	1000 µmol/L In Plasma @ Unknown
		ethanol (beverage)	2	2					ethanol	139 mg/dL In Blood (unspecified) @ Unknown
143h	37 y M	ethylene glycol	1	1	A	Ingst	Int-S	1	ethylene glycol	108 mg/dL In Blood (unspecified) @ Unknown
144ph	38 y M				A	Inhal	Unt-O	2		
145ph	40 y M	cyanide	1	1						
		ethylene glycol	1	1	U	Ingst + Unk	Int-S	1	ethylene glycol	60 mg/dL In Blood (unspecified) @ Unknown
146ph	40 y F	drug, N.O.S.	2	2						
147ph	40 y M	nitrites (sodium)	1	1	A	Ingst + Derm	Int-S	1		
148pi	41 y M	nitrate (sodium)	1	1	A	Ingst	Int-S	2		
149	42 y M	sodium azide	1	1						
		ethylene glycol	1	1	U	Unk	Unk	2	ethylene glycol	8 mg/dL In Serum @ Unknown
150h	46 y M	energy drink (caffeine/ethanol)	2	2						
151h	47 y F	ethylene glycol	1	1	U	Ingst	Unk	2		
152pha	47 y M	nitrites, N.O.S.	1	1	A	Ingst	Int-S	2		
153h	49 y M	ethyl chloride	1	1	A	Inhal	Int-U	1		
154h	50 y M	ethylene glycol	1	1	A	Ingst	Int-U	2		
		ethylene glycol	1	1	A	Ingst	Unk	1	ethylene glycol	22 mg/dL In Blood (unspecified) @ Unknown
155ai	50 y M	amitriptyline	2	2						
		cyclobenzaprine	3	3						
		alprazolam	4	4						
		ethyl chloride	1	1	U	Unk	Int-A	1		
156pha	54 y M	marijuana, N.O.S.	2	2						
		nitrites (sodium)	1	1	A	Ingst	Int-S	1		
[157ha]	54 y M	ethanol (beverage)	2	2						
		ethylene glycol	1	1	A	Unk	Unk	1	ethylene glycol	123 mg/dL In Serum @ Unknown
158h	55 y M				A	Ingst	Int-S	1		
159h	55 y M	sulfuric acid	1	1	A	Ingst	Int-U	1		
		ethylene glycol	1	1						
		methanol	2	2						
[160h]	58 y M	cocaine	3	3						
		cobalt	1	1	C	Oth	AR-O	2	cobalt	600 mcg/L In Serum @ Unknown
161ha	58 y M				A	Ingst	Int-S	1		
		chemical, N.O.S.	2	1						
		acetaminophen	1	2					acetaminophen (apap)	46 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	2					acetaminophen (apap)	87.2 mcg/mL In Blood (unspecified) @ Unknown
162pha	59 y M				A	Ingst + Inhal	Int-A	2		
		ethyl chloride	1	1					chloroethane	3.1 mcg/mL In Blood (unspecified) @ Unknown
163pha	59 y M				U	Unk	Int-S	1		
		ethylene glycol	1	1					ethylene glycol	29 mg/dL In Blood (unspecified) @ Unknown
164h	59 y M				A	Ingst	Int-S	2		
		ethylene glycol	1	1					ethylene glycol	17 mg/dL In Serum @ 8.5 h (pe)
165p	60 y M				A	Ingst	Int-S	2		
[166h]	60 y M	cyanide	1	1						
					A	Ingst + Inhal + Derm	Unt-U	2		
167	60 y F	borate	1	1						
168ha	61 y F	nitrate (sodium)	1	1	A	Ingst	Int-S	1		
					U	Ingst	Int-M	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethylene glycol	1	1					ethylene glycol	17 mg/dL In Blood (unspecified) @ Unknown
169ai	61 y F				U	Unk	Int-A	1		
		ethylene glycol	1	1						
170h	61 y F				A	Ingst	Int-S	1		
		hydrochloric acid	1	1						
171h	61 y M				A	Ingst	Int-S	2		
		hydrochloric acid	1	1						
172h	62 y F				A	Ingst	Int-S	2		
		ethylene glycol	1	1					ethylene glycol	68 mg/dL In Serum @ Unknown
		bupropion	2	2						
		duloxetine (ER)	3	3						
		quetiapine	4	4						
		hydroxyzine	5	5						
173ha	63 y M				A	Ingst	Int-S	1		
		sulfuric acid	1	1						
174	63 y M				A	Ingst	Int-S	2		
		hydrofluoric acid	1	1						
175	64 y M				A	Derm	Unt-O	3		
		dimethyl sulfoxide (DMSO)	1	1						
176h	64 y F				A	Ingst	Int-U	2		
		ethylene glycol	1	1						
177h	72 y M				A	Ingst	Int-S	2		
		ethylene glycol	1	1						
178h	73 y M				A	Ingst	Int-S	1		
		acid, N.O.S.	1	1						
179	73 y M				A	Ingst	Int-M	3		
		borate	1	1						
180ph	78 y M				A	Inhal	Unt-E	1		
		cyanide	1	1					cyanide	0.076 mcg/mL In Blood (unspecified) @ Unknown
		carbon monoxide	2	2					carboxyhemoglobin	22.5 % In Blood (unspecified) @ Unknown
		carbon monoxide	3	3						
181h	79 y F				U	Ingst	Int-S	1		
		ethylene glycol	1	1					ethylene glycol	46 mg/dL In Blood (unspecified) @ Unknown
182h	82 y M				A	Ingst	Unt-M	1		
		chemical, N.O.S.	1	1						
183ph	Unknown adult (≥20 yrs) M				A	Ingst	Int-S	2		
		nitrites (sodium)	1	1						
		clonazepam	2	2						
184pi	Unknown age M				A	Ingst	Int-S	2		
		cyanide	1	1						
185p	Unknown age F				A	Ingst	Int-S	2		
		nitrites (sodium)	1	1						
See Also case 29, 60, 231, 244, 245, 249, 281, 282, 294, 303, 1749, 1820, 2227, 2508										
Cleaning Substances (Household)										
186p	1 y M				A	Ingst + Aspir	Unt-G	2		
		cleaner (anionic/nonionic)	1	1						
187h	20 y M				A	Ingst	Int-S	2		
		drain cleaner (alkali)	1	1						
188h	23 y F				A	Ingst	Unt-G	2		
		disinfectant (isopropanol/pine oil)	1	1						
189	35 y M				A	Ingst	Int-U	3		
		laundry detergent (granules)	1	1						
190	36 y F				A	Ingst	Unt-G	1		
		disinfectant (cationic)	1	1						
191h	41 y M				A	Ingst	Int-S	2		
		drain cleaner (potassium hydroxide, sodium hydroxide)	1	1						
192h	42 y M				A	Ingst	Int-S	2		
		toilet bowl cleaner (acid)	1	1						
193h	45 y M				A	Ingst	Int-S	1		
		drain cleaner (sodium hydroxide)	1	1						
194ph	46 y M				A/C	Ingst + Unk	Int-S	2		
		cleaner (alkali)	2	1						
		gabapentin	3	1						
		oxycodone	1	2						
195ph	48 y F				A/C	Inhal	Int-A	2		
		cleaner (ethanol)	1	1						
196h	52 y M				A	Ingst	Int-S	1		
		drain cleaner (sodium hydroxide)	1	1						
197a	52 y M				A	Ingst + Inhal	Int-S	1		
		laundry detergent (ethanolamine)	1	1						
		ethanol (beverage)	2	2						
		ethanol (beverage)	3	3						
198	55 y F				A	Ingst	Int-S	1		
		drain cleaner (sulfuric acid)	1	1						
199h	61 y F				A	Ingst + Derm	Int-S	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
200h	62 y M	drain cleaner (sodium hydroxide/ sodium hypochlorite/sodium silicate)	1	1						
201h	73 y M	hypochlorite	1	1	A	Ingst	Int-S	1		
202h	80 y M	drain cleaner (sulfuric acid)	1	1	A	Ingst	Unt-G	2		
203h	81 y F	drain cleaner (sulfuric acid)	1	1	A	Ingst	Int-S	1		
204ha	81 y M	toilet bowl cleaner (acid)	1	1	A	Ingst+Aspir	Int-S	2		
205ha	82 y M	drain cleaner (alkali)	1	1	A	Ingst	Int-S	1		
206ph	83 y M	drain cleaner (sodium hydroxide/ sodium hypochlorite/sodium silicate)	1	1	A	Ingst	Int-S	2		
207hi	86 y M	laundry detergent (anionic/nonionic, ethanolamine)	1	1	A	Ingst+Aspir	Unt-M	2		
208	88 y F	disinfectant (pine oil)	1	1	A	Ingst	Unt-G	2		
[209ha]	93 y F	cleaner (household, N.O.S.)	1	1	A	Ingst	Unt-M	1		
210ha	94 y M	sodium hydroxide	1	1	A	Ingst	Int-U	1		
211h	97 y M	disinfectant (cationic)	1	1	A	Ingst+Aspir	Unt-G	1		
212pha	14 m M	cleaner (anionic/nonionic)	1	1	A	Ingst	Unt-G	1		
		disinfectant (cationic)	2	1						
		fentanyl (non-prescription)	1	1					norfentanyl	0.51 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	1	1					fentanyl	18000 ng/mL In Gastric (stomach content) @ Autopsy
		fentanyl (non-prescription)	1	1					fentanyl	74 ng/mL In Blood (unspecified) @ Autopsy
See Also case 340, 933, 2218										
Cosmetics/Personal Care Products										
[213ha]	29 y M	hand sanitizer (methanol)	1	1	U	Ingst	Unk	1		
214ha	46 y F	ethanol	1	1	A	Ingst	Int-S	3	methanol	77 mg/dL In Plasma @ Unknown
215pa	47 y M	hand sanitizer (unknown)	1	1	A	Ingst	Unk	3	ethanol	251 mg/dL In Blood (unspecified) @ Unknown
[216]	12 m M	mineral oil	1	1	A	Ingst+Inhal	Unt-G	2		290 mg/dL In Blood (unspecified) @ Unknown
See Also case 6, 46, 336, 1322										
Fumes/Gases/Vapors										
217pha	2 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	2.5 % In Blood (unspecified) @ Unknown
218pha	5 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	62.5 % In Blood (unspecified) @ Unknown
219pi	5 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1		
220p	5 y M	carbon monoxide	1	1	A	Inhal+Par	Unt-E	1	carboxyhemoglobin	23 % In Blood (unspecified) @ Unknown
221pha	6 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	58.6 % In Blood (unspecified) @ Unknown
222ph	6 y F	carbon monoxide	1	1	A	Inhal	Unt-E	2		
223pha	9 y M	carbon monoxide	1	1	U	Inhal	Unt-G	1	carboxyhemoglobin	35 % In Blood (unspecified) @ Unknown
224ph	9 y F	carbon monoxide	2	2	A	Inhal	Unt-G	2		
225pi	12 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1		
226ph	12 y M	carbon monoxide	1	1	U	Inhal	Unt-G	1		
		carbon monoxide	1	1						
		carbon monoxide	2	2					carboxyhemoglobin	47 % In Blood (unspecified) @ Unknown
227pi	14 y M				A	Inhal	Unt-O	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
228pi	17 y F	nitrogen oxides	1	1	A	Inhal	Unt-E	1		
229i	19 y M	carbon monoxide	1	1	A	Inhal	Unt-O	2		
230ph	20 y M	nitrogen oxides	1	1	A	Inhal	Unt-O	1		
231ph	20 y M	hydrogen sulfide	1	1	A	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	48.7 % In Blood (unspecified) @ Unknown
		carbon monoxide	2	2						
		cyanide	3	3						
232ai	25 y M	carbon monoxide	1	1	U	Unk	Unt-U	1		
[233pha]	25 y F	hydrogen sulfide	1	1	A	Inhal	Int-S	1		
234pa	26 y F	hydrogen sulfide	1	1	A	Inhal	Int-S	1		
235pha	27 y F	nitrogen	1	1	A	Inhal	Unk	1		
		carbon monoxide	1	1					carboxyhemoglobin	4.6 % In Blood (unspecified) @ Unknown
236ph	27 y M	hydrogen sulfide	1	1	A	Inhal	Unt-O	1		
237p	28 y M	carbon monoxide	1	1	A	Inhal	Unt-E	2	carboxyhemoglobin	57 % In Blood (unspecified) @ Unknown
238pi	31 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1		
239ph	32 y M	carbon monoxide	1	1	A	Inhal	Int-S	1		
240p	32 y M	nitrogen	1	1	A	Inhal	Unt-E	2		
		carbon monoxide	1	1					carboxyhemoglobin	9.1 % In Blood (unspecified) @ Unknown
241h	32 y M	carbon monoxide	1	1	A	Inhal+Unk	Unk	1	carboxyhemoglobin	22.3 % In Blood (unspecified) @ Unknown
		amphetamine, N.O.S.	2	2						
		narcotic antagonist, N.O.S.	3	3						
		acetaminophen	4	4						
242ph	34 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
		carbon monoxide	2	2					carboxyhemoglobin	50 % In Blood (unspecified) @ Unknown
243ha	34 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1		
244ph	35 y F	carbon monoxide	1	1	A	Ingst	Int-S	1		
		carbon monoxide	2	1						
		cyanide	1	1					carboxyhemoglobin	14 % In Serum @ 2h (pe)
245pha	37 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	50 % In Blood (unspecified) @ Unknown
		carbon monoxide	2	2						
		cyanide	3	3						
246pha	39 y M	carbon monoxide	1	1	A	Ingst+Inhal	Unt-G	1		
		carbon monoxide	2	2					carboxyhemoglobin	49.7 % In Serum @ Unknown
		ethanol (beverage)	3	3					ethanol	282 mg/dL In Serum @ Unknown
247pi	39 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
248pi	39 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
249h	41 y F	carbon monoxide	2	1	A	Inhal	Unt-E	3	carboxyhemoglobin	1.8 % In Blood (unspecified) @ Unknown
		carbon monoxide	1	1						
		cyanide	1	1						
250ph	41 y M	carbon monoxide	1	1	A	Unk	Unk	3	carboxyhemoglobin	15 % In Blood (unspecified) @ Autopsy
251pi	42 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
252ph	42 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
253pha	43 y M	carbon monoxide	1	1	A	Inhal	Int-S	1	carboxyhemoglobin	48 % In Blood (unspecified) @ Autopsy
		ethanol (beverage)	2	2					ethanol	0.266 g/dL In Blood (unspecified) @ Autopsy
254pi	43 y M	carbon monoxide	1	1	A	Inhal	Unt-E	2		
255pi	47 y M	chlorine gas	1	1	A	Inhal+Derm	Unt-O	1		
256pi	47 y M	nitrogen oxides	1	1	A	Inhal	Unt-O	2		
257pi	48 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1		
258pi	49 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
259ph	49 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	55 % In Blood (unspecified) @ 2 h (pe)
260h	50 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	2.7 % In Blood (unspecified) @ 8 h (pe)
		carbon monoxide	1	1					carboxyhemoglobin	33.3 % In Blood (unspecified) @ Unknown
261pha	50 y M	carbon monoxide	2	2	A	Inhal	Unt-E	1		
		carbon monoxide	1	1					carboxyhemoglobin	31.1 % In Blood (unspecified) @ Unknown
		carbon monoxide	1	1					carboxyhemoglobin	33 % In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	128 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	198 mg/dL In Blood (unspecified) @ Unknown
262ai	51 y F				U	Unk	Unk	1		
		carbon monoxide	1	1						
		ethanol (beverage)	2	2						
263ph	53 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	37 % In Serum @ Unknown
264ph	54 y M	carbon monoxide	1	1	A	Inhal	Unt-E	2	carboxyhemoglobin	40.9 % In Blood (unspecified) @ Unknown
265pi	56 y M				A	Inhal	Unt-E	1		
266ha	56 y M	carbon monoxide	1	1	U	Ingst + Inhal	Int-S	2		
		carbon monoxide	1	1						
		drug, N.O.S.	2	2						
		warfarin	3	3						
267h	58 y M	carbon monoxide	1	1	A	Inhal	Int-S	1	carboxyhemoglobin	18.4 % In Blood (unspecified) @ 2 h (pe)
		carbon monoxide	1	1					carboxyhemoglobin	3.1 % In Blood (unspecified) @ 8.5 h (pe)
268pi	60 y M				A	Inhal	Unt-E	1		
269pa	60 y M	carbon monoxide	1	1	A	Inhal	Int-S	1		
270pha	60 y M	carbon monoxide	1	1	A	Inhal	Oth-M	2	carboxyhemoglobin	53 % In Blood (unspecified) @ Unknown
271pi	62 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
272ph	63 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	11.1 % In Blood (unspecified) @ Unknown
273pai	64 y M				A	Inhal	Unt-E	1		
274pai	65 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
[275h]	65 y M	chlorine gas	1	1	A	Inhal	Unt-O	2		
276h	66 y F	carbon monoxide	1	1	A	Ingst + Inhal	Int-S	2		
		oxycodone	2	2						
277h	66 y M	carbon monoxide	1	1	A	Inhal + Derm	Unt-G	3		
278pi	66 y M	carbon monoxide	1	1	A	Inhal	Unt-E	2		
279pi	66 y M	carbon monoxide	1	1	A	Inhal	Unt-E	2		
280pi	67 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
281pha	67 y M	carbon monoxide	1	1	A	Inhal	Int-S	1		
		carbon monoxide	1	1					carboxyhemoglobin	10.1 % In Blood (unspecified) @ Unknown
		carbon monoxide	2	2						
		methamphetamine	3	3					amphetamine	27 ng/mL In Blood (unspecified) @ Autopsy
		methamphetamine	3	3					methamphetamine	78 ng/mL In Blood (unspecified) @ Autopsy
282h	68 y F	chemical, N.O.S.	4	4	A	Inhal	Unt-E	3		
		carbon monoxide	1	1					carboxyhemoglobin	1 % In Blood (unspecified) @ 1 h (pe)
283pi	69 y F	cyanide	2	2	A	Inhal	Unt-E	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
284h	69 y M	carbon monoxide	1	1	A	Inhal	Unk	2		
285ha	69 y F	carbon monoxide	1	1	U	Inhal	Unt-E	1	carboxyhemoglobin	9 % In Serum @ Unknown
286pi	73 y M	carbon monoxide	1	1	U	Inhal	Unt-E	1	carboxyhemoglobin	33 % In Blood (unspecified) @ Unknown
287pha	73 y M	carbon monoxide	1	1	A	Inhal	Oth-M	1	carboxyhemoglobin	48.6 % In Blood (unspecified) @ Unknown
288ph	73 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	16 % In Whole Blood @ Unknown
289h	75 y M	carbon monoxide	1	1	A	Inhal+Unk	Int-S	2		
		drug, N.O.S.	2	2						
		marijuana	3	3						
[290pha]	76 y F	chlorine gas	1	1	A	Inhal	Int-M	1		
291	76 y M	carbon monoxide	1	1	A	Inhal	Unt-E	3	carboxyhemoglobin	13 % In Whole Blood @ 2h (pe)
		carbon monoxide	1	1					carboxyhemoglobin	20 % In Whole Blood @ 15 m (pe)
292pi	77 y F	carbon monoxide	1	1	A	Inhal	Unt-G	2		
293p	78 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1		
294ph	78 y M	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	37.9 % In Blood (unspecified) @ Unknown
295h	83 y M	carbon monoxide	1	1	A	Inhal	Unk	2		
296p	83 y F	carbon monoxide	1	1	A	Inhal	Unt-E	1	carboxyhemoglobin	37.6 % In Blood (unspecified) @ Unknown
297h	85 y M	carbon monoxide	1	1	A	Inhal	Unt-E	2		
298pi	87 y F	carbon monoxide	2	2	A	Inhal	Unt-E	2		
299	Unknown adult (≥20 yrs) M	carbon monoxide	1	1	A	Inhal	Int-S	2		
300ph	Unknown adult (≥20 yrs) M	carbon monoxide	1	1	A	Inhal	Int-S	1		
301p	Unknown age U	argon	1	1	A	Inhal	Unk	2		
		carbon monoxide	1	1						
See Also case 180, 351, 1434, 1544, 1592, 2367										
Heavy Metals										
[302ha]	39 y M	mercury (elemental)	1	1	A/C	Inhal	Unt-M	1	mercury, elemental	1000 mcg/L In Urine (quantitative only) @ 4 d (pe)
		mercury (elemental)	1	1					mercury, elemental	154 ng/mL In Whole Blood @ 15 d (pe)
		mercury (elemental)	1	1					mercury, elemental	200 ng/mL In Whole Blood @ 3 d (pe)
		mercury (elemental)	1	1					mercury, elemental	21 mcg/24hr In Urine (quantitative only) @ 17 d (pe)
		mercury (elemental)	1	1					mercury, elemental	2495 mcg/24hr In Urine (quantitative only) @ 17 d (pe)
		mercury (elemental)	1	1					mercury, elemental	570 mcg/L In Urine (quantitative only) @ 27 d (pe)
		mercury (elemental)	1	1					mercury, elemental	80 mcg/L In Plasma @ 32 d (pe)
		amphetamine	2	2						
		benzodiazepine	3	3						
		marijuana	4	4						
		cocaine	5	5						
		oxycodone	6	6						
303h	46 y F	magnesium	1	1	C	Ingst	Unk	2		
		calcium	2	2						
		cyanocobalamin	3	3						
		caffeine	4	4						
		homeopathic agent, N.O.S.	5	5						
		hydroxytryptophan	6	6						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		acetyl l-carnitine	7	7						
		inositol	8	8						
		l-cystine	9	9						
		vitamin, N.O.S.	10	10						
		amphetamine (hallucinogenic), 4-fluoromethamphetamine)	11	11						
304ha	60 y F	bismuth	1	1	A	Unk	Unk	1	bismuth	1000 mcg/L In Blood (unspecified) @ Unknown
Hydrocarbons										
305ph	13 y M				U	Inhal	Int-A	2		
		hydrocarbon (fluorinated)	1	1						
306ph	15 y M				U	Ingst	Int-A	2		
		hydrocarbon (fluorinated)	1	1						
307ha	15 y M				A	Inhal	Int-A	1		
		hydrocarbon (fluorinated)	1	1						
308ph	26 y F				U	Inhal	Int-A	1		
		hydrocarbon (fluorinated)	1	1						
309h	30 y F				C	Ingst+Inhal+Unk	Int-A	1		
		hydrocarbon (fluorinated)	1	1						
		ethanol (beverage)	2	2					ethanol	17 mg/dL In Blood (unspecified) @ Unknown
310ai	30 y F	dextromethorphan	3	3	U	Unk	Int-A	1		
		hydrocarbon (fluorinated)	1	1						
		dextromethorphan	2	2						
311pha	32 y M				A	Inhal	Int-A	1	1,1-difluoroethane	67 mg/L In Serum @ Autopsy
		hydrocarbon (fluorinated)	1	1						
312ai	33 y M				U	Unk	Int-A	1		
		hydrocarbon (fluorinated)	1	1						
313h	37 y M				U	Inhal	Int-A	2		
		hydrocarbon (fluorinated)	1	1						
314ha	38 y M				U	Inhal	Int-A	1		
		hydrocarbon (fluorinated)	1	1						
		substance (non-drug), N.O.S.	2	2						
315ph	39 y M				A	Ingst	Int-A	2		
		hydrocarbon (fluorinated)	1	1						
		drug, N.O.S.	2	2						
316ai	40 y M				U	Unk	Int-A	1		
		hydrocarbon (fluorinated)	1	1						
		marijuana, N.O.S.	2	2						
		citalopram	3	3						
317h	45 y M				U	Inhal+Derm	Int-A	3		
		hydrocarbon (fluorinated)	1	1						
318ha	46 y M				A	Ingst+Aspir	Int-S	1		
		diesel fuel	1	1						
319ai	49 y M				U	Inhal	Int-A	1		
		hydrocarbon (fluorinated)	1	1						
320h	71 y M				A	Ingst	Unt-G	2		
		hydrocarbon	1	1						
See Also case 25, 32, 2298										
Industrial Cleaners										
321ha	32 y M				A	Ingst	Int-S	2		
		disinfectant (cationic)	1	1						
		fentanyl (non-prescription)	2	2						
322h	51 y M				A	Ingst+Derm	Unt-O	3		
		cleaner (alkali)	1	1						
323h	83 y F				A	Ingst	Unt-G	1		
		sodium hydroxide	1	1						
See Also case 360										
Infectious and Toxin-Mediated Diseases										
324pha	34 y F				A	Ingst	Int-A	3		
		viral disease (COVID-19)	1	1						
		ethanol (beverage)	2	2					ethanol	112 mg/dL In Blood (unspecified) @ Autopsy
325	72 y M				C	Ingst	Int-M	2		
		viral disease (COVID-19-Confirmed)	1	1						
		ivermectin	2	2						
326h	74 y F				A	Ingst	Unt-F	2		
		ciguatera	1	1						
[327h]	82 y M				A	Par	Int-A	3		
		botulism	1	1						
328h	93 y F				A	Oth	Unt-E	1		
		tetanus	1	1						
See Also case 33, 329, 616, 673, 829, 858, 898, 1036, 1065, 1177, 1251, 1267, 1299, 1382, 1413, 1466, 1491, 1494, 1738, 1744, 1754, 1819, 1967, 1995, 2013, 2031, 2062, 2071, 2086, 2120, 2199, 2334										
Miscellaneous Foods										
329h	76 y M				U	Ingst	Unk	3		
		food (beef)	1	1						
		mushroom (unknown)	2	2						
		food poisoning, unknown	3	3						
Mushrooms										
[330h]	27 y M				A	Ingst	Unt-M	2		
		Amanita phalloides	1	1						
331h	30 y F				A	Ingst	Int-U	3		
		mushroom (unknown)	1	1						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
332ha	51 y M	Amanita phalloides	1	1	A	Ingst	AR-F	2		
See Also case 329, 420, 2247										
Other/Unknown Nondrug Substances										
333p	20 y M	substance (non-drug), N.O.S.	1	1	U	Unk	Unk	3		
334	35 y M	substance (non-drug), N.O.S.	1	1	A	Ingst	Int-S	2		
335ha	42 y F	water	1	1	A	Ingst	Unk	3		
		methamphetamine	2	2					amphetamine	100 ng/mL In Serum @ Unknown
		methamphetamine	2	2					methamphetamine	1900 ng/mL In Serum @ Unknown
		drug, N.O.S.	3	3						
		glucosaminan	4	4						
336h	63 y M	substance (non-drug), N.O.S.	1	1	A	Ingst	Unk	2		
		mouthwash, N.O.S.	2	2						
		creams-lotions-make-up	3	3						
337h	Unknown age M	hyperthermia	1	1	U	Oth+Unk	Unk	2		
		benztropine	2	2						
		ziprasidone	3	3						
		benzodiazepine	4	4						
		methamphetamine	5	5						
		marijuana, N.O.S.	6	6						
See Also case 50, 52, 314, 1163, 1745, 2221, 2243, 2418										
Paints and Stripping Agents										
338ph	29 y M	paint (oil based)	1	1	A	Ingst	Unk	2		
		methamphetamine	2	2						
Pesticides										
[339h]	3 y M	bifenthrin	1	1	A	Ingst+Derm	Unt-G	1		
		chlorpyrifos	2	2						
340h	29 y M	diquat	1	1	A	Ingst	Int-S	2		
		cleaner (household, N.O.S.)	2	2						
341h	36 y M	herbicide N.O.S.	1	1	A	Ingst	Int-S	2		
342ph	38 y M	organophosphate	1	1	A	Ingst	Int-S	1		
		ethanol (beverage)	2	2					ethanol	96 mg/dL In Blood (unspecified) @ Unknown
343ai	38 y M	organophosphate	1	1	U	Unk	Int-S	1		
[344h]	41 y M	methyl bromide	1	1	U	Unk	Unt-O	1	bromine	100 mg/L In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	0.114 g/dL In Blood (unspecified) @ Autopsy
345pha	42 y M	organophosphate	1	1	A	Ingst	Int-S	1		
346p	43 y F	diclorvos	1	1	A	Ingst	Int-S	2		
347	47 y M	diquat/glyphosate	1	1	A	Ingst	Unk	2		
[348h]	49 y M	metolachlor	1	1	A	Ingst	Int-S	2		
349	52 y M	glyphosate	1	1	A	Ingst	Int-S	2		
		ethanol (beverage)	2	2						
350h	56 y M	herbicide N.O.S.	1	1	A	Ingst	Unt-G	2		
351	63 y M	malathion	1	1	A	Ingst	Int-S	1		
		propane	2	2						
		ethanol (beverage)	3	3					ethanol	405 mg/dL In Serum @ Unknown
352h	64 y M	glyphosate	1	1	A	Ingst	Int-S	2		
353ha	64 y F	glyphosate	1	1	A	Ingst	Int-S	2		
354	65 y M	insecticide, N.O.S.	1	1	A	Inhal	Unt-M	2		
355h	69 y M	organophosphate	1	1	A/C	Inhal	Unt-G	2		
356h	70 y M	paraquat	1	1	A	Ingst	Int-S	2		
357ph	76 y M	malathion	1	1	A	Inhal+Derm	Int-S	1		
358h	82 y F	zinc phosphide	1	1	A	Inhal	Int-M	2		
[359ha]	93 y F	diazinon	1	1	A	Ingst	Int-S	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
360h	Unknown adult (≥20 yrs) M				U	Ingst	Int-S	2		
		diquat cleaner (anionic/nonionic, limonene)	1 2	1 2						
361ph	Unknown adult (≥20 yrs) M				A	Inhal	Unk	1		
		esfenvalerate	1	1						
See Also case 1241, 1666, 1912, 2045, 2315, 2318, 2333										
Plants										
362h	36 y M	plant (Taxus species)	1	1	A	Ingst	Int-S	2		
[363h]	40 y F	plant (Taxus species)	1	1	A	Ingst	Unt-G	1		
364h	44 y M	Taxus baccata	1	1	U	Ingst	Unk	2		
[365]	68 y M	plant, cardiac glycoside	1	1	A	Ingst	Int-S	1		
See Also case 1382, 1400, 1481										
Swimming Pool/Aquarium										
366pha	36 y F	hypochlorite	1	1	A	Ingst	Int-S	1		
Tobacco/Nicotine/eCigarette Products										
367ph	45 y M	nicotine	1	1	A	Ingst	Int-S	2		
Pharmaceutical Exposures										
Analgesics										
368ai	1 y F	fentanyl (non-prescription)	1	1	U	Unk	Unk	1		
369ai	1 y F	fentanyl (non-prescription)	1	1	U	Unk	Unt-U	1		
370pha	2 y M	fentanyl (non-prescription) drug, N.O.S.	1 2	1 2	A	Ingst	Unt-G	1		
371i	2 y M	fentanyl (prescription)	1	1	A	Ingst	Unt-G	1		
372ai	3 y M	fentanyl (non-prescription)	1	1	U	Unk	Unt-U	1		
373ha	3 y F	acetaminophen	1	1	U	Ingst	Oth-M	2	acetaminophen (apap)	4 mcg/mL In Blood (unspecified) @ Unknown
		cough and cold preparation, N.O.S. ethanol (beverage)	2 3	2 3						
374	3 y M	acetaminophen	1	1	C	Ingst	Unt-T	2	acetaminophen (apap)	132 mcg/mL In Serum @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	39 mcg/mL In Serum @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	91 mcg/mL In Serum @ Unknown
		hydroxyzine	2	2						
		ibuprofen	3	3						
375p	4 y M	fentanyl (non-prescription)	1	1	A	Ingst	Unt-G	2	norfentanyl	1 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	1	1					fentanyl	14 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	1	1					fentanyl	1400 ng/mL In Gastric (stomach content) @ Autopsy
376pai	6 y M	tramadol	1	1	U	Ingst	Unk	3		
		loratadine	2	2						
		caffeine	3	3						
		diphenhydramine	4	4						
377ph	8 y M	fentanyl (non-prescription)	1	1	U	Unk	Unk	2	fentanyl	57 ng/mL In Urine (quantitative only) @ Unknown
		fentanyl (non-prescription)	1	1					norfentanyl	99 ng/mL In Urine (quantitative only) @ Unknown
		xylazine	2	2						
[378pha]	12 y F	fentanyl (non-prescription)	1	1	A	Ingst+Inhal	Int-A	1	norfentanyl	1.1 ng/mL In Blood (unspecified) @ Unknown
		fentanyl (non-prescription)	1	1					fentanyl	6 ng/mL In Blood (unspecified) @ Unknown
[379ha]	12 y F	salicylate	1	1	A	Ingst	Int-S	1	salicylate	105.3 mg/dL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
380pha	13 y M	salicylate	1	1	A	Inhal	Int-A	1	salicylate	72 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	96.5 mg/dL In Blood (unspecified) @ Unknown
		fentanyl (prescription)	1	1					norfentanyl	0.5 ng/mL In Blood (unspecified) @ Unknown
		fentanyl (prescription)	1	1					fentanyl	5.1 ng/mL In Blood (unspecified) @ Unknown
381h	13 y F	acetaminophen/diphenhydramine	1	1	U	Ingst	Int-S	1	salicylate	0.4 mg/dL In Serum @ Unknown
		acetaminophen/diphenhydramine	1	1					acetaminophen (apap)	167 mcg/mL In Serum @ Unknown
382ph	14 y M	fluoxetine	2	2	A	Ingst	Int-U	1		
		fentanyl (non-prescription)	1	1					fentanyl	18 ng/mL In Urine (quantitative only) @ Unknown
		fentanyl (non-prescription)	1	1					norfentanyl	41 ng/mL In Urine (quantitative only) @ Unknown
383pha	14 y F	xylazine	2	2	A	Ingst	Int-A	1		
		fentanyl (prescription)	1	1					fentanyl	3.6 ng/mL In Serum @ Unknown
		acetaminophen/oxycodone	2	2					acetaminophen (apap)	12.9 mcg/mL In Serum @ Unknown
384ph	14 y M				A	Unk	Int-A	2		
385ph	14 y M				A	Ingst	Int-S	1		
386pha	15 y F	acetaminophen/oxycodone	1	1	U	Ingst	Int-S	1	acetaminophen (apap)	156 mcg/dL In Blood (unspecified) @ Unknown
		acetaminophen/caffeine/pyrilamine diphenhydramine	2 1	1 1					diphenhydramine	18000 ng/mL In Blood (unspecified) @ Autopsy
387ha	15 y M	cetirizine	3	2	U	Ingst+ Unk	Int-S	1		
		fentanyl (non-prescription)	1	1						
388ha	15 y F	alprazolam	2	2	A	Ingst	Int-S	1		
389ph	15 y M	acetaminophen	1	1	A	Ingst	Int-S	1		
390ha	15 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	1		
		colchicine	1	1						
391h	15 y F	salicylate	2	2	A	Unk	Unk	1	salicylate	22 mg/dL In Blood (unspecified) @ Unknown
		ibuprofen	3	3						
		amoxicillin	4	4						
		acetaminophen	1	1					acetaminophen (apap)	44 mcg/mL In Blood (unspecified) @ Unknown
392ai	16 y F	drug, N.O.S.	2	2	U	Unk	Int-A	1		
393h	16 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen (apap)	190 mcg/mL In Blood (unspecified) @ 12h (pe)
[394h]	16 y F				A	Ingst	Int-S	1		
395pha	16 y M	colchicine	1	1	U	Unk	Unk	2		
		fentanyl (non-prescription)	1	1					norfentanyl	1.6 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	1	1					fentanyl	4.3 ng/mL In Blood (unspecified) @ Autopsy
		marijuana	2	2					11-oh-thc (11-hydroxy-delta-9-tetrahydrocannabinol)	1.9 ng/mL In Blood (unspecified) @ Autopsy
		marijuana	2	2					delta-9-carboxy-thc	41 ng/mL In Blood (unspecified) @ Autopsy
		marijuana	2	2					delta-9-thc	5.6 ng/mL In Blood (unspecified) @ Autopsy
396ph	16 y M				A	Unk	Unt-M	2		
397ph	16 y M	fentanyl (non-prescription)	1	1	A	Ingst+ Inhal	Int-A	2		
		oxycodone	1	1						
		alprazolam	2	2						
		marijuana	3	3						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time																																																																																																																																																																																																																																																																																																															
398pha	16 y F	heroin	1	1	A	Ingst+Aspir	Int-S	1	6-mam (6-monoacetylmorphine)	2.6 ng/mL In Vitreous @ Autopsy																																																																																																																																																																																																																																																																																																															
		heroin	1	1							morphine (free)	21 ng/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																													
		heroin	1	1								morphine (free)	23 ng/mL In Vitreous @ Autopsy																																																																																																																																																																																																																																																																																																												
399ai	17 y F	fentanyl (prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
		methamphetamine	2	2						400ph	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Unk	1	fentanyl	200 ng/mL In Urine (quantitative only) @ Unknown			citalopram	2	2	401h	17 y F	ethanol (beverage)	3	3	U	Ingst	Int-S	1			acetaminophen	1	1	acetaminophen (apap)	25 mcg/mL In Blood (unspecified) @ 3.5 h (pe)	acetaminophen	1	1	acetaminophen (apap)	30 mcg/mL In Blood (unspecified) @ Unknown			acetaminophen	1	1	acetaminophen (apap)	42 mcg/mL In Blood (unspecified) @ Unknown	402ph	17 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	2			acetaminophen/oxycodone	2	2	403ai	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			404ai	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			marijuana (edible)	2	2	405ph	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			oxycodone	2	2	marijuana	3	3	406pha	18 y F	fentanyl (non-prescription)	1	1	U	Unk	Unk	1	fentanyl	9.2 ng/mL In Serum @ 15 m (pe)	acetaminophen (ER)	1	1	407	18 y M	acetaminophen (ER)	1	1	A/C	Unk	Int-A	2			narcotic, N.O.S. marijuana	1	1	408i	18 y M	narcotic, N.O.S. marijuana	2	2							409ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			410ha	19 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	160 mcg/mL In Blood (unspecified) @ 18 h (pe)	acetaminophen	1	1	acetaminophen (apap)	221 mcg/mL In Serum @ 8.5 h (pe)	acetaminophen	1	1	acetaminophen (apap)	63.2 mcg/mL In Serum @ 22.5 h (pe)	411ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			marijuana, N.O.S.	2	2	412ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			413ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	ethanol (beverage)	3	3	414ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			alprazolam	2	2	415ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	416ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	417ha	19 y F	hydromorphone	1	1	A	Ingst	Int-S	1	hydromorphone (free)	12 ng/mL In Blood (unspecified) @ Unknown	drug, N.O.S.	2	2	418h	19 y F	colchicine	1	1	A/C	Ingst	Int-S	1			ethanol (beverage)	2	2	ethanol	235 mg/dL In Serum @ Unknown	419ph	19 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			420h	19 y F	acetaminophen	1	1	C	Ingst	Int-S
400ph	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Unk	1	fentanyl			200 ng/mL In Urine (quantitative only) @ Unknown																																																																																																																																																																																																																																																																																																													
				citalopram						2	2		401h	17 y F	ethanol (beverage)	3	3	U	Ingst	Int-S	1			acetaminophen	1			1	acetaminophen (apap)	25 mcg/mL In Blood (unspecified) @ 3.5 h (pe)							acetaminophen	1	1	acetaminophen (apap)	30 mcg/mL In Blood (unspecified) @ Unknown			acetaminophen	1	1	acetaminophen (apap)	42 mcg/mL In Blood (unspecified) @ Unknown	402ph	17 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	2			acetaminophen/oxycodone	2	2	403ai	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			404ai	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			marijuana (edible)	2	2	405ph	17 y M	fentanyl (non-prescription)	1	1			U	Unk	Int-A							1			oxycodone	2	2	marijuana	3	3	406pha	18 y F	fentanyl (non-prescription)	1	1	U	Unk	Unk	1	fentanyl	9.2 ng/mL In Serum @ 15 m (pe)	acetaminophen (ER)	1	1	407	18 y M	acetaminophen (ER)	1	1	A/C	Unk	Int-A	2			narcotic, N.O.S. marijuana	1	1	408i	18 y M	narcotic, N.O.S. marijuana	2	2							409ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A			1							410ha	19 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	160 mcg/mL In Blood (unspecified) @ 18 h (pe)	acetaminophen	1	1	acetaminophen (apap)	221 mcg/mL In Serum @ 8.5 h (pe)	acetaminophen	1	1	acetaminophen (apap)	63.2 mcg/mL In Serum @ 22.5 h (pe)	411ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			marijuana, N.O.S.	2	2	412ai	19 y F			fentanyl (non-prescription)	1	1							U	Unk	Int-A	1			413ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	ethanol (beverage)	3	3	414ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			alprazolam	2	2	415ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	416ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	417ha	19 y F	hydromorphone	1	1	A	Ingst	Int-S	1	hydromorphone (free)	12 ng/mL In Blood (unspecified) @ Unknown	drug, N.O.S.	2	2	418h	19 y F	colchicine	1	1	A/C	Ingst	Int-S	1			ethanol (beverage)	2	2	ethanol	235 mg/dL In Serum @ Unknown	419ph	19 y F
401h	17 y F	ethanol (beverage)	3	3	U	Ingst	Int-S	1																																																																																																																																																																																																																																																																																																																	
		acetaminophen	1	1							acetaminophen (apap)	25 mcg/mL In Blood (unspecified) @ 3.5 h (pe)																																																																																																																																																																																																																																																																																																													
		acetaminophen	1	1								acetaminophen (apap)	30 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																												
		acetaminophen	1	1	acetaminophen (apap)	42 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																																			
402ph	17 y M	fentanyl (non-prescription)	1	1		A	Ingst	Int-S	2																																																																																																																																																																																																																																																																																																																
		acetaminophen/oxycodone	2	2	403ai							17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			404ai	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			marijuana (edible)	2	2	405ph	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			oxycodone	2	2	marijuana	3	3	406pha	18 y F	fentanyl (non-prescription)	1	1	U	Unk	Unk	1	fentanyl	9.2 ng/mL In Serum @ 15 m (pe)	acetaminophen (ER)	1	1	407	18 y M	acetaminophen (ER)	1	1	A/C	Unk	Int-A	2			narcotic, N.O.S. marijuana	1	1	408i	18 y M	narcotic, N.O.S. marijuana	2	2							409ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			410ha	19 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	160 mcg/mL In Blood (unspecified) @ 18 h (pe)	acetaminophen	1	1	acetaminophen (apap)	221 mcg/mL In Serum @ 8.5 h (pe)	acetaminophen	1	1	acetaminophen (apap)	63.2 mcg/mL In Serum @ 22.5 h (pe)	411ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			marijuana, N.O.S.	2	2	412ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			413ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	ethanol (beverage)	3	3	414ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			alprazolam	2	2	415ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	416ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	417ha	19 y F	hydromorphone	1	1	A	Ingst	Int-S	1	hydromorphone (free)	12 ng/mL In Blood (unspecified) @ Unknown	drug, N.O.S.	2	2	418h	19 y F	colchicine	1	1	A/C	Ingst	Int-S	1			ethanol (beverage)	2	2	ethanol	235 mg/dL In Serum @ Unknown	419ph	19 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			420h	19 y F	acetaminophen	1	1	C	Ingst	Int-S	2	acetaminophen (apap)	11.6 mcg/mL In Blood (unspecified) @ Unknown																																																						
403ai	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
404ai	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
		marijuana (edible)	2	2							405ph	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			oxycodone	2	2	marijuana	3	3	406pha	18 y F	fentanyl (non-prescription)	1	1	U	Unk	Unk	1	fentanyl	9.2 ng/mL In Serum @ 15 m (pe)	acetaminophen (ER)	1	1	407	18 y M	acetaminophen (ER)	1	1	A/C	Unk	Int-A	2			narcotic, N.O.S. marijuana	1	1	408i	18 y M	narcotic, N.O.S. marijuana	2	2							409ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			410ha	19 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	160 mcg/mL In Blood (unspecified) @ 18 h (pe)	acetaminophen	1	1	acetaminophen (apap)	221 mcg/mL In Serum @ 8.5 h (pe)	acetaminophen	1	1	acetaminophen (apap)	63.2 mcg/mL In Serum @ 22.5 h (pe)	411ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			marijuana, N.O.S.	2	2	412ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			413ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	ethanol (beverage)	3	3	414ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			alprazolam	2	2	415ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	416ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	417ha	19 y F	hydromorphone	1	1	A	Ingst	Int-S	1	hydromorphone (free)	12 ng/mL In Blood (unspecified) @ Unknown	drug, N.O.S.	2	2	418h	19 y F	colchicine	1	1	A/C	Ingst	Int-S	1			ethanol (beverage)	2	2	ethanol	235 mg/dL In Serum @ Unknown	419ph	19 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			420h	19 y F	acetaminophen	1	1	C	Ingst	Int-S	2	acetaminophen (apap)	11.6 mcg/mL In Blood (unspecified) @ Unknown																																																																															
405ph	17 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
		oxycodone	2	2																																																																																																																																																																																																																																																																																																																					
		marijuana	3	3																																																																																																																																																																																																																																																																																																																					
406pha	18 y F	fentanyl (non-prescription)	1	1	U	Unk	Unk	1	fentanyl	9.2 ng/mL In Serum @ 15 m (pe)																																																																																																																																																																																																																																																																																																															
		acetaminophen (ER)	1	1							407	18 y M	acetaminophen (ER)	1	1	A/C	Unk	Int-A	2			narcotic, N.O.S. marijuana	1	1	408i	18 y M	narcotic, N.O.S. marijuana	2	2							409ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			410ha	19 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	160 mcg/mL In Blood (unspecified) @ 18 h (pe)	acetaminophen	1	1	acetaminophen (apap)	221 mcg/mL In Serum @ 8.5 h (pe)	acetaminophen	1	1	acetaminophen (apap)	63.2 mcg/mL In Serum @ 22.5 h (pe)	411ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			marijuana, N.O.S.	2	2	412ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			413ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	ethanol (beverage)	3	3	414ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			alprazolam	2	2	415ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	416ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	417ha	19 y F	hydromorphone	1	1	A	Ingst	Int-S	1	hydromorphone (free)	12 ng/mL In Blood (unspecified) @ Unknown	drug, N.O.S.	2	2	418h	19 y F	colchicine	1	1	A/C	Ingst	Int-S	1			ethanol (beverage)	2	2	ethanol	235 mg/dL In Serum @ Unknown	419ph	19 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			420h	19 y F	acetaminophen	1	1	C	Ingst	Int-S	2	acetaminophen (apap)	11.6 mcg/mL In Blood (unspecified) @ Unknown																																																																																																														
407	18 y M	acetaminophen (ER)	1	1	A/C	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																	
		narcotic, N.O.S. marijuana	1	1																																																																																																																																																																																																																																																																																																																					
408i	18 y M	narcotic, N.O.S. marijuana	2	2																																																																																																																																																																																																																																																																																																																					
409ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
410ha	19 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	160 mcg/mL In Blood (unspecified) @ 18 h (pe)																																																																																																																																																																																																																																																																																																															
		acetaminophen	1	1					acetaminophen (apap)	221 mcg/mL In Serum @ 8.5 h (pe)																																																																																																																																																																																																																																																																																																															
		acetaminophen	1	1					acetaminophen (apap)	63.2 mcg/mL In Serum @ 22.5 h (pe)																																																																																																																																																																																																																																																																																																															
411ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
		marijuana, N.O.S.	2	2							412ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			413ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	ethanol (beverage)	3	3	414ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			alprazolam	2	2	415ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	416ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	417ha	19 y F	hydromorphone	1	1	A	Ingst	Int-S	1	hydromorphone (free)	12 ng/mL In Blood (unspecified) @ Unknown	drug, N.O.S.	2	2	418h	19 y F	colchicine	1	1	A/C	Ingst	Int-S	1			ethanol (beverage)	2	2	ethanol	235 mg/dL In Serum @ Unknown	419ph	19 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			420h	19 y F	acetaminophen	1	1	C	Ingst	Int-S	2	acetaminophen (apap)	11.6 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																					
412ai	19 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
413ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
		methamphetamine	2	2																																																																																																																																																																																																																																																																																																																					
		ethanol (beverage)	3	3																																																																																																																																																																																																																																																																																																																					
414ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
		alprazolam	2	2																																																																																																																																																																																																																																																																																																																					
415ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
		methamphetamine	2	2																																																																																																																																																																																																																																																																																																																					
416ai	19 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																	
		methamphetamine	2	2																																																																																																																																																																																																																																																																																																																					
417ha	19 y F	hydromorphone	1	1	A	Ingst	Int-S	1	hydromorphone (free)	12 ng/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																															
		drug, N.O.S.	2	2																																																																																																																																																																																																																																																																																																																					
418h	19 y F	colchicine	1	1	A/C	Ingst	Int-S	1																																																																																																																																																																																																																																																																																																																	
		ethanol (beverage)	2	2							ethanol	235 mg/dL In Serum @ Unknown																																																																																																																																																																																																																																																																																																													
419ph	19 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1																																																																																																																																																																																																																																																																																																																	
420h	19 y F	acetaminophen	1	1	C	Ingst	Int-S	2	acetaminophen (apap)	11.6 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																															

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
421ai	20 y M	mushroom (psilocybin-psilocin)	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		cocaine	2	2						
422i	20 y M	alprazolam	3	3	A	Unk	Int-A	2		
		narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
423i	20 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
424pha	21 y M				A/C	Unk	Unk	1	fentanyl	0.015 mg/L In Blood (unspecified) @ Autopsy
		fentanyl (prescription)	1	1						
425ai	21 y F				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
426pai	21 y F	marijuana, N.O.S.	2	2	A	Unk	Int-U	1		
		fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
427ai	21 y M	fentanyl (non-prescription)	1	1						
		cocaine	2	2						
		alprazolam	3	3						
428pha	21 y M				A	Unk	Int-A	1	fentanyl	2.6 ng/mL In Serum @ 14 m (pe)
		fentanyl (non-prescription)	1	1						
429h	21 y M				A	Ingst	Int-S	1	salicylate	52 mg/dL In Serum @ 15 m (pe)
		salicylate	1	1						
		salicylate	1	1						
		salicylate	1	1						
430i	21 y F	diphenhydramine	2	2	A	Inhal	Int-A	2		
		duloxetine (ER)	3	3						
431i	21 y M				U	Unk	Int-A	2		
		fentanyl (prescription)	1	1						
432i	21 y F	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
433pi	21 y F				A	Ingst	Int-S	2		
		oxycodone	1	1						
434	21 y F	drug, N.O.S.	2	2	A	Ingst	Int-S	1	acetaminophen (apap)	63.4 mcg/mL In Serum @ Unknown
		acetaminophen	1	1						
435p	21 y M				A	Ingst	Int-S	2		
		oxycodone (ER)	1	1						
436	21 y F	lorazepam	2	2	A	Ingst	Int-S	2	acetaminophen (apap)	113 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1						
437h	21 y M				C	Ingst	Unt-T	1	acetaminophen (apap)	67 mcg/mL In Serum @ Unknown
		acetaminophen	1	1						
438h	21 y F				A	Ingst	Int-S	1	acetaminophen (apap)	130 mcg/mL In Blood (unspecified) @ 36 h (pe)
		acetaminophen	1	1						
439ai	22 y F				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
440ai	22 y M	methamphetamine	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
441h	22 y M				A	Ingst	Int-S	1	salicylate	128.8 mg/dL In Serum @ Unknown
		salicylate	1	1						
442ai	22 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
443phai	22 y F	marijuana (edible)	2	2	A	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
444ai	22 y F	ethanol (beverage)	2	2	U	Unk	Int-A	1	ethanol	152 mg/dL In Serum @ Unknown
		fentanyl (non-prescription)	1	1						
445ai	22 y M	methamphetamine	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
446ai	22 y M	ethanol (beverage)	2	2	U	Unk	Int-A	1		
		marijuana, N.O.S.	3	3						
		fentanyl (non-prescription)	1	1						
447ai	22 y M	methamphetamine	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
448ai	22 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		paroxetine	2	2						
449ai	22 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	2		
		methamphetamine	2	2						
450hi	22 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	2		
		methamphetamine	2	2						
451pha	22 y F	acetaminophen	1	1	U	Inhal+ Unk	Int-A	1		
		duloxetine (ER)	2	2						
		fexofenadine	3	3						
		cetirizine	4	4						
		diphenhydramine	5	5						
		marijuana (oral)	6	6						
		ethanol (beverage)	7	7						
fentanyl (prescription)	1	1		norfentanyl	3.2 ng/mL In Blood (unspecified) @ Unknown					
fentanyl (prescription)	1	1		fentanyl	4.5 ng/mL In Blood (unspecified) @ Unknown					
midazolam	2	2		midazolam	0.01 mg/L In Blood (unspecified) @ Unknown					
452ai	23 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
453ai	23 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
454ai	23 y M	fentanyl (prescription)	1	1	U	Unk	Int-A	1		
455i	23 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2		
456ai	23 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
457i	23 y M	diazepam	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	2	2						
458ai	23 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
459ph	23 y M	fentanyl (non-prescription)	1	1	U	Ingst	Int-U	1		
		cocaine	2	2						
460ai	23 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
461ai	23 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
462ph	23 y F	synthetic opiate, N.O.S.	1	1	A	Ingst	Int-A	2		
463ha	23 y F	naproxen	1	1	A	Ingst	Int-S	1	naproxen	890 mcg/mL In Blood (unspecified) @ Unknown
		cocaine	2	2					benzoyllecognine	750 ng/mL In Blood (unspecified) @ Unknown
		marijuana, N.O.S.	3	3						
464i	23 y F	fentanyl (non-prescription)	1	1	A/C	Unk	Int-A	2		
465i	23 y M	fentanyl (prescription)	1	1	U	Inhal	Int-A	2		
466ai	24 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
467	24 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	1		
		acetaminophen	1	1						
468ai	24 y M	acetaminophen	1	1	U	Unk	Int-A	1		180 mcg/mL In Serum @ 36 h (pe)
469ai	24 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
470pha	24 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-U	2		
471i	24 y M	heroin	1	1	U	Unk	Int-A	2		
472ai	24 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
		citalopram	3	3						
473ha	24 y F	acetaminophen	1	1	U	Ingst	Int-S	1		
474ai	24 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
475i	24 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
476ai	24 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time	
477ai	24 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			
		cocaine	2	2							
		alprazolam	3	3							
478ai	24 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			
		methamphetamine	2	2							
479ai	24 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			
		ethanol (beverage)	2	2							
480ai	24 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			
		hydroxyzine	2	2							
		phenothiazine	3	3							
481h	24 y M	fentanyl (non-prescription)	1	1	A	Ingst	Unk	3	acetaminophen (apap)	97 mcg/mL In Blood (unspecified) @ Unknown	
		methamphetamine	2	2							
		marijuana, N.O.S.	3	3							
482h	24 y F	acetaminophen	1	1	A/C	Ingst	Int-S	2			
		bupropion (ER)	2	2							
		lisdexamfetamine (ER)	3	3							
483h	25 y M	acetaminophen	1	1	A	Ingst	Unk	2	acetaminophen (apap)	51 mcg/mL In Serum @ Unknown	
484ai	25 y M				U	Unk	Int-A	1			
485ph	25 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2			
		heroin	1	1							
486ai	25 y M			U	Unk	Int-A	1				
487pha	25 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			
		cocaine	2	2							
		alprazolam	3	3							
488h	25 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	12 mcg/mL In Blood (unspecified) @ Unknown	
		methamphetamine	2	2							
		acetaminophen	1	1							
489ai	25 y M	acetaminophen	1	1	U	Unk	Int-A	1		76 mcg/mL In Blood (unspecified) @ Unknown	
490i	25 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			
		oxycodone	2	2							
		ethanol (beverage)	3	3							
491ph	25 y F	fentanyl (non-prescription)	1	1	A/C	Ingst	Int-S	2	acetaminophen (apap)	600 mcg/mL In Blood (unspecified) @ Unknown	
		alprazolam	2	2							
		marijuana, N.O.S.	3	3							
492i	25 y M	acetaminophen	1	1	A	Unk	Int-A	2			
		baclofen	2	2							
		trazodone	3	3							
		sertraline	4	4							
		ibuprofen	5	5							
493i	25 y M	fentanyl (prescription)	1	1	U	Unk	Int-A	2			
494h	25 y M	narcotic, N.O.S.	1	1	U	Ingst	Unk	1	acetaminophen (apap)	184 mcg/mL In Serum @ Unknown	
		acetaminophen	1	1							
495ai	25 y M			U	Unk	Int-A	1				
496ai	25 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			
		cocaine	2	2							
497pha	25 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	1	fentanyl	12 ng/mL In Blood (unspecified) @ Autopsy	
		methamphetamine	2	2							
498h	25 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	2	norfentanyl	16 ng/mL In Blood (unspecified) @ Autopsy	
499h	25 y F	acetaminophen	1	1	U	Ingst	Int-S	3	acetaminophen (apap)	11 mcg/mL In Serum @ 2 d (pe)	
		acetaminophen	1	1							
		drug, N.O.S.	2	2						65 mcg/mL In Serum @ Unknown	

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
500i	25 y M	fentanyl (prescription)	1	1	A/C	Unk	Int-A	2		
501i	26 y F	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
502ai	26 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
503ph	26 y F	tramadol	1	1	A	Ingst	Int-S	2		
504ph	26 y F	tramadol	1	1	A	Ingst	Int-S	2		
		olanzapine	2	2						
		amphetamine	3	3						
		lisdexamfetamine (ER)	4	4						
		cyclobenzaprine	5	5						
		sertraline	6	6						
		tizanidine	7	7						
		oxycodone	8	8						
		gabapentin	9	9						
		alprazolam	10	10						
		eszopiclone	11	11						
505	26 y M	heroin	1	1	A/C	Par	Int-A	1		
506ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
		carbamazepine	3	3						
507i	26 y M	heroin	1	1	A	Inhal	Int-A	2		
508ai	26 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		ethanol (beverage)	3	3						
509pai	26 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2		
510i	26 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
511ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		Mitragyna speciosa korthals	3	3						
512ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		benzodiazepine	2	2						
513ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
514ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		gabapentin	2	2						
		venlafaxine	3	3						
515h	26 y F	acetaminophen	1	1	U	Ingst	Unk	3		
516pha	26 y M				A	Ingst+Inhal+Unk	Int-A	1		
		fentanyl (prescription)	1	1					norfentanyl	1.4 ng/mL In Blood (unspecified) @ Unknown
		fentanyl (prescription)	1	1					fentanyl	6 ng/mL In Blood (unspecified) @ Unknown
		cocaine	2	2					cocaethylene	23 ng/mL In Blood (unspecified) @ Unknown
		cocaine	2	2					benzoylcoagnine	430 ng/mL In Blood (unspecified) @ Unknown
		marijuana	3	3						
		ethanol (beverage)	4	4					ethanol	112 mg/dL In Blood (unspecified) @ Unknown
517ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		ethanol (beverage)	3	3						
518ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		Mitragyna speciosa korthals	2	2						
519ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-S	1		
		oxycodone	2	2						
		amphetamine	3	3						
520ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
521p	26 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2		
522ai	26 y M	oxycodone	1	1	U	Unk	Int-S	1		
		ethanol (beverage)	2	2						
523ai	26 y F				U	Unk	Int-A	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time		
524ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		fentanyl (non-prescription) ethanol (beverage)	1 2	1 2								
525ai	26 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-S	1				
526i	26 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2				
527pai	26 y M	fentanyl (non-prescription)	1	1	A	Unk	Unk	1	fentanyl	0.017mg/L In Blood (unspecified) @ Autopsy		
		fentanyl analogs (despropionyl)	2	2								
[528pa]	26 y F	tramadol	1	1	A	Ingst	Int-S	1	tramadol	89000ng/mL In Blood (unspecified) @ Autopsy		
529ph	26 y F	oxycodone	1	1	A	Ingst	Int-S	2				
		ethanol (beverage)	2	2								
		quetiapine	3	3								
		trazodone	4	4								
530pha	26 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-S	1	fentanyl	0.026 mg/L In Plasma @ Autopsy		
		ethanol (beverage)	3	3							ethanol	0.09 % In Plasma @ Autopsy
		fentanyl analogs (despropionyl)	2	3								
		quinine	4	4								
531ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
532ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
533ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
534i	27 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2				
535ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		cocaine	2	2								
536ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
537i	27 y M	fentanyl (prescription)	1	1	U	Unk	Int-A	2				
538h	27 y M	acetaminophen	1	1	C	Ingst	Unt-T	1	acetaminophen (apap)	28mcg/mL In Blood (unspecified) @ Unknown		
		ethanol (beverage)	2	2								
539i	27 y F	narcotic, N.O.S.	1	1	A/C	Unk	Unk	2				
540p	27 y M	heroin	1	1	A	Unk	Int-A	2				
		cocaine	2	2								
541ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		ethanol (beverage)	2	2								
		marijuana (edible)	3	3								
542ai	27 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
		marijuana, N.O.S.	3	3								
543ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
544ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		lorazepam	2	2								
		diphenhydramine	3	3								
545ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		fentanyl analogs (para-fluoro)	2	2								
546i	27 y M	heroin	1	1	A/C	Unk	Int-A	2				
547i	27 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2				
548ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		ethanol (beverage)	2	2								
549ai	27 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		heroin	2	2								
		fentanyl analog (acetylfentanyl)	3	3								
550ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
		marijuana, N.O.S.	3	3								
551ai	27 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		cocaine	2	2								

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
552ai	27 y F	marijuana, N.O.S.	3	3	U	Unk	Int-A	1		
553pai	27 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	1	fentanyl	0.006 mg/L In Blood (unspecified) @ Autopsy
		ethanol (beverage)	2	2					ethanol	0.12 % In Plasma @ Autopsy
554ai	27 y F				U	Unk	Int-A	1		
555i	27 y M	fentanyl (non-prescription)	1	1						
		hydroxyzine	2	2	U	Unk	Int-A	2		
556ai	28 y M	heroin	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
557ai	28 y F	ethanol (beverage)	2	2						
		fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
558ai	28 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		acetaminophen	2	2						
559ai	28 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
560i	28 y F				A/C	Unk	Int-A	2		
561ai	28 y M	heroin	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
562h	28 y M	ethanol (beverage)	2	2						
		acetaminophen	1	1	A	Ingst	Int-S	1		
563ai	28 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
564ai	28 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-U	1		
		fentanyl (non-prescription)	1	1	A	Ingst + Unk	Int-A	1	fentanyl	14 ng/mL In Blood (unspecified) @ Unknown
565pha	28 y M	fentanyl (non-prescription)	1	1					alprazolam	15 ng/mL In Blood (unspecified) @ Unknown
		alprazolam	2	2					benzoylecognine	150 ng/mL In Blood (unspecified) @ Unknown
		cocaine	3	3						
566	28 y M				A	Unk	Int-A	2		
567pha	28 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	2		
		fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
568ai	28 y M	fentanyl (non-prescription)	1	1						
		cocaine	2	2	U	Unk	Int-A	1		
569ai	28 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1	A	Ingst	Int-S	2		
570	28 y F	oxycodone	1	1						
		diphenhydramine	2	2	U	Ingst	Int-S	3		
571h	28 y F				U	Ingst	Int-S	3		
572ha	28 y M	salicylate	1	1						
		acetaminophen	1	1	C	Ingst	Int-S	1	acetaminophen (apap)	21 mcg/mL In Blood (unspecified) @ Unknown
573	28 y M	fentanyl (prescription)	1	1	A	Unk	Int-A	2		
		drug, N.O.S.	2	2						
		heroin	3	3						
574ai	29 y M				U	Unk	Int-A	1		
575ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
576ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
577ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
578ph	29 y F	buprenorphine/naloxone (sublingual tablet)	1	1						
		alprazolam	2	2						
		carisoprodol	3	3	U	Ingst + Unk	Int-A	2		
		amphetamine	4	4						
579ha	29 y F				U	Unk	Unk	1	fentanyl	5.8 mcg/mL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		fentanyl (non-prescription)	1	1					norfentanyl	8.1 mcg/mL In Blood (unspecified) @ Unknown
		xylazine	2	2						
		cocaine	3	3					benzoylecognine	29mcg/L In Blood (unspecified) @ Unknown
580ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
581ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
582ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	2	2						
583i	29 y M	flubromazepam	3	3	U	Unk	Int-A	2		
		heroin	1	1						
584ai	29 y M	heroin	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		heroin	2	2						
		alprazolam	3	3						
585ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
586ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		oxycodone	3	3						
587ai	29 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		trazodone	2	2						
		gabapentin	3	3						
588ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
589ai	29 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
		marijuana (edible)	3	3						
590ai	29 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
591a	29 y F	fentanyl (non-prescription)	3	1	A	Unk	Int-U	1		
		methamphetamine	1	1						
		methadone	2	2						
592ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
593ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		marijuana, N.O.S.	2	2						
594ai	29 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
595ph	29 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	2		
596ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
597ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		risperidone	2	2						
598ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
599ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
600ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
		marijuana, N.O.S.	3	3						
601ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
602ai	29 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
603ai	29 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		hydroxyzine	3	3						
604ai	29 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
605ph	29 y F-Pregnant				A	Ingst	Int-A	2		
606pha	29 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1	fentanyl	45 ng/mL In Blood (unspecified) @ Autopsy
		cocaine	2	2					benzoylecognine	0.27 mg/L In Blood (unspecified) @ Autopsy
607i	29 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
608ph	29 y F	acetaminophen	1	1	A	Ingst	Int-S	2	acetaminophen (apap)	153 mcg/mL In Blood (unspecified) @ Unknown
		citalopram	2	2						
609p	29 y F	tramadol	1	1	A	Ingst	Int-S	2		
610ph	29 y M	fentanyl (non-prescription)	1	1	U	Ingst	Int-A	2		
		methamphetamine	2	2						
611ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
612ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
613	30 y M	acetaminophen	1	1	C	Ingst	Unt-T	3		
		acetaminophen/dextromethorphan/ doxylamine	2	2						
		acetaminophen/dextromethorphan/ phenylephrine	3	3						
614ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
615i	30 y F	narcotic, N.O.S.	1	1	A	Inhal+ Unk	Int-A	2		
		acetaminophen	1	1						
616hi	30 y F	acetaminophen	1	1	C	Ingst	Unt-T	2	acetaminophen (apap)	147.2 mcg/mL In Serum @ Unknown
		acetaminophen/dextromethorphan/ guaifenesin/phenylephrine	2	2						
		benzonatate	3	3						
		viral disease (COVID-19-Confirmed)	4	4						
617pha	30 y F	acetaminophen	2	1	A	Ingst	Int-U	1	acetaminophen (apap)	594.2 mcg/mL In Serum @ Unknown
		atypical antipsychotic, N.O.S.	1	2						
		ethanol (beverage)	3	3						
		drug, N.O.S.	4	4						
		drug, N.O.S.	4	4						
		drug, N.O.S.	4	4						
618ha	30 y M	methamphetamine	5	5	U	Unk	Unk	2		
		buprenorphine	1	1					buprenorphine	4.3 ng/mL In Blood (unspecified) @ Unknown
619i	30 y F	heroin	1	1	U	Par	Int-A	2		
620i	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		buprenorphine	2	2						
621ha	30 y M	narcotic, N.O.S.	1	1	A/C	Ingst	Int-S	2		
		ibuprofen	2	2						
		acetaminophen	3	3						
622i	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		fentanyl analog (acetylfentanyl)	2	2						
		marijuana, N.O.S.	3	3						
623ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
624ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
625ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
		marijuana, N.O.S.	3	3						
626ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
627ai	30 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		alprazolam	3	3						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
628ai	30 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		carisoprodol	3	3						
629i	30 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
630ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
631ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		etizolam	3	3						
632ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
633ai	30 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
634ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		marijuana, N.O.S.	3	3						
635ai	30 y F	fentanyl (non-prescription)	1	1	U	Unk	Unt-U	1		
636pha	30 y F	fentanyl (non-prescription)	2	1	A	Unk	Int-A	1	norfentanyl	0.7 ng/mL In Blood (unspecified) @ Unknown
		methamphetamine	1	2					methamphetamine	1600 ng/mL In Blood (unspecified) @ Unknown
		marijuana	3	3						
637ai	30 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		ethanol (beverage)	3	3						
638ai	30 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
639ph	30 y F	fentanyl (prescription)	1	1	A	Unk	Int-U	2		
		amphetamine/dextroamphetamine	2	2						
640i	30 y M	heroin	1	1	A/C	Unk	Int-A	2		
641pai	30 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	1	fentanyl	0.003 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					cocaethylene	0.077 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					cocaine	0.14 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					benzoylecognine	0.46 mg/L In Blood (unspecified) @ Autopsy
		xylazine	3	3						
		fentanyl analogs (despropionyl)	4	4						
		fentanyl analogs (para-fluoro)	5	5						
		quinine	6	6						
		ethanol (beverage)	7	7					ethanol	0.07 % In Plasma @ Autopsy
		ethanol (beverage)	7	7					ethanol	0.08 % In Plasma @ Autopsy
		ethanol (beverage)	7	7					ethanol	0.1 % In Vitreous @ Autopsy
ethanol (beverage)	7	7	ethanol	0.11 % In Urine (quantitative only) @ Autopsy						
642ai	31 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
643ai	31 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
644i	31 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
645pha	31 y M				A	Ingst	Int-S	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
646pa	31 y M	acetaminophen	1	1					acetaminophen (apap)	164 mcg/mL In Blood (unspecified) @ Unknown
		risperidone	2	2					9-hydroxyrisperidone	13 ng/mL In Blood (unspecified) @ Unknown
		metonitazene	1	1	A/C	Par	Int-A	1	metonitazene	15 ng/mL In Blood (unspecified) @ Autopsy
		heroin	2	2					morphine (free)	11 ng/mL In Blood (unspecified) @ Autopsy
		heroin	2	2					6-mam (6-monoacetylmorphine)	17 ng/mL In Urine (quantitative only) @ Autopsy
		methamphetamine	3	3					amphetamine	46 ng/mL In Blood (unspecified) @ Autopsy
		methamphetamine	3	3					methamphetamine	49 ng/mL In Blood (unspecified) @ Autopsy
647pha	31 y F-Pregnant				A	Ingst	Int-S	2		
648ai	31 y M	fentanyl (prescription)	1	1						
		clonidine	2	2						
		quetiapine	3	3						
		cocaine	4	4						
649ai	31 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
650ha	31 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		trazodone	2	2						
651ai	31 y M	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	29 mg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	45.3 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	60 mcg/mL In Blood (unspecified) @ Unknown
652ai	31 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		fluoxetine	2	2						
653i	31 y M	fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
		methadone	3	3						
654ai	31 y F	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
655ai	31 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
656ai	31 y M	alprazolam	3	3						
		fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		diazepam	2	2						
657ai	31 y F	alprazolam	3	3						
		fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
658ai	31 y F	ethanol (beverage)	3	3						
		fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		bupropion	2	2						
659ai	31 y M	citalopram	3	3						
		fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
660ai	31 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
661ai	31 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		cocaine	3	3						
662ai	31 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		ethanol (beverage)	3	3						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
663i	31 y M	fentanyl (prescription)	1	1	A/C	Inhal	Int-A	2		
664i	31 y F	heroin	1	1	A/C	Unk	Int-A	2		
665i	31 y M	fentanyl (prescription)	1	1	U	Unk	Int-A	2		
666ha	31 y M	morphine	1	1	A/C	Ingst + Par	Int-S	3		
		oxycodone	2	2						
		ketamine	3	3						
667i	31 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
668p	31 y F	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2		
669i	31 y F	narcotic, N.O.S.	1	1	A/C	Inhal	Int-A	2		
670ha	31 y F	acetaminophen	1	1	U	Ingst	Int-S	2	bupropion	21 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen	1	1					hydroxybupropion	260 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen	1	1					acetaminophen (apap)	30 mcg/mL In Blood (unspecified) @ Autopsy
		acetaminophen	1	1					acetaminophen (apap)	46 mcg/mL In Serum @ Unknown
		acetaminophen	1	1					methamphetamine	8.9 ng/mL In Blood (unspecified) @ Autopsy
		drug, N.O.S.	2	2						
671h	32 y M	acetaminophen	1	1	A/C	Ingst + Aspir	Int-S	2	acetaminophen (apap)	192.9 mcg/mL In Blood (unspecified) @ Unknown
		baclofen	2	2						
		doxepin	3	3						
		lamotrigine	4	4						
		sertraline	5	5						
		pregabalin	6	6						
		topiramate	7	7						
		hydrochlorothiazide	8	8						
		deutetrabenazine	9	9						
		celecoxib	10	10						
		omeprazole	11	11						
		ezetimibe	12	12						
		levocetirizine	13	13						
		docusate	14	14						
		melatonin	15	15						
		vitamin D	16	16						
672ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
673	32 y M	buprenorphine/naloxone (sublingual film)	1	1	A/C	Ingst	Int-S	2		
		acetaminophen	2	2					acetaminophen (apap)	11.3 mcg/mL In Serum @ 15 h (pe)
		acetaminophen	2	2					acetaminophen (apap)	11.7 mcg/mL In Serum @ 26 h (pe)
		acetaminophen	2	2					acetaminophen (apap)	12.2 mcg/mL In Serum @ 30 h (pe)
		acetaminophen	2	2					acetaminophen (apap)	13.8 mcg/mL In Serum @ 3 h (pe)
		acetaminophen	2	2					acetaminophen (apap)	9 mcg/mL In Serum @ 0 h (pe)
		viral disease (COVID-19-Confirmed)	3	3						
674pi	32 y M	heroin	1	1	U	Unk	Unk	2		
		fentanyl (prescription)	2	2						
675ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
676i	32 y F	heroin	1	1	U	Par	Int-A	2		
677ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
678ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
679ai	32 y M				U	Unk	Int-A	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time																																																																																																																																																																																																																																																																																																																																																																																																										
680i	32 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																												
		methamphetamine	2	2							681ai	32 y M	heroin	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	682ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	683ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	684ai	32 y F	dextromethorphan	2	2	U	Unk	Int-A	1			marijuana, N.O.S.	3	3	fentanyl (non-prescription)	1	1	685ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl analogs (para-fluoro)	1	1	686ai	32 y F	cocaine	2	2	U	Unk	Int-A	1			ethanol (beverage)	3	3	cocaethylene	4	4	fentanyl (non-prescription)	1	1	687ai	32 y M	hydroxyzine	2	2	U	Unk	Int-A	1			risperidone	3	3	fentanyl (non-prescription)	1	1	688ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	689ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	methamphetamine	2	2	691ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)
681ai	32 y M	heroin	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1							682ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	683ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	684ai	32 y F	dextromethorphan	2	2	U	Unk	Int-A	1			marijuana, N.O.S.	3	3			fentanyl (non-prescription)	1	1							685ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl analogs (para-fluoro)	1	1	686ai	32 y F	cocaine	2	2	U			Unk	Int-A	1									ethanol (beverage)	3	3	cocaethylene	4	4	fentanyl (non-prescription)			1	1	687ai							32 y M	hydroxyzine	2	2	U	Unk	Int-A	1			risperidone	3	3	fentanyl (non-prescription)	1	1	688ai	32 y M	Mitragyna speciosa korthals	2			2	U	Unk							Int-A	1			fentanyl (non-prescription)	1			1	689ai	32 y M							Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	methamphetamine	2	2	691ai	32 y M			fentanyl (non-prescription)	1	1							U	Unk	Int-A	1					fentanyl (non-prescription)	1	1							692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1			702ai	33 y M	fentanyl (non-prescription)							1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)
682ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1							683ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	684ai	32 y F	dextromethorphan	2	2	U	Unk	Int-A	1			marijuana, N.O.S.	3	3			fentanyl (non-prescription)	1	1							685ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl analogs (para-fluoro)	1	1	686ai	32 y F	cocaine	2	2	U	Unk	Int-A	1			ethanol (beverage)	3	3			cocaethylene	4	4		fentanyl (non-prescription)	1				1	687ai	32 y M	hydroxyzine	2	2			U	Unk	Int-A	1			risperidone	3	3	fentanyl (non-prescription)	1		1	688ai	32 y M	Mitragyna speciosa korthals	2	2		U	Unk	Int-A							1			fentanyl (non-prescription)	1	1	689ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk			Int-A	1			fentanyl (non-prescription)	1	1	methamphetamine	2							2	691ai	32 y M	fentanyl (non-prescription)	1	1			U	Unk	Int-A							1			fentanyl (non-prescription)	1	1	692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1			1	fentanyl (non-prescription)	1							1	695ai	32 y M	fentanyl (non-prescription)	1	1			U	Unk	Int-A							1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U
683ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1							684ai	32 y F	dextromethorphan	2	2	U	Unk	Int-A	1			marijuana, N.O.S.	3	3			fentanyl (non-prescription)	1	1							685ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl analogs (para-fluoro)	1	1	686ai	32 y F	cocaine	2	2	U	Unk	Int-A	1			ethanol (beverage)	3	3			cocaethylene	4	4							fentanyl (non-prescription)	1	1	687ai	32 y M	hydroxyzine	2	2	U	Unk	Int-A	1			risperidone			3	3	fentanyl (non-prescription)	1	1							688ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	689ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			cocaine	2	2							690ai	32 y M	marijuana, N.O.S.	3	3	U			Unk	Int-A	1									fentanyl (non-prescription)	1	1	methamphetamine	2	2	691ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			cocaine	2	2							694ai	32 y M	ethanol (beverage)	3	3	U			Unk	Int-A	1									fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			gabapentin	2	2	
684ai	32 y F	dextromethorphan	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		marijuana, N.O.S.	3	3									fentanyl (non-prescription)	1	1							685ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl analogs (para-fluoro)	1	1	686ai	32 y F	cocaine	2	2	U	Unk	Int-A	1			ethanol (beverage)	3	3			cocaethylene	4	4							fentanyl (non-prescription)	1	1	687ai	32 y M	hydroxyzine	2	2	U	Unk	Int-A	1			risperidone	3	3			fentanyl (non-prescription)	1	1							688ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	689ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			cocaine	2	2							690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			methamphetamine	2	2		691ai	32 y M				fentanyl (non-prescription)	1			1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			cocaine	2	2							694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			fentanyl (non-prescription)	1	1		695ai	32 y M				fentanyl (non-prescription)	1	1	U	Unk	Int-A			1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			gabapentin	2	2							706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1
		fentanyl (non-prescription)	1	1							685ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1					fentanyl analogs (para-fluoro)	1	1							686ai	32 y F	cocaine			2	2	U							Unk	Int-A	1					ethanol (beverage)							3	3	cocaethylene			4	4	fentanyl (non-prescription)							1	1	687ai	32 y M	hydroxyzine	2	2	U	Unk	Int-A	1			risperidone			3	3	fentanyl (non-prescription)							1	1	688ai			32 y M	Mitragyna speciosa korthals	2							2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	689ai	32 y M	Mitragyna speciosa korthals	2			2	U	Unk							Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2			2	690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk							Int-A	1					fentanyl (non-prescription)	1							1	methamphetamine	2			2	691ai	32 y M							fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	692i	32 y F			methamphetamine	2	2							U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			693ai	32 y M	methamphetamine	2	2	U				Unk	Int-A				1					fentanyl (non-prescription)	1	1							cocaine	2	2			694ai	32 y M	ethanol (beverage)							3	3	U			Unk	Int-A	1									fentanyl (non-prescription)			1	1	fentanyl (non-prescription)							1	1	695ai			32 y M	fentanyl (non-prescription)	1							1	U	Unk			Int-A	1									methamphetamine	2			2	696ai	32 y M							fentanyl (non-prescription)	1	1			U	Unk	Int-A							1					fentanyl (non-prescription)	1	1							697ai	32 y M	cocaine			2	2	U							Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A			Unk	Unk	1				
685ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl analogs (para-fluoro)	1	1							686ai	32 y F	cocaine	2	2	U	Unk	Int-A	1			ethanol (beverage)	3	3	cocaethylene	4	4	fentanyl (non-prescription)	1	1	687ai	32 y M			hydroxyzine			2	2											U	Unk			Int-A	1			risperidone	3	3	fentanyl (non-prescription)	1	1	688ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1			1	689ai	32 y M							Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	methamphetamine	2	2	691ai	32 y M	fentanyl (non-prescription)	1			1	U	Unk	Int-A	1					fentanyl (non-prescription)	1	1	692i					32 y F	methamphetamine	2	2	U	Unk	Int-A	1					fentanyl (non-prescription)			1	1	693ai	32 y M	methamphetamine	2				2	U		Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M			cocaine	2	2		U	Unk	Int-A			1						fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1			1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A		2						fentanyl (non-prescription)	1	1	700i	32 y M			narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2											
686ai	32 y F	cocaine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		ethanol (beverage)	3	3									cocaethylene	4	4							fentanyl (non-prescription)	1	1	687ai	32 y M	hydroxyzine	2	2	U			Unk	Int-A	1			risperidone	3	3	fentanyl (non-prescription)	1	1	688ai	32 y M	Mitragyna speciosa korthals	2	2	U			Unk	Int-A					1			fentanyl (non-prescription)	1	1	689ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2			2	690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A							1			fentanyl (non-prescription)	1	1			methamphetamine	2	2							691ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	694ai			32 y M	ethanol (beverage)	3	3	U	Unk		Int-A						1			fentanyl (non-prescription)	1	1			fentanyl (non-prescription)	1	1							695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3			U	Unk	Int-A							1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																									
		cocaethylene	4	4									fentanyl (non-prescription)	1	1							687ai	32 y M	hydroxyzine			2	2	U		Unk	Int-A						1			risperidone	3	3			fentanyl (non-prescription)	1	1		688ai	32 y M			Mitragyna speciosa korthals	2	2	U				Unk	Int-A	1					fentanyl (non-prescription)							1	1	689ai	32 y M	Mitragyna speciosa korthals	2	2	U			Unk	Int-A	1						fentanyl (non-prescription)	1	1	cocaine				2	2	690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)			1	1	methamphetamine							2	2	691ai			32 y M	fentanyl (non-prescription)	1							1	U	Unk			Int-A	1									fentanyl (non-prescription)	1	1	692i	32 y F		methamphetamine	2		2	U	Unk			Int-A		1			fentanyl (non-prescription)	1				1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1			1	cocaine	2							2	694ai	32 y M			ethanol (beverage)	3	3							U	Unk	Int-A			1									fentanyl (non-prescription)	1	1			fentanyl (non-prescription)	1	1							695ai	32 y M	fentanyl (non-prescription)			1	1	U							Unk	Int-A	1					methamphetamine							2	2	696ai			32 y M	fentanyl (non-prescription)	1							1	U	Unk			Int-A	1									fentanyl (non-prescription)	1			1	697ai	32 y M							cocaine	2	2			U	Unk	Int-A							1					fentanyl (non-prescription)	1	1							698pa	32 y M	cocaine	2	2	A			Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy				fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.				1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)
		fentanyl (non-prescription)	1	1							687ai	32 y M	hydroxyzine	2	2	U	Unk	Int-A	1					risperidone			3	3													fentanyl (non-prescription)	1	1	688ai	32 y M	Mitragyna speciosa korthals	2	2	U			Unk	Int-A	1				fentanyl (non-prescription)	1	1								689ai							32 y M	Mitragyna speciosa korthals			2	2	U												Unk	Int-A	1						fentanyl (non-prescription)			1	1	cocaine							2	2	690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)		1	1		methamphetamine	2	2	691ai	32 y M	fentanyl (non-prescription)	1	1	U															Unk	Int-A	1							fentanyl (non-prescription)										1	1				692i			32 y F	methamphetamine	2							2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2			2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine				2	2				694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)			1	1	U	Unk	Int-A		1			methamphetamine	2	2				696ai	32 y M			fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				fentanyl (non-prescription)	1		1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A			1						fentanyl (non-prescription)	1	1	698pa	32 y M		cocaine	2	2	A	Unk			Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1				1	A/C	Unk	Int-A	2								fentanyl (non-prescription)	1									1	700i	32 y M		narcotic, N.O.S.	1						1	U	Par	Int-A	2					fentanyl (non-prescription)	1	1	701pi	32 y M							narcotic, N.O.S.	1	1			A	Unk	Int-S							2					fentanyl (non-prescription)	1	1							702ai
687ai	32 y M	hydroxyzine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		risperidone	3	3									fentanyl (non-prescription)	1	1							688ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	689ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	methamphetamine		2	2	691ai	32 y M	fentanyl (non-prescription)	1		1	U	Unk	Int-A	1				fentanyl (non-prescription)	1	1	692i	32 y F	methamphetamine	2	2	U					Unk	Int-A	1				fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1					fentanyl (non-prescription)							1	1	cocaine	2	2	694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl			0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i							32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1			1	700i	32 y M							narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																													
		fentanyl (non-prescription)	1	1							688ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1					fentanyl (non-prescription)	1	1							689ai	32 y M	Mitragyna speciosa korthals			2	2	U							Unk	Int-A	1			fentanyl (non-prescription)			1	1	cocaine							2	2	690ai	32 y M	marijuana, N.O.S.	3	3			U	Unk	Int-A	1									fentanyl (non-prescription)	1			1	methamphetamine	2		2	691ai	32 y M	fentanyl (non-prescription)				1			1	U	Unk			Int-A	1							fentanyl (non-prescription)			1	1	692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1					fentanyl (non-prescription)	1							1	693ai	32 y M	methamphetamine	2	2			U	Unk	Int-A							1					fentanyl (non-prescription)	1	1							cocaine	2	2			694ai	32 y M	ethanol (beverage)							3	3	U			Unk	Int-A	1									fentanyl (non-prescription)	1	1		fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)		1	1	U							Unk	Int-A	1					methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U							Unk	Int-A	1					fentanyl (non-prescription)							1	1	697ai			32 y M	cocaine	2							2	U	Unk			Int-A	1									fentanyl (non-prescription)	1			1	698pa	32 y M							cocaine	2	2			A	Unk	Unk							1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1			699i	32 y M	narcotic, N.O.S.							1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U
688ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1							689ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	690ai	32 y M	marijuana, N.O.S.	3	3			U	Unk	Int-A	1				fentanyl (non-prescription)	1	1	methamphetamine	2						2	691ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1			1	692i	32 y F	methamphetamine	2					2	U	Unk	Int-A		1				fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U			Unk	Int-A	1						fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine				2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2			A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1		699i	32 y M				narcotic, N.O.S.	1	1	A/C	Unk			Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																						
689ai	32 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1									cocaine	2	2							690ai	32 y M	marijuana, N.O.S.	3	3	U			Unk	Int-A	1								fentanyl (non-prescription)		1	1	methamphetamine	2	2	691ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			cocaine	2	2							694ai	32 y M	ethanol (beverage)	3	3	U			Unk	Int-A	1									fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			gabapentin	2	2							706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																												
		cocaine	2	2							690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A	1					fentanyl (non-prescription)	1	1		methamphetamine	2						2	691ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1					fentanyl (non-prescription)	1	1							692i	32 y F	methamphetamine			2	2	U							Unk	Int-A	1					fentanyl (non-prescription)							1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)			1	1	cocaine		2	2				694ai	32 y M	ethanol (beverage)	3	3	U			Unk	Int-A	1			fentanyl (non-prescription)			1	1	fentanyl (non-prescription)							1	1	695ai			32 y M	fentanyl (non-prescription)	1							1	U	Unk			Int-A	1									methamphetamine	2			2	696ai	32 y M							fentanyl (non-prescription)	1	1			U	Unk	Int-A							1					fentanyl (non-prescription)	1	1							697ai	32 y M	cocaine			2	2	U							Unk	Int-A	1					fentanyl (non-prescription)							1	1	698pa			32 y M	cocaine	2							2	A	Unk			Unk	1	fentanyl							0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1			1	699i	32 y M							narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M			narcotic, N.O.S.	1	1							U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A
690ai	32 y M	marijuana, N.O.S.	3	3	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1									methamphetamine	2	2							691ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1			1	U	Unk							Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1			U	Unk	Int-A		1								fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																													
		methamphetamine	2	2							691ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1					fentanyl (non-prescription)	1	1							692i	32 y F	methamphetamine			2	2	U							Unk	Int-A	1					fentanyl (non-prescription)							1	1	693ai	32 y M	methamphetamine	2			2	U	Unk							Int-A	1			fentanyl (non-prescription)	1			1	cocaine	2	2	694ai			32 y M	ethanol (beverage)	3	3	U	Unk					Int-A	1					fentanyl (non-prescription)	1	1	fentanyl (non-prescription)				1			1	695ai	32 y M	fentanyl (non-prescription)	1		1	U	Unk			Int-A	1									methamphetamine	2			2	696ai	32 y M							fentanyl (non-prescription)	1	1			U	Unk	Int-A							1					fentanyl (non-prescription)	1	1							697ai	32 y M	cocaine			2	2	U							Unk	Int-A	1					fentanyl (non-prescription)							1	1	698pa			32 y M	cocaine	2							2	A	Unk			Unk	1	fentanyl							0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1			1	699i	32 y M							narcotic, N.O.S.	1	1	A/C	Unk	Int-A			2									fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																								
691ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1							692i	32 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	cocaine	2	2	694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1			1	U	Unk	Int-A	1					methamphetamine	2	2	696ai					32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1					fentanyl (non-prescription)	1	1			697ai	32 y M	cocaine	2				2	U		Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																						
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		fentanyl (non-prescription)	1	1							693ai	32 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			cocaine	2	2							694ai	32 y M	ethanol (beverage)	3	3	U			Unk	Int-A	1									fentanyl (non-prescription)	1	1	fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			gabapentin	2	2							706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																												
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		fentanyl (non-prescription)	1	1									cocaine	2	2							694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			fentanyl (non-prescription)	1	1		695ai	32 y M				fentanyl (non-prescription)	1	1	U	Unk	Int-A			1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			gabapentin	2	2							706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																																										
		cocaine	2	2							694ai	32 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1					fentanyl (non-prescription)	1	1							fentanyl (non-prescription)	1	1	695ai	32 y M	fentanyl (non-prescription)	1	1	U			Unk	Int-A	1			methamphetamine				2	2				696ai	32 y M	fentanyl (non-prescription)			1	1	U							Unk	Int-A	1					fentanyl (non-prescription)							1	1	697ai			32 y M	cocaine	2							2	U	Unk			Int-A	1									fentanyl (non-prescription)	1			1	698pa	32 y M							cocaine	2	2			A	Unk	Unk							1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy			fentanyl (non-prescription)	1	1							699i	32 y M	narcotic, N.O.S.			1	1	A/C							Unk	Int-A	2					fentanyl (non-prescription)							1	1	700i			32 y M	narcotic, N.O.S.	1							1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1			1	A	Unk							Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																													
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		fentanyl (non-prescription)	1	1									fentanyl (non-prescription)	1	1							695ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	696ai	32 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	697ai	32 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	698pa	32 y M	cocaine	2	2	A	Unk	Unk	1	fentanyl	0.041 mg/L In Blood (unspecified) @ Autopsy	fentanyl (non-prescription)	1	1	699i	32 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2			fentanyl (non-prescription)	1	1	700i	32 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2			fentanyl (non-prescription)	1	1	701pi	32 y M	narcotic, N.O.S.	1	1	A	Unk	Int-S	2			fentanyl (non-prescription)	1	1	702ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	703ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	gabapentin	2	2	706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																																																																											
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		fentanyl (non-prescription)	1	1							704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			gabapentin	2	2							706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																																																																																																																																																																																																												
704ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1							705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1			gabapentin	2	2							706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																																																																																																																																																																																																																										
705ai	33 y F	methamphetamine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1									gabapentin	2	2							706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																																																																																																																																																																																																																																								
		gabapentin	2	2							706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1					fentanyl (non-prescription)	1	1							707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																																																																																																																																																																																																																																											
706ai	33 y M	carbamazepine	3	3	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1							707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																	
707i	33 y M	fentanyl (non-prescription)	1	1	U	Ingst+Inhal	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																												

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time																																																																																																																																																																																																																																																																																																																																																																		
708i	33 y M	heroin	1	1	U	Inhal	Int-A	2																																																																																																																																																																																																																																																																																																																																																																				
		ethanol (beverage)	2	2							709ai	33 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	710ai	33 y M	xylazine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	711ai	33 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			marijuana, N.O.S.	3	3	fentanyl (non-prescription)	1	1	712ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	713ai	33 y M				U	Unk	Int-A	1			714ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	715i	33 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2			ethanol (beverage)	2	2	716ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	717ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	718pha	33 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			body stuffer	2	2	719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3	fentanyl (non-prescription)	1	1	725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1	metonitazene	2	1	733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U
709ai	33 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																				
		fentanyl (non-prescription)	1	1							710ai	33 y M	xylazine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	711ai	33 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			marijuana, N.O.S.	3	3			fentanyl (non-prescription)	1	1							712ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	713ai	33 y M				U	Unk	Int-A	1			714ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	715i	33 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2			ethanol (beverage)	2	2	716ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	717ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	718pha	33 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			body stuffer	2	2	719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U			Unk	Int-A	1									buprenorphine	3	3	fentanyl (non-prescription)	1	1	725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)			1	1	732ha							34 y M	methamphetamine	2	2	U	Unk			Unk	1							metonitazene	1	1	metonitazene	2	1	733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown
710ai	33 y M	xylazine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																				
		fentanyl (non-prescription)	1	1							711ai	33 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1			marijuana, N.O.S.	3	3			fentanyl (non-prescription)	1	1							712ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	713ai	33 y M				U	Unk	Int-A	1			714ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	715i	33 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2			ethanol (beverage)	2	2	716ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	717ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	718pha	33 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			body stuffer	2	2	719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3			fentanyl (non-prescription)	1	1		725i	34 y F							A/C	Inhal	Int-A			2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1	metonitazene	2		1	733i	34 y M	metonitazene	2	1		U	Unk	Int-A			2	amphetamine				12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1		methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam			18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M					narcotic, N.O.S.	1
711ai	33 y M	Mitragyna speciosa korthals	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																				
		marijuana, N.O.S.	3	3									fentanyl (non-prescription)	1	1							712ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	713ai	33 y M				U	Unk	Int-A	1			714ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	715i	33 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2			ethanol (beverage)	2	2	716ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	717ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	718pha	33 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			body stuffer	2	2	719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3			fentanyl (non-prescription)	1	1							725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1			metonitazene	2	1							733i	34 y M	metonitazene	2	1	U	Unk			Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown				metonitazene	2		1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2				
		fentanyl (non-prescription)	1	1							712ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1					fentanyl (non-prescription)	1	1							713ai	33 y M				U	Unk	Int-A	1			714ai	33 y M	fentanyl (non-prescription)			1	1	U							Unk	Int-A	1					ethanol (beverage)							2	2	715i			33 y M	fentanyl (non-prescription)	1							1	A	Unk			Int-A	2									ethanol (beverage)	2			2	716ai	33 y M							fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	717ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2			2	718pha	33 y M							fentanyl (non-prescription)	1	1			A	Ingst	Int-A							1					body stuffer	2	2							719i	33 y M						U							Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam			2	2	U							Unk	Int-A	1					heroin							1	1	724ai			34 y F	methamphetamine	2							2	U	Unk			Int-A	1									buprenorphine	3			3	fentanyl (non-prescription)	1							1	725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M			narcotic, N.O.S.	1	1			A	Unk			Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph			34 y F	narcotic, N.O.S.	1							1	A/C	Ingst	Int-A	2		
712ai	33 y M	methamphetamine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																				
		fentanyl (non-prescription)	1	1							713ai	33 y M				U	Unk	Int-A	1			714ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	715i	33 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2			ethanol (beverage)	2	2	716ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	717ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	718pha	33 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			body stuffer	2	2	719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3	fentanyl (non-prescription)	1	1	725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2		2	U		Unk	Unk	1			metonitazene	1	1	metonitazene			2	1				733i	34 y M	metonitazene	2	1	U		Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																											
713ai	33 y M				U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																				
714ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																				
		ethanol (beverage)	2	2							715i	33 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2			ethanol (beverage)	2	2	716ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	717ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	718pha	33 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			body stuffer	2	2	719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3	fentanyl (non-prescription)	1	1	725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1	metonitazene	2	1	733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																												
715i	33 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																				
		ethanol (beverage)	2	2							716ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	717ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	718pha	33 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			body stuffer	2	2	719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3			fentanyl (non-prescription)	1	1							725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U			Unk	Unk	1									metonitazene	1	1	metonitazene			2	1	733i					34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																				
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		methamphetamine	2	2							717ai	33 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	718pha	33 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			body stuffer	2	2	719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3			fentanyl (non-prescription)	1	1							725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1			metonitazene	2	1		733i	34 y M				metonitazene	2	1	U	Unk	Int-A			2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown		metonitazene	2	1	midazolam		18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M					narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																		
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		ethanol (beverage)	2	2							718pha	33 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1			body stuffer	2	2	719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3			fentanyl (non-prescription)	1	1							725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1			metonitazene	2	1							733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2			amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine				1200ng/mL In Blood (unspecified) @ Unknown	metonitazene		2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																
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		body stuffer	2	2							719i	33 y M				U	Par	Int-A	2			720i	33 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			721ai	34 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3			fentanyl (non-prescription)	1	1							725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1			metonitazene	2	1							733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1			methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene					2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																														
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		fentanyl (non-prescription)	1	1							722ai	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3	fentanyl (non-prescription)	1	1	725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1	metonitazene	2	1	733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																																								
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		fentanyl (non-prescription)	1	1							723ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			heroin	1	1	724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3			fentanyl (non-prescription)	1	1							725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U			Unk	Unk	1									metonitazene	1	1	metonitazene			2	1	733i					34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																																
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		heroin	1	1							724ai	34 y F	methamphetamine	2	2	U	Unk	Int-A	1			buprenorphine	3	3			fentanyl (non-prescription)	1	1							725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1			metonitazene	2	1		733i	34 y M				metonitazene	2	1	U	Unk	Int-A			2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown		metonitazene	2	1	midazolam		18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M					narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																																														
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		buprenorphine	3	3									fentanyl (non-prescription)	1	1							725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2			heroin	1	1	729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1			metonitazene	2	1							733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2			amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine				1200ng/mL In Blood (unspecified) @ Unknown	metonitazene		2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																																																												
		fentanyl (non-prescription)	1	1							725i	34 y F				A/C	Inhal	Int-A	2			726i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2			727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2			728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2					heroin	1	1							729ai	34 y M	alprazolam			2	2	U							Unk	Int-A	1					fentanyl (non-prescription)							1	1	730i			34 y M	methamphetamine	2							2	U	Unk			Int-A	1									fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1					fentanyl (non-prescription)	1					1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1	metonitazene	2	1			733i	34 y M	metonitazene							2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																															
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727i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2																																																																																																																																																																																																																																																																																																																																																																				
728ph	34 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2																																																																																																																																																																																																																																																																																																																																																																				
		heroin	1	1							729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1	metonitazene	2	1	733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																																																																																																																																				
729ai	34 y M	alprazolam	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																				
		fentanyl (non-prescription)	1	1							730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1			metonitazene	2	1							733i	34 y M	metonitazene	2	1	U			Unk	Int-A	2					amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																																																																																																																																				
730i	34 y M	methamphetamine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																				
		fentanyl (non-prescription)	1	1							731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1			fentanyl (non-prescription)	1	1	732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1			metonitazene	2	1							733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1			methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene		2	1				midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																																																																																																																																																		
731ai	34 y M	cocaine	2	2	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																				
		fentanyl (non-prescription)	1	1							732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1			metonitazene	1	1			metonitazene	2	1							733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1			methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene					2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																																																																																																																																																																
732ha	34 y M	methamphetamine	2	2	U	Unk	Unk	1																																																																																																																																																																																																																																																																																																																																																																				
		metonitazene	1	1									metonitazene	2	1							733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1			methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene					2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2			marijuana	2	2																																																																																																																																																																																																																																																																																																														
		metonitazene	2	1							733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown			metonitazene	2	1					methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown	metonitazene	2	1	midazolam	18ng/mL In Blood (unspecified) @ Unknown	733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2					marijuana	2	2																																																																																																																																																																																																																																																																																																																							
733i	34 y M	metonitazene	2	1	U	Unk	Int-A	2	amphetamine	12ng/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																																																																																		
		metonitazene	2	1					methamphetamine	1200ng/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																																																																																		
		metonitazene	2	1					midazolam	18ng/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																																																																																		
733i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																				
		marijuana	2	2																																																																																																																																																																																																																																																																																																																																																																								

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
734i	34 y M	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2		
735i	34 y F	fentanyl (non-prescription) ethanol (beverage)	1 2	1 2	U	Unk	Int-A	1		
736i	34 y M	narcotic, N.O.S. cocaine	1 2	1 2	A	Inhal+Unk	Int-A	2		
737ai	34 y F	fentanyl (non-prescription) clonazepam cyclobenzaprine	1 2 3	1 2 3	U	Unk	Int-A	1		
738pha	34 y M	fentanyl (non-prescription) ethanol (beverage)	1 2	1 2	A	Ingst	Int-A	1	ethanol	0.033g/dL In Blood (unspecified) @ Unknown
739ai	34 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
740ai	34 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
741ai	34 y M	fentanyl (prescription) fentanyl analogs (para-fluoro) cocaine	1 2 3	1 2 3	U	Unk	Int-A	1		
742ai	34 y M	fentanyl (non-prescription) methamphetamine alprazolam	1 2 3	1 2 3	U	Unk	Int-A	1		
743i	34 y M	oxycodone	1	1	U	Unk	Int-A	2		
744i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
745ai	34 y M	fentanyl (non-prescription) methamphetamine marijuana, N.O.S.	1 2 3	1 2 3	U	Unk	Int-A	1		
746ai	34 y F	methadone	1	1	U	Unk	Int-A	1		
747i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
748i	34 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
749i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
750i	34 y F	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
751i	34 y M	heroin	1	1	U	Par	Int-A	2		
752i	34 y M	heroin	1	1	U	Unk	Int-A	2		
753i	34 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
754i	34 y M	narcotic, N.O.S. cocaine	1 2	1 2	A	Unk	Int-A	2		
755ai	35 y M	fentanyl (non-prescription) heroin	1 2	1 2	U	Unk	Int-A	1		
756ai	35 y F	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	1		
757ai	35 y M	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	1		
758ai	35 y M	fentanyl (non-prescription) amphetamine	1 2	1 2	U	Unk	Int-A	1		
759ai	35 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
760pa	35 y F	fentanyl (non-prescription)	1	1	U	Ingst	Unk	1	fentanyl	23ng/mL In Whole Blood @ Unknown
761ai	35 y M	fentanyl (non-prescription) cocaine ethanol (beverage)	1 2 3	1 2 3	U	Unk	Int-A	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures - Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
762	35 y F	acetaminophen	1	1	U	Ingst	Int-S	1		
763ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
764pai	35 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	1	fentanyl	0.045 mg/L In Blood (unspecified) @ Autopsy
		quinine	2	2						
		Mitragyna speciosa korthals	3	3						
		fentanyl analogs (despropionyl)	4	4						
		fentanyl analogs (para-fluoro)	5	5						
765ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
766h	35 y F	acetaminophen	1	1	U	Ingst	Unk	2	acetaminophen (apap)	16 mcg/mL In Blood (unspecified) @ Unknown
767i	35 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		ethanol (beverage)	2	2						
		marijuana, N.O.S.	3	3						
768i	35 y M	narcotic, N.O.S.	1	1	A	Oth	Int-A	2		
769i	35 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
770ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		oxycodone	2	2						
771ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		alprazolam	2	2						
772ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		marijuana, N.O.S.	3	3						
773ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		alprazolam	2	2						
		diazepam	3	3						
774i	35 y M	narcotic, N.O.S.	1	1	U	Ingst	Int-A	2		
775ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
776ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	2		
		methamphetamine	2	2						
777ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
778ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		clonazepam	2	2						
		gabapentin	3	3						
779ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
780ai	35 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
781i	35 y F	heroin	1	1	A/C	Inhal	Int-A	2		
		fentanyl (prescription)	2	2						
782i	35 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
783ha	35 y F	heroin	1	1	U	Unk	Int-A	1	morphine (free)	2000 ng/mL In Urine (quantitative only) @ Unknown
		heroin	1	1					6-mam (6-monoacetylmorphine)	290 ng/mL In Urine (quantitative only) @ Unknown
		clonazepam	2	2					7-aminoclonazepam	19 ng/mL In Blood (unspecified) @ Unknown
		clonazepam	2	2					clonazepam	2.4 ng/mL In Blood (unspecified) @ Unknown
		gabapentin	3	3					gabapentin	3.8 mcg/mL In Blood (unspecified) @ Unknown
784ha	35 y F	colchicine	1	1	A/C	Ingst	Int-S	1	colchicine	50 ng/mL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
785i	35 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
786i	35 y F	heroin	1	1	A/C	Par	Int-A	2		
787ph	35 y M	fentanyl (prescription) nitrous oxide	1 2	1 2	U	Inhal+Unk	Int-A	2		
788i	35 y M	narcotic, N.O.S.	1	1	A/C	Inhal	Int-A	2		
789i	35 y F	narcotic, N.O.S. methadone	1 2	1 2	A/C	Unk	Int-A	2		
790ai	36 y M	fentanyl (non-prescription) ethanol (beverage) methamphetamine	1 2 3	1 2 3	U	Unk	Int-A	1		
791h	36 y M	acetaminophen	1	1	U	Ingst	Int-U	1	acetaminophen (apap)	500mcg/mL In Serum @ Unknown
792ai	36 y F	fentanyl (non-prescription) trazodone alprazolam	1 2 3	1 2 3	U	Unk	Int-A	1		
793ai	36 y F	fentanyl (non-prescription) benzodiazepine ethanol (beverage)	1 2 3	1 2 3	U	Unk	Int-A	1		
794ph	36 y F	narcotic, N.O.S. quetiapine prazosin oxcarbazepine gabapentin salicylate	1 2 3 4 5 6	1 2 3 4 5 6	U	Ingst	Int-S	2	salicylate	7.7mg/dL In Blood (unspecified) @ Unknown
795ai	36 y M	heroin methamphetamine citalopram	1 2 3	1 2 3	U	Unk	Int-A	1		
796ai	36 y M	fentanyl (non-prescription) ethanol (beverage)	1 2	1 2	U	Unk	Int-A	1		
797i	36 y M	narcotic, N.O.S.	1	1	U	Inhal	Int-A	2		
798h	36 y F	acetaminophen ethanol (beverage) ibuprofen	1 3 2	1 2 3	U	Ingst	Int-U	2	acetaminophen (apap)	18mcg/mL In Blood (unspecified) @ Unknown
799i	36 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
800i	36 y F	heroin	1	1	A/C	Par	Int-A	2		
801h	36 y F	acetaminophen/drugs, N.O.S.	1	1	C	Ingst	Int-M	2	acetaminophen (apap)	42mcg/mL In Serum @ Unknown
802ai	36 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
803ai	36 y F	fentanyl (non-prescription) methamphetamine ethanol (beverage)	1 2 3	1 2 3	U	Unk	Int-A	1		
804ai	36 y F	fentanyl (non-prescription) ethanol (beverage) marijuana (edible)	1 2 3	1 2 3	U	Unk	Int-A	1		
805ha	36 y F	acetaminophen ethanol (beverage)	1 2	1 2	C	Ingst	Unt-T	1	acetaminophen (apap) ethanol	30mcg/mL In Serum @ 15 m (pe) 54mg/dL In Serum @ 15 m (pe)
806ai	36 y M	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	1		
807ai	36 y F	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	1		
808ai	36 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
809ai	36 y M	fentanyl (non-prescription) cocaine amphetamine	1 2 3	1 2 3	U	Unk	Int-A	1		
810ai	36 y F	fentanyl (non-prescription) fentanyl analogs (para-fluoro) methamphetamine	1 2 3	1 2 3	U	Unk	Int-A	2		
811ai	36 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
812ai	36 y M	methamphetamine	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription) cocaine	1 2	1 2						
813ai	36 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		oxycodone	3	3						
814ha	36 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	225 mcg/mL In Serum @ Unknown
		iron	2	2					iron	213 mcg/dL In Serum @ Unknown
815i	36 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2		
816ai	36 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		acetaminophen	2	2						
817ai	36 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
818i	36 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
819i	36 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
820i	36 y F	fentanyl (prescription)	1	1	A	Unk	Int-A	2		
		cocaine	2	2						
821i	36 y M	narcotic, N.O.S.	1	1	U	Unk	Unk	2		
		acetaminophen	1	1						
822h	36 y M	acetaminophen	1	1	A/C	Ingst	Int-M	2	acetaminophen (apap)	5.7 mg/mL In Blood (unspecified) @ Unknown
823i	36 y M	heroin	1	1	U	Unk	Int-A	2		
824i	37 y M	narcotic, N.O.S.	1	1	A	Ingst	Unk	2		
825i	37 y M	heroin	1	1	A	Unk	Int-A	2		
826pa	37 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	1	fentanyl	4 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	1	1					norfentanyl	5 ng/mL In Blood (unspecified) @ Autopsy
		ethanol (beverage)	2	2					ethanol	0.022 g/dL In Blood (unspecified) @ Autopsy
		ethanol (beverage)	2	2					ethanol	0.066 g/dL In Vitreous @ Autopsy
		acetaminophen/oxycodone	3	3						
827i	37 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
828ph	37 y F	fentanyl (non-prescription)	1	1	U	Ingst + Unk	Int-A	2		
		benzodiazepine	2	2						
		oxycodone	3	3						
829ha	37 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	92 mcg/mL In Blood (unspecified) @ Unknown
		cocaine	2	2					morphine	52 ng/mL In Blood (unspecified) @ Unknown
		morphine	3	3						
		methamphetamine	4	4						
		amphetamine	5	5						
		viral disease (COVID-19-Confirmed)	6	6						
830ai	37 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		aripiprazole	3	3						
831i	37 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
832ai	37 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
833h	37 y F	acetaminophen	1	1	U	Ingst	Int-U	2	acetaminophen (apap)	12 mg/L In Plasma @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	42 mg/L In Plasma @ Unknown
834ai	37 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
835ai	37 y M	methamphetamine	2	2	U	Unk	Int-A	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
836ai	37 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	3		
		ethanol (beverage)	2	2						
		benzodiazepine	3	3						
837ai	37 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		trihexyphenidyl	3	3						
838ai	37 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
839ai	37 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
840h	37 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	604 mcg/mL In Blood (unspecified) @ 1 h (pe)
841ai	37 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
842i	37 y M	ethanol (beverage)	2	2	A	Par	Int-A	2		
		narcotic, N.O.S.	1	1						
843ai	37 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
844ai	37 y M	gabapentin	2	2	U	Unk	Int-S	1		
		fentanyl (non-prescription)	1	1						
845ai	37 y M	ethanol (beverage)	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
846pa	37 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	1		
847ha	37 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	2		
		fentanyl analogs (despropionyl)	2	2						
		methadone	3	3						
		xylazine	4	4						
848h	37 y M	colchicine	1	1	A	Ingst	Unk	2		
		fentanyl (prescription) drug, N.O.S.	2	2						
849i	37 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
850a	37 y M	fentanyl (non-prescription)	1	1	A	Ingst + Unk	Int-A	1	norfentanyl	1.1 ng/mL In Blood (unspecified) @ Unknown
		fentanyl (non-prescription)	1	1					fentanyl	1.5 ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					benzoyllecognine	390 ng/mL In Blood (unspecified) @ Unknown
		cocaine	3	3					amphetamine	120 ng/mL In Blood (unspecified) @ Unknown
		amphetamine	4	4						
		acetaminophen	1	1					acetaminophen (apap)	68 mcg/mL In Blood (unspecified) @ Unknown
852ha	37 y F	acetaminophen/diphenhydramine	1	1	U	Ingst	Int-S	1	acetaminophen (apap)	1233 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/diphenhydramine	1	1					diphenhydramine	831 ng/mL In Blood (unspecified) @ Unknown
		duloxetine (ER)	2	2					duloxetine	162 ng/mL In Blood (unspecified) @ Unknown
		mirtazapine	3	3					mirtazapine	64.6 ng/mL In Blood (unspecified) @ Unknown
		amphetamine	4	4					amphetamine	69.6 ng/mL In Blood (unspecified) @ Unknown
853i	37 y M	heroin	1	1	A	Unk	Int-A	2		
854ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
855i	38 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
856ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
857ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time		
858h	38 y F	ethanol (beverage)	3	3	U	Ingst + Unk	Int-S	2				
		acetaminophen	1	1							acetaminophen (apap)	69 mcg/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2							ethanol	11 mg/dL In Blood (unspecified) @ Unknown
859ai	38 y F	viral disease (COVID-19-Confirmed)	3	3	U	Unk	Int-A	1				
		fentanyl (non-prescription)	1	1								
		methamphetamine	2	2								
860i	38 y M	marijuana, N.O.S.	3	3	A	Unk	Int-A	2				
861i	38 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	1				
		fentanyl (non-prescription)	1	1								
862ai	38 y M	olanzapine	2	2	U	Unk	Int-A	1				
		fentanyl (non-prescription)	1	1								
		ethanol (beverage)	2	2								
863ai	38 y F	marijuana (edible)	3	3	U	Unk	Int-A	1				
		fentanyl (non-prescription)	1	1								
		methamphetamine	2	2								
864ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
865ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		cocaine	2	2								
866ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		morphine	2	2								
867ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
		citalopram	3	3								
868ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		fentanyl analog (acetylfentanyl)	2	2								
		methamphetamine	3	3								
869i	38 y F	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2				
870a	38 y F				A/C	Ingst	Int-U	1				
		acetaminophen	1	1							acetaminophen (apap)	113 mcg/mL In Blood (unspecified) @ Unknown
871i	38 y M	heroin	1	1	U	Unk	Int-A	2				
		alprazolam	2	2								
872ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
		methadone	3	3								
		hydroxyzine	4	4								
873ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
874i	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
875ai	38 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
876ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
877ai	38 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
878	38 y F	morphine	1	1	A	Ingst	Int-S	3				
879i	38 y M	narcotic, N.O.S.	1	1	A	Par	Int-A	2				
880i	38 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2				
881phai	38 y F	fentanyl (non-prescription)	1	1	U	Unk	Unk	1				
		fentanyl (non-prescription)	1	1							4-anpp (despropionyl fentanyl)	0.6ng/mL In Whole Blood @ Autopsy
											fentanyl	61 ng/mL In Whole Blood @ Autopsy
		cocaine	2	2							benzoyllecognine	201 ng/mL In Whole Blood @ Autopsy
		cocaine	2	2							cocaethylene	48 ng/mL In Whole Blood @ Autopsy
		ethanol (beverage)	3	3							ethanol	0.3 % In Whole Blood @ Autopsy
882ha	38 y M	ethanol (beverage)	3	3	A	Ingst	Int-S	2				
		sulindac	1	1							ethanol	0.32 % In Whole Blood @ Autopsy

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
883ai	39 y M	ethanol (beverage)	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
884ai	39 y M	ethanol (beverage)	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
885ai	39 y M	doxylamine	3	3	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		narcotic, N.O.S.	1	1						
886i	39 y F		1	1	A	Unk	Int-A	2		
887ai	39 y M		1	1	U	Unk	Int-A	1		
888ai	39 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
889ai	39 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		diazepam	2	2						
		ethanol (beverage)	3	3						
890ai	39 y F		1	1	U	Unk	Int-A	1		
891ai	39 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		marijuana (edible)	2	2						
892ai	39 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		chlorpheniramine	3	3						
893h	39 y F	acetaminophen	1	1	C	Ingst	Int-M	3	acetaminophen (apap)	40 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/dextromethorphan/ doxylamine	2	2						
		nonsteroidal antiinflammatory drug, N.O.S.	3	3						
894i	39 y M		1	1	U	Unk	Int-A	2		
895ai	39 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
896i	39 y M	ethanol (beverage)	2	2	U	Unk	Int-S	1		
		oxycodone	1	1						
		eszopiclone	2	2						
897ai	39 y F	ethanol (beverage)	3	3	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		morphine	2	2						
898ha	39 y M	methamphetamine	3	3	U	Ingst	Int-M	2	acetaminophen (apap)	22 mcg/mL In Serum @ Unknown
		acetaminophen	1	1						
		viral disease (COVID-19-Confirmed)	2	2						
899ai	39 y M	ethanol (non-beverage)	3	3	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
900ph	39 y M	ethanol (beverage)	2	2	A	Unk	Int-A	2		
		fentanyl (non-prescription)	1	1						
901ai	39 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
902ai	39 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
903ai	39 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
904ai	39 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		narcotic, N.O.S.	3	3						
905ai	39 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
906i	39 y M		1	1	A/C	Par	Int-A	2		
907i	39 y M		1	1	A/C	Unk	Int-A	2		
908	39 y M	heroin	1	1	A	Ingst	Int-M	2	acetaminophen (apap)	68 mcg/mL In Serum @ Unknown
		acetaminophen	1	1						
909a	39 y M	methamphetamine	2	2	A	Ingst + Inhal	Int-A	1	fentanyl	0.001 mg/L In Blood (unspecified) @ Unknown
		fentanyl (non-prescription)	1	1						
		fentanyl analogs (despropionyl)	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
910i	39 y M	ink	3	3	A/C	Par	Int-A	2		
911ha	39 y F	narcotic, N.O.S.	1	1	U	Ingst	Int-S	1		
912ai	40 y M	acetaminophen	1	1	U	Unk	Int-A	1	acetaminophen (apap)	118 mcg/mL In Serum @ Unknown
913ai	40 y F	fentanyl (non-prescription) cocaine	1 2	1 2	U	Unk	Int-A	1		
914ai	40 y F	morphine diazepam gabapentin	1 2 3	1 2 3	U	Unk	Int-A	1		
915i	40 y M	fentanyl (non-prescription) methamphetamine	1 2	1 2	A	Par	Int-A	2		
916h	40 y M	narcotic, N.O.S.	1	1	U	Ingst	Int-S	1		
917ai	40 y M	acetaminophen	1	1	U	Unk	Int-A	1	acetaminophen (apap)	793 mcg/mL In Serum @ Unknown
918h	40 y M	fentanyl (non-prescription) acetaminophen	1 1	1 1	U	Ingst	Int-S	1		
919ai	40 y F	ethanol (beverage)	2	2	U	Unk	Int-A	1		
920ai	40 y F	fentanyl (non-prescription) fentanyl analog (acetylfentanyl) diphenhydramine	1 2 3	1 2 3	U	Unk	Int-A	1		
921ai	40 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
922ai	40 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
923ai	40 y F	fentanyl (non-prescription) alprazolam diazepam	1 2 3	1 2 3	U	Unk	Int-U	1		
924ai	40 y F	morphine cyclobenzaprine alprazolam	1 2 3	1 2 3	U	Unk	Int-A	1		
925ai	40 y F	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	1		
926i	40 y F	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	2		
927h	40 y M	narcotic, N.O.S.	1	1	U	Ingst	Int-S	1		
928i	40 y M	acetaminophen	1	1	U	Ingst	Int-A	2	acetaminophen (apap)	30.6 mcg/mL In Blood (unspecified) @ Unknown
929i	40 y M	hydromorphone	1	1	A/C	Par	Int-A	2		
930ai	41 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	1		
931ai	41 y M	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	1		
932i	41 y F	fentanyl (non-prescription)	1	1	A	Unk	Int-A	2		
933ph	41 y F	narcotic, N.O.S.	1	1	U	Ingst + Aspir	Int-S	3		
934ai	41 y M	acetaminophen/codeine	1	1	U	Unk	Int-M	1	acetaminophen (apap)	173 mcg/mL In Blood (unspecified) @ Unknown
935ai	41 y M	cleaner (anionic/nonionic) ethanol (beverage)	2 3	2 3	U	Unk	Int-A	1	ethanol	20 mg/dL In Blood (unspecified) @ Unknown
936pai	41 y M	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	1		
937ai	41 y M	fentanyl (non-prescription) amphetamine	1 2	1 2	A	Unk	Int-A	1		
938ai	41 y M	fentanyl (non-prescription) cocaine cocaine oxycodone fentanyl analogs (despropionyl)	1 2 3 4 5	1 2 3 4 5	U	Unk	Int-A	1		
939ai	41 y M	fentanyl (non-prescription) buprenorphine	1 2	1 2	U	Unk	Int-A	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
938ai	41 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		alprazolam	3	3						
939ai	41 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		amphetamine	2	2						
		bupropion	3	3						
940i	41 y M	narcotic, N.O.S.	1	1	A	Par	Int-A	2		
941ai	41 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
942ai	41 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		flubromazolam	3	3						
943ha	41 y F	acetaminophen	1	1	U	Ingst	Unk	2	acetaminophen (apap)	33 mcg/mL In Serum @ Unknown
		ethanol (beverage)	2	2						
944ai	41 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		amphetamine	2	2						
		alprazolam	3	3						
945	41 y M	acetaminophen	1	1	A	Ingst	Int-S	2	acetaminophen (apap)	27.5 mcg/dL In Blood (unspecified) @ 25 h (pe)
		ibuprofen	2	2						
		diphenhydramine	3	3						
946i	41 y F	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
947i	41 y M	narcotic, N.O.S.	1	1	U	Inhal	Int-A	2		
948ph	41 y M	heroin	1	1	U	Inhal+Par	Int-U	2		
		cocaine	2	2						
949ai	42 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		Mitragyna speciosa korthals	2	2						
950i	42 y M	fentanyl (prescription)	1	1	U	Unk	Int-A	2		
951ai	42 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		cocaine	3	3						
952ph	42 y F	acetaminophen	1	1	A	Ingst	Int-S	2	acetaminophen (apap)	26 mcg/mL In Serum @ Unknown
953ha	42 y F	acetaminophen	1	1	U	Ingst	Int-S	1	acetaminophen (apap)	160 mcg/mL In Blood (unspecified) @ Autopsy
		acetaminophen	1	1					acetaminophen (apap)	229 mcg/mL In Blood (unspecified) @ Unknown
		narcotic, N.O.S.	2	2					hydrocodone	16 ng/mL In Blood (unspecified) @ Autopsy
954ai	42 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
955	42 y F	acetaminophen	1	1	C	Ingst	Int-M	3		
956ai	42 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		marijuana (edible)	2	2						
957h	42 y M	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	24 mcg/mL In Blood (unspecified) @ Unknown
958ai	42 y F	tramadol	1	1	U	Unk	Int-A	1		
		clozapine	2	2						
		clonazepam	3	3						
959ai	42 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		oxymorphone	2	2						
960ai	42 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
961ai	42 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
962ai	42 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		alprazolam	2	2						
		diphenhydramine	3	3						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
963ph	42 y M	fentanyl (prescription)	1	1	A	Unk	Int-U	1		
		amphetamine	2	2						
964i	42 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
965i	42 y M				A	Ingst + Inhal + Unk	Int-A	2		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
		marijuana	3	3						
966h	42 y F	acetaminophen	1	1	A/C	Ingst	Int-U	1	acetaminophen (apap)	621 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/pamabron	2	2						
967ha	42 y F	acetaminophen	1	1	U	Ingst	Int-M	2	acetaminophen (apap)	75 mcg/mL In Serum @ Unknown
968i	42 y F	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
969i	42 y M	heroin	1	1	U	Unk	Int-A	2		
970ai	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
971h	43 y F	acetaminophen	1	1	C	Ingst	Int-M	1	acetaminophen (apap)	358 mcg/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2						
		salicylate	3	3					salicylate	1.5 mg/dL In Blood (unspecified) @ Unknown
972ai	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		marijuana, N.O.S.	3	3						
973i	43 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
974ai	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
975h	43 y F	fentanyl (non-prescription)	1	1	U	Ingst	Unk	2		
		methamphetamine	2	2						
		ethanol (beverage)	3	3					ethanol	232 mg/dL In Blood (unspecified) @ Unknown
		cocaine	4	4						
976i	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-S	1		
		methadone	2	2						
977ai	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
		marijuana, N.O.S.	3	3						
978h	43 y F	acetaminophen	1	1	U	Ingst	Int-U	3	acetaminophen (apap)	52 mcg/mL In Blood (unspecified) @ Unknown
979ai	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
980ai	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		hydroxyzine	3	3						
981ai	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
982ai	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		marijuana, N.O.S.	3	3						
983ai	43 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
984ai	43 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		marijuana (edible)	3	3						
985i	43 y F	fentanyl (prescription)	1	1	A	Inhal	Int-A	2		
986h	43 y M	acetaminophen	1	1	C	Ingst	Int-M	2	acetaminophen (apap)	107.7 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	22.1 mcg/mL In Blood (unspecified) @ Unknown
987pha	43 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time		
988pha	43 y F	narcotic, N.O.S.	2	2	A/C	Ingst	Int-U	1				
		benzodiazepine	3	3								
		fentanyl (prescription)	1	1								
989i	43 y F	oxycodone	2	2	U	Par	Int-A	2				
		benzodiazepine	3	3								
		fentanyl (non-prescription)	1	1								
990ai	44 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	2	2								
		diazepam	3	3								
991ai	44 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		methamphetamine	2	2								
		gabapentin	3	3								
992ai	44 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
		ethanol (beverage)	2	2								
993ai	44 y M	methadone	1	1	U	Unk	Int-A	1				
994i	44 y M	methadone	1	1	U	Unk	Int-A	2				
995pa	44 y M	narcotic, N.O.S.	1	1	A/C	Par	Int-A	1				
		fentanyl analogs (para-fluoro)	1	1								
		fentanyl (non-prescription)	2	2							4-anpp (despropionyl fentanyl)	0.17 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	2	2							norfentanyl	0.41 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	2	2							para-fluorofentanyl	12 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	2	2							fentanyl	3.1 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	2	2							6-mam (6-monoacetylmorphine)	39 ng/mL In Urine (quantitative only) @ Autopsy
		fentanyl (non-prescription)	2	2							morphine (free)	43 ng/mL In Blood (unspecified) @ Autopsy
		methamphetamine	3	3							amphetamine	15 ng/mL In Blood (unspecified) @ Autopsy
		methamphetamine	3	3							methamphetamine	220 ng/mL In Blood (unspecified) @ Autopsy
996ai	44 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
997i	44 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
998h	44 y M	acetaminophen	1	1	U	Ingst	Int-M	2	acetaminophen (apap)	169.2 mcg/mL In Blood (unspecified) @ Unknown		
		methadone	2	2								
999ai	44 y M	methadone	2	2	U	Unk	Int-A	1				
		fentanyl (non-prescription)	1	1								
		fentanyl analog (acetylfentanyl)	2	2								
1000ai	44 y M	methamphetamine	3	3	U	Unk	Int-A	1				
		fentanyl (non-prescription)	1	1								
		ethanol (beverage)	2	2								
1001a	44 y F	acetaminophen	1	1	A/C	Ingst	Int-S	1	acetaminophen (apap)	737 mcg/mL In Blood (unspecified) @ Unknown		
		ethanol (beverage)	2	2							ethanol	65 mg/dL In Blood (unspecified) @ Unknown
1002ai	44 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1				
1003ai	44 y F	alcohol, N.O.S.	2	2	U	Unk	Int-A	2				
		fentanyl (non-prescription)	1	1								
1004ai	44 y M	methamphetamine	2	2	U	Unk	Int-A	1				
		fentanyl (non-prescription)	1	1								
		methamphetamine	2	2								
1005i	44 y M	marijuana, N.O.S.	3	3	A	Unk	Int-A	2				
		narcotic, N.O.S.	1	1								
		methamphetamine	2	2								
1006i	44 y F	narcotic, N.O.S.	1	1	A/C	Par	Int-A	2				
1007h	44 y M	narcotic, N.O.S.	1	1	A/C	Ingst	Unk	3				
1008ai	45 y M	acetaminophen	1	1	U	Unk	Int-A	1				

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1009ai	45 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1010	45 y F	fentanyl (non-prescription)	1	1	U	Ingst	Unk	2		
		acetaminophen	1	1					acetaminophen (apap)	346mcg/mL In Plasma @ Unknown
1011i	45 y M				U	Inhal	Int-A	2		
		narcotic, N.O.S. cocaine	1 2	1 2						
1012ph	45 y F				A	Ingst	Int-S	2		
		synthetic opiate, N.O.S. lorazepam	1 2	1 2						
1013ai	45 y F				U	Unk	Int-A	1		
		fentanyl (non-prescription) venlafaxine	1 2	1 2						
1014h	45 y F				U	Ingst	Unk	2		
		acetaminophen	1	1					acetaminophen (apap)	47mcg/mL In Serum @ Unknown
		salicylate	2	2					salicylate	7mcg/mL In Serum @ Unknown
1015ai	45 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription) methamphetamine	1 2	1 2						
1016ai	45 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
1017h	45 y F				A/C	Ingst	Int-S	2		
		acetaminophen diphenhydramine Mitragyna speciosa korthals	1 2 3	1 2 3						
1018ai	45 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription) methamphetamine alprazolam	1 2 3	1 2 3						
1019ai	45 y M				U	Unk	Int-S	1		
		heroin ethanol (beverage)	1 2	1 2						
1020h	45 y M				U	Unk	Int-A	2		
		heroin methamphetamine	1 2	1 2						
1021i	45 y M				A	Inhal	Int-A	2		
		narcotic, N.O.S.	1	1						
1022h	45 y M				C	Ingst	Int-M	3		
		acetaminophen	1	1					acetaminophen (apap)	97mcg/mL In Serum @ Unknown
		salicylate	2	2					salicylate	8.1mg/dL In Serum @ Unknown
1023h	46 y M				C	Ingst	Int-M	2		
		acetaminophen	1	1					acetaminophen (apap)	45mcg/mL In Blood (unspecified) @ 11 h (pe)
1024a	46 y M				A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen (apap)	59mcg/mL In Blood (unspecified) @ Unknown
1025ha	46 y F				C	Ingst	Int-M	1		
		acetaminophen/codeine	1	1					acetaminophen (apap)	155mcg/mL In Serum @ 15 m (pe)
		acetaminophen/codeine	1	1					acetaminophen (apap)	27mcg/mL In Serum @ 32 h (pe)
		acetaminophen/codeine	1	1					acetaminophen (apap)	42.8mcg/mL In Serum @ 14 h (pe)
1026h	46 y F				U	Ingst	Int-S	3		
		acetaminophen	1	1					acetaminophen (apap)	19mcg/mL In Serum @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	40.5mcg/mL In Serum @ Unknown
1027h	46 y F				C	Ingst	Unt-T	2		
		acetaminophen	1	1					acetaminophen (apap)	146mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	169mcg/mL In Blood (unspecified) @ Unknown
1028ai	46 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription) fentanyl analogs (para-fluoro) methamphetamine	1 2 3	1 2 3						
1029i	46 y M				A/C	Unk	Int-A	2		
		heroin	1	1						
1030ai	46 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription) ethanol (beverage) marijuana, N.O.S.	1 2 3	1 2 3						
1031i	46 y M				A	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
1032ai	46 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription) methamphetamine ethanol (beverage)	1 2 3	1 2 3						
1033i	46 y F				U	Inhal	Int-A	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1034ai	46 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	1		
		marijuana	2	2						
1035ai	46 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1036ai	46 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
1037ai	46 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		viral disease (COVID-19-Confirmed)	3	3						
1038i	46 y M	fentanyl (non-prescription)	1	1	U	Inhal	Int-A	2		
		methadone	2	2						
		quetiapine	3	3						
1039h	46 y F	heroin	1	1	C	Ingst	Int-M	2		
1040i	46 y M	acetaminophen	1	1	U	Par	Int-A	2	acetaminophen (apap)	25 mcg/mL In Blood (unspecified) @ Unknown
		ibuprofen	2	2						
1041i	46 y F	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
1042i	46 y M	narcotic, N.O.S.	1	1	A	Unk	Int-U	2		
1043pha	47 y F	narcotic, N.O.S.	1	1	U	Ingst	Int-S	1		
		narcotic, N.O.S.	1	1					morphine	500 ng/mL In Urine (quantitative only) @ Unknown
		narcotic, N.O.S.	1	1					hydromorphone	500 ng/mL In Urine (quantitative only) @ Unknown
		oxycodone	2	2					oxycodone	500 ng/mL In Urine (quantitative only) @ Unknown
		oxycodone	2	2					noroxycodone	500 ng/mL In Urine (quantitative only) @ Unknown
		oxycodone	2	2					oxymorphone	500 ng/mL In Urine (quantitative only) @ Unknown
		marijuana, N.O.S.	3	3					thc (tetrahydrocannabinol)	302 ng/mL In Urine (quantitative only) @ Unknown
1044h	47 y F	tramadol	4	4	A	Ingst	Int-S	2		
1045ai	47 y M	acetaminophen	1	1	U	Unk	Int-A	1	acetaminophen (apap)	600 mcg/mL In Serum @ Unknown
		fentanyl (non-prescription)	1	1						
1046i	47 y F	cocaine	2	2	A/C	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
1047p	47 y F	narcotic, N.O.S.	1	1	A	Ingst	Int-S	3		
1048ai	47 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
1049ai	47 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
1050ai	47 y M	methamphetamine	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
1051ph	47 y M	methamphetamine	2	2	U	Ingst + Unk	Int-U	3		
		heroin	1	1						
		buprenorphine/naloxone (sublingual film)	2	2						
		methadone	3	3						
		amphetamine	4	4						
1052i	47 y M	marijuana	5	5	U	Unk	Int-A	2		
		heroin	1	1						
1053ai	47 y F	heroin	1	1	U	Unk	Int-A	1		
1054ai	47 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
1055ph	47 y M	fentanyl (non-prescription)	1	1	U	Ingst	Int-S	2		
		methamphetamine	2	2						
1056	47 y M	acetaminophen/hydrocodone	1	1	C	Ingst	Int-U	2	acetaminophen (apap)	12.7 mcg/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1057pha	47 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-A	1	norfentanyl	10 ng/mL In Blood (unspecified) @ Unknown
		fentanyl (non-prescription)	1	1					fentanyl	4.9 ng/mL In Blood (unspecified) @ Unknown
		alprazolam	2	2					alprazolam	30 ng/mL In Blood (unspecified) @ Unknown
1058h	47 y F	acetaminophen	1	1	A	Ingst	Int-U	3	acetaminophen (apap)	54 mg/L In Serum @ 1 h (pe)
1059pa	47 y M	oxycodone	1	1	U	Ingst	Int-S	2		
		sertraline	2	2						
		tamsulosin	3	3						
		gabapentin	4	4					gabapentin	9.3 mcg/mL In Blood (unspecified) @ Autopsy
		alprazolam	5	5					alprazolam	19.7 ng/mL In Blood (unspecified) @ Autopsy
fentanyl (non-prescription)	6	6	fentanyl	5.1 ng/mL In Blood (unspecified) @ Autopsy						
1060ha	47 y M	amphetamine	2	1	A	Ingst	Unk	2	amphetamine	0.057 mg/L In Blood (unspecified) @ 12 h (pe)
		amphetamine	2	1					methamphetamine	0.54 mg/L In Blood (unspecified) @ 12 h (pe)
		fentanyl (non-prescription)	1	1						
		salicylate	3	2						
1061i	47 y M	acetaminophen/oxycodone	1	1	U	Unk	Int-A	2		
1062i	47 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2		
1063i	47 y M	heroin	1	1	U	Par	Int-A	2		
1064p	47 y M	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	600 mcg/mL In Blood (unspecified) @ Unknown
		salicylate	2	2					salicylate	240 mg/dL In Blood (unspecified) @ Unknown
1065h	48 y M	acetaminophen	1	1	C	Ingst + Inhal	Unt-T	3	acetaminophen (apap)	0 mcg/mL In Blood (unspecified) @ Unknown
1066ai	48 y M	viral disease (COVID-19-Confirmed)	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
1067ai	48 y M	methamphetamine	2	2	U	Unk	Int-S	3		
		narcotic, N.O.S.	1	1						
1068i	48 y M	methamphetamine	2	2	U	Unk	Int-A	2		
		fentanyl (prescription)	1	1						
1069ai	48 y M	heroin	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		gabapentin	3	3						
1070ai	48 y M	heroin	1	1	U	Unk	Int-A	1		
methamphetamine	2	2								
1071ha	48 y F	fentanyl (non-prescription)	1	1	U	Ingst + Unk	Int-A	1		
1072ai	48 y M	ethanol (beverage)	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
1073ai	48 y M	trazodone	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
1074ai	48 y F	methamphetamine	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		diphenhydramine	2	2						
1075ai	48 y M	ethanol (beverage)	3	3	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		ethanol (beverage)	2	2						
1076ai	48 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1077ai	48 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		marijuana, N.O.S.	3	3						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1078ai	48 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1079ph	48 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	259mcg/mL In Serum @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	66 mcg/mL In Serum @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	815 mcg/mL In Blood (unspecified) @ Unknown
		diphenhydramine	2	2						
		doxylamine	3	3						
1080h	48 y F	acetaminophen	1	1	U	Ingst	Int-S	2	acetaminophen (apap)	96 mcg/mL In Blood (unspecified) @ Unknown
		mirtazapine	2	2						
		duloxetine (ER)	3	3						
1081h	48 y F	acetaminophen	1	1	C	Ingst	Int-M	2		
1082ai	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1083ha	49 y F	acetaminophen	1	1	A	Ingst	Unk	1		
1084ai	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
1085ai	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		alprazolam	2	2						
		buprenorphine	3	3						
1086ai	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
		marijuana, N.O.S.	3	3						
1087ai	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1088ai	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		amphetamine	2	2						
1089a	49 y F	salicylate	1	1	A	Ingst	Int-S	1	salicylate	171 mg/dL In Serum @ Unknown
1090ai	49 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		marijuana, N.O.S.	3	3						
1091ai	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1092ai	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
1093ai	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
1094ai	49 y M	oxycodone	1	1	U	Unk	Int-A	1		
		duloxetine (ER)	2	2						
1095ai	49 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1096ai	49 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		marijuana (edible)	2	2						
1097i	49 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1098ph	49 y F	morphine	1	1	U	Ingst	Int-S	2		
		hydrocodone	2	2						
1099i	49 y M	heroin	1	1	U	Inhal	Int-A	2		
1100ph	49 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1101pai	49 y M	fentanyl (non-prescription)	1	1	A	Unk	Int-A	1	fentanyl	0.021 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					cocaine	0.046 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					cocaethylene	0.096 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2					benzoylceognine	0.27 mg/L In Blood (unspecified) @ Autopsy

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		fentanyl analogs (despropionyl)	3	3						
		fentanyl analogs (para-fluoro)	4	4						
		ethanol (beverage)	5	5					ethanol	0.33 % In Plasma @ Autopsy
		ethanol (beverage)	5	5					ethanol	0.34 % In Plasma @ Autopsy
		ethanol (beverage)	5	5					ethanol	0.4 % In Vitreous @ Autopsy
		ethanol (beverage)	5	5					ethanol	0.41 % In Urine (quantitative only) @ Autopsy
1102	50 y F				A	Ingst	Int-A	3		
		acetaminophen	1	1						
		ethanol (beverage)	2	2						
1103ai	50 y F				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
1104ai	50 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
		cocaine	3	3						
1105ai	50 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
		marijuana, N.O.S.	3	3						
1106ai	50 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
1107ai	50 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		ethanol (beverage)	2	2						
		marijuana, N.O.S.	3	3						
1108ai	50 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
1109ai	50 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		chlorpheniramine	2	2						
1110i	50 y M				A	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
1111i	50 y F				U	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
		cocaine	2	2						
1112i	50 y M				U	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
1113pa	50 y F				A/C	Ingst	Int-A	1		
		fentanyl (non-prescription)	1	1					fentanyl	6.3 ng/mL In Blood (unspecified) @ Unknown
		cocaine	2	2					cocaine	22 ng/mL In Blood (unspecified) @ Unknown
1114i	50 y M				A	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
1115ha	50 y M				A	Ingst	Int-M	2		
		acetaminophen	1	1					acetaminophen (apap)	78.1 mcg/mL In Serum @ 21 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	93 mcg/mL In Serum @ 24 h (pe)
		ethanol (beverage)	2	2					ethanol	36 mg/dL In Serum @ Unknown
1116ph	50 y M				U	Par	Int-A	2		
		methadone	1	1						
1117i	50 y M				A	Ingst	Int-S	2		
		hydromorphone	1	1						
		labetalol	2	2						
		baclofen	3	3						
		hydralazine	4	4						
1118h	50 y M				U	Ingst	Unk	1		
		acetaminophen	1	1					ethanol	0.14 g/dL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	211 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	79.5 mcg/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2						
1119h	50 y F				U	Ingst	Int-U	3		
		acetaminophen/diphenhydramine	1	1					acetaminophen (apap)	16 mg/L In Serum @ Unknown
1120ai	51 y M				U	Unk	Int-A	1		
		oxycodone	1	1						
		morphine	2	2						
		ethanol (beverage)	3	3						
1121ai	51 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1122ph	51 y F	acetaminophen	1	1	U	Unk	Unk	2	acetaminophen (apap)	25.6 mcg/mL In Serum @ 5 m (pe)
1123ai	51 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		methadone	3	3						
1124i	51 y M	heroin	1	1	U	Par	Int-A	2		
1125	51 y M	acetaminophen	1	1	C	Ingst	Int-A	2		
1126h	51 y F	acetaminophen	1	1	U	Ingst	Unt-T	3	acetaminophen (apap)	66.1 mcg/mL In Serum @ 15 m (pe)
1127h	51 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	277 mcg/mL In Blood (unspecified) @ 6 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	347 mcg/mL In Blood (unspecified) @ Unknown
1128i	51 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		marijuana, N.O.S.	2	2						
1129ai	51 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1130i	51 y F	narcotic, N.O.S.	1	1	U	Par	Int-A	2		
1131p	51 y F	methadone	1	1	A	Ingst	Int-S	2		
1132ai	51 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
1133pha	51 y F	oxycodone	1	1	U	Ingst	Int-S	1	oxycodone (free)	22 ng/mL In Blood (unspecified) @ Unknown
		oxycodone	1	1					oxymorphone (free)	3.5 ng/mL In Blood (unspecified) @ Unknown
		gabapentin	2	2					gabapentin	23 mcg/mL In Blood (unspecified) @ Unknown
1134ai	51 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		cocaine	3	3						
1135ai	51 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1136ph	51 y M	oxycodone	1	1	U	Inhal	Unt-G	2		
1137h	51 y M	acetaminophen	1	1	C	Ingst	Int-M	2	acetaminophen (apap)	33 mcg/mL In Blood (unspecified) @ Unknown
1138ha	51 y M	salicylate (EC)	1	1	A	Ingst	Int-S	1	salicylate	139 mg/dL In Serum @ 9.5 h (pe)
		salicylate (EC)	1	1					salicylate	145 mg/dL In Serum @ 10.5 h (pe)
		salicylate (EC)	1	1					salicylate	780 mcg/mL In Blood (unspecified) @ 10 h (pe)
		salicylate (EC)	1	1					salicylate	97.6 mg/dL In Serum @ 5 h (pe)
		citalopram	2	2					citalopram	140 ng/mL In Blood (unspecified) @ 10 h (pe)
1139h	52 y F	acetaminophen	1	1	U	Ingst	Int-U	2		
		ethanol (beverage)	2	2						
		vaccine (SARS-COV-2)	3	3						
		silymarin	4	4						
1140ai	52 y F	morphine	1	1	U	Unk	Int-A	1		
		oxycodone	2	2						
		alprazolam	3	3						
1141ai	52 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1142ph	52 y F	acetaminophen/hydrocodone	1	1	U	Ingst	Int-S	2		
		tramadol	2	2						
		ethanol (beverage)	3	3						
		meloxicam	4	4						
		gabapentin	5	5						
1143h	52 y F	acetaminophen	1	1	U	Ingst	Int-S	2	acetaminophen (apap)	122 mcg/mL In Serum @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1144i	52 y F	fentanyl (non-prescription)	1	1	A/C	Inhal	Int-A	2		
		heroin	2	2						
1145i	52 y M	heroin	1	1	A/C	Unk	Int-A	2		
1146ai	52 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1147h	52 y F	acetaminophen	1	1	C	Ingst	Unt-M	3	acetaminophen (apap)	74 mcg/mL In Blood (unspecified) @ Unknown
1148ai	52 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
		marijuana, N.O.S.	3	3						
1149i	52 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1150ai	52 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		alprazolam	2	2						
		ethanol (beverage)	3	3						
1151ai	52 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		olanzapine	3	3						
1152ph	52 y M	fentanyl (non-prescription)	1	1	A	Par	Int-A	1		
1153ai	52 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
1154i	52 y M	buprenorphine/naloxone narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1155ai	52 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1156i	52 y F	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
1157h	52 y F	acetaminophen/diphenhydramine	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	144 mcg/mL In Blood (unspecified) @ Unknown
		benzodiazepine, N.O.S.	2	2						
		hydroxyzine	3	3						
		cyclobenzaprine	4	4						
		losartan	5	5						
1158i	52 y F	heroin	1	1	A/C	Inhal	Int-A	2		
1159i	52 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
1160ai	53 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
1161	53 y F	acetaminophen	2	1	A	Ingst + Unk	Int-S	2	acetaminophen (apap)	600 mcg/mL In Blood (unspecified) @ Unknown
		benzodiazepine	1	2						
1162h	53 y M	acetaminophen	1	1	U	Ingst	Unk	1	acetaminophen (apap)	57 mcg/mL In Serum @ Unknown
1163h	53 y F	acetaminophen	1	1	A	Ingst	Unk	2	acetaminophen (apap)	61 mcg/mL In Blood (unspecified) @ Unknown
1164ha	53 y M	substance (non-drug), N.O.S.	2	2	A	Ingst	Int-S	1		
		salicylate	1	1					salicylate	121 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	540 mg/dL In Unknown @ Autopsy
		nitroglycerin	2	2						
1165ai	53 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
1166ai	53 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		fentanyl analogs (para-fluoro)	2	2						
		ethanol (beverage)	3	3						
1167h	53 y F	acetaminophen	1	1	U	Ingst	Unk	1	acetaminophen (apap)	79 mcg/mL In Blood (unspecified) @ Unknown
1168ai	53 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
1169ai	53 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1170pha	53 y F	oxycodone	1	1	A	Ingst	Int-S	2	oxycodone (free)	200 ng/mL In Plasma @ Unknown
		ethanol (beverage)	2	2					ethanol	208 mg/dL In Plasma @ Unknown
		diphenhydramine	3	3						
		lorazepam	4	4						
1171pai	53 y M	acetaminophen	5	5						
		fentanyl (non-prescription)	1	1	A	Unk	Int-A	1	fentanyl	0.08 mg/L In Blood (unspecified) @ Autopsy
		fentanyl analogs (despropionyl)	2	2						
		ethanol (beverage)	3	3					ethanol	0.04 % In Blood (unspecified) @ Autopsy
1172i	53 y F	ethanol (beverage)	3	3					ethanol	0.06 % In Vitreous @ Autopsy
		narcotic, N.O.S.	1	1	A	Ingst	Int-A	2		
1173h	53 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	132 mcg/mL In Serum @ 24 h (pe)
1174h	53 y M	benzodiazepine, N.O.S.	2	2						
		acetaminophen	1	1	U	Ingst	Unk	3	acetaminophen (apap)	51.7 mcg/mL In Blood (unspecified) @ Unknown
1175h	54 y M	acetaminophen	1	1	U	Ingst	Int-S	3	ethanol	18 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	33 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	51 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					salicylate	6 mg/dL In Blood (unspecified) @ Unknown
1176i	54 y M	bismuth subsalicylate	2	2						
1177	54 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
		acetaminophen	1	1	A	Ingst	Unk	3	acetaminophen (apap)	24.9 mcg/mL In Blood (unspecified) @ Unknown
1178h	54 y F	viral disease (COVID-19-Confirmed)	2	2						
		acetaminophen	1	1	C	Ingst	Int-M	2		
1179	54 y F	acetaminophen	1	1	A	Ingst	Int-S	1		
		metformin	2	2						
1180ai	54 y F	acetaminophen	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
1181ai	54 y M	cocaine	3	3						
		fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		morphine	2	2						
1182ai	54 y M	methamphetamine	3	3						
		fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1183i	54 y M	methamphetamine	2	2						
		narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
1184i	54 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1185i	54 y M	narcotic, N.O.S.	1	1	A/C	Par	Int-A	2		
1186pha	54 y F	narcotic, N.O.S.	1	1	U	Ingst	Unk	1		
		fentanyl (non-prescription)	1	1						
		fentanyl analog (acetylfentanyl)	2	2					acetyl fentanyl	0.12 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl analogs (para-fluoro)	3	3						
		diazepam	4	4					temazepam	10 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	4	4					nordiazepam	20 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	4	4					oxazepam	5 ng/mL In Blood (unspecified) @ Autopsy
diazepam	4	4					diazepam	87 ng/mL In Blood (unspecified) @ Autopsy		
acetaminophen	5	5					acetaminophen (apap)	37.9 mcg/mL In Serum @ Unknown		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1187ph	54 y M	trazodone	6	6	A	Ingst	Int-A	2		
		gabapentin	7	7						
1188ai	55 y F	heroin	1	1	U	Unk	Int-A	1		
1189h	55 y M	fentanyl (non-prescription)	1	1	U	Ingst	Int-S	2	acetaminophen (apap)	174mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1						
1190h	55 y F	acetaminophen	1	1	U	Ingst + Unk	Int-S	2	acetaminophen (apap)	20mcg/mL In Blood (unspecified) @ Unknown
1191h	55 y M	ethanol (beverage)	2	2	A/C	Ingst	Int-S	2		
		cocaine	3	3						
1192h	55 y F	morphine	1	1	A/C	Ingst	Int-M	3		
1193	55 y F	acetaminophen	1	1	A	Ingst	Int-S	2	acetaminophen (apap)	22.8mcg/mL In Blood (unspecified) @ Unknown
1194ai	55 y M				U	Unk	Int-A	1		84mcg/mL In Serum @ Unknown
1195h	55 y F	fentanyl (non-prescription)	1	1	C	Ingst	Int-M	3	acetaminophen (apap)	15mcg/mL In Blood (unspecified) @ Unknown
		methamphetamine	2	2						
1196ai	55 y F	acetaminophen	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
1197ai	55 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		gabapentin	3	3						
1198ha	55 y M	narcotic, N.O.S.	1	1	U	Ingst	AR-D	2	acetaminophen (apap)	100mcg/mL In Blood (unspecified) @ Unknown
		methamphetamine	2	2						
1199h	55 y M	acetaminophen	1	1	A/C	Ingst	Unt-M	1	acetaminophen (apap)	135.8mcg/mL In Blood (unspecified) @ 5 d (pe)
		ethanol (beverage)	2	2						
1200h	55 y F	acetaminophen	1	1	A	Ingst	Int-S	3		
		ibuprofen	2	1						
		acetaminophen	1	2						
1201ai	56 y M	salicylate	3	3	U	Unk	Int-A	1	salicylate	6.8mg/dL In Serum @ Unknown
1202ai	56 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1203h	56 y F	fentanyl (non-prescription)	1	1	A/C	Ingst	Int-M	3	acetaminophen (apap)	20mcg/mL In Blood (unspecified) @ 20h (pe)
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
1204i	56 y M	acetaminophen	1	1	U	Unk	Int-A	1		
		heroin	2	2						
1205i	56 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		methadone	3	3						
1206ai	56 y M	acetaminophen	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
1207ai	56 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1208ai	56 y M	hydrocodone	1	1	U	Unk	Int-U	1		
		gabapentin	2	2						
		cyclobenzaprine	3	3						
1209ai	56 y F	acetaminophen	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		cocaine	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1210h	56 y M	drug, N.O.S. narcotic, N.O.S. benzodiazepine amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA) marijuana	5 1 2 3 4	1 1 2 3 4	U	Unk	Unt-U	2		
1211h	56 y M	acetaminophen	1	1	A	Ingst	Unk	1	acetaminophen (apap)	57.7 mcg/mL In Blood (unspecified) @ Unknown
1212i	56 y F	heroin	1	1	U	Inhal	Int-A	2		
1213h	56 y M	acetaminophen	1	1	C	Ingst	AR-D	3	acetaminophen (apap)	14.3 mcg/mL In Blood (unspecified) @ Unknown
1214i	56 y M	ethanol (beverage)	2	2	U	Unk	Int-A	2		
1215i	56 y M	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
1216i	56 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
1217h	56 y M	colchicine metoprolol	1 2	1 2	A/C	Ingst	Int-S	1		
1218h	57 y F	acetaminophen	1	1	C	Ingst	Int-M	2		
1219h	57 y M	acetaminophen	1	1	C	Ingst	Int-U	3	acetaminophen (apap)	147 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	18 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	36 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	48 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	79 mcg/mL In Blood (unspecified) @ Unknown
1220h	57 y F	acetaminophen	1	1	U	Ingst	Unk	3		
1221ai	57 y M	acetaminophen	1	1	U	Unk	Int-A	3		
1222ai	57 y M	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	3		
1223i	57 y M	fentanyl (non-prescription) methamphetamine	1 2	1 2	A	Unk	Int-A	2		
1224ai	57 y F	fentanyl (prescription) cocaine	1 2	1 2	U	Unk	Int-A	1		
1225ai	57 y F	methadone	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription) amitriptyline trazodone	1 2 3	1 2 3						
1226i	57 y M	narcotic, N.O.S.	1	1	U	Inhal	Int-A	2		
1227	57 y M	acetaminophen	1	1	C	Ingst	Int-M	1	acetaminophen (apap)	46 mcg/mL In Serum @ Unknown
1228ai	57 y M	acetaminophen/oxycodone	2	2	U	Unk	Int-A	2		
		fentanyl (non-prescription) methamphetamine	1 2	1 2						
1229ai	57 y F	fentanyl (non-prescription) cocaine	1 2	1 2	U	Unk	Int-A	1		
1230ai	57 y M	fentanyl (non-prescription) methamphetamine	1 2	1 2	U	Unk	Int-A	2		
1231h	57 y F	acetaminophen	1	1	A/C	Ingst	Unt-G	3		
1232	57 y M	acetaminophen	1	1	C	Ingst	Int-M	2	acetaminophen (apap)	132.3 mg/mL In Serum @ Unknown
1233i	57 y F	narcotic, N.O.S.	1	1	A/C	Ingst	Int-A	2		
1234h	57 y F	acetaminophen	1	1	A	Ingst	Int-S	3	acetaminophen (apap)	9 mg/mL In Serum @ Unknown
1235h	57 y F	acetaminophen	1	1	U	Ingst	Int-S	1	acetaminophen (apap)	535.4 mg/L In Serum @ Unknown
1236i	57 y F				U	Unk	Unk	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1237i	57 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1238h	57 y F	heroin	1	1	A	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen (apap)	148 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	278 mcg/mL In Blood (unspecified) @ Unknown
1239h	57 y F	acetaminophen	1	1	U	Ingst	Int-S	2		
		salicylate	3	2					salicylate	16.5 mcg/mL In Blood (unspecified) @ Unknown 0.5 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	3					ethanol	0.08 g/dL In Blood (unspecified) @ Unknown
1240ai	58 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		ethanol (beverage)	3	3						
1241ai	58 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamidophos	2	2						
1242h	58 y M	acetaminophen/hydrocodone	1	1	A/C	Ingst	Int-S	2		
									acetaminophen (apap)	57.2 mcg/mL In Blood (unspecified) @ Unknown
1243ai	58 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methadone	2	2						
		marijuana, N.O.S.	3	3						
1244	58 y F	acetaminophen	1	1	A	Ingst	AR-D	1		
									acetaminophen (apap)	39.5 mcg/mL In Blood (unspecified) @ Unknown
1245i	58 y M	morphine	1	1	A/C	Ingst	Unk	2		
		acetaminophen/oxycodone	2	2						
1246ai	58 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-U	1		
		methamphetamine	2	2						
1247ai	58 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		methadone	3	3						
1248h	58 y M	acetaminophen	1	1	C	Ingst	Int-S	3		
		salicylate	2	2					acetaminophen (apap)	18 mcg/mL In Serum @ Unknown
									salicylate	19 mg/dL In Serum @ Unknown
1249i	58 y M	narcotic, N.O.S.	1	1	A	Par	Int-A	2		
1250h	58 y F	acetaminophen	1	1	C	Ingst	Unt-T	2		
									acetaminophen (apap)	81 mcg/mL In Blood (unspecified) @ Unknown
1251ph	59 y M	ethanol (beverage)	2	2	A	Unk	Int-A	2		
		fentanyl (non-prescription)	1	1						
		cocaine	2	2						
		marijuana	3	3						
		viral disease (COVID-19)	4	4						
1252h	59 y F	salicylate	1	1	U	Ingst	Int-U	2		
									salicylate	44 mg/dL In Blood (unspecified) @ Unknown
1253ai	59 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		heroin	2	2						
		methamphetamine	3	3						
1254ai	59 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1255hai	59 y F	fentanyl (prescription)	1	1	A/C	Ingst	Unk	3		
1256	59 y F	acetaminophen	1	1	U	Ingst	Int-S	2		
									acetaminophen (apap)	110 mcg/mL In Serum @ Unknown
1257i	59 y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2		
1258h	59 y F	acetaminophen	1	1	A	Ingst	Int-U	2		
		ethanol (beverage)	2	2					acetaminophen (apap)	117 mcg/mL In Blood (unspecified) @ Unknown
									ethanol	0.012 g/dL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1259ph	59 y F	acetaminophen/drugs, N.O.S.	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	274.9 mcg/mL In Serum @ Unknown
1260ai	59 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	3		
1261i	59 y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1262h	59 y M	acetaminophen	1	1	A/C	Ingst	Int-M	1	acetaminophen (apap)	27 mg/L In Serum @ Unknown
1263ha	59 y F	acetaminophen/oxycodone	1	1	A/C	Ingst	Int-S	3	acetaminophen (apap)	7.8 mg/L In Blood (unspecified) @ Unknown
1264h	59 y F	acetaminophen	1	1	A/C	Ingst	Int-M	3	acetaminophen (apap)	124 mcg/mL In Serum @ Unknown
1265i	59 y M	acetaminophen/hydrocodone	1	1	U	Ingst	Unk	2		
1266h	59 y F	acetaminophen	1	1	C	Ingst	Int-M	1		
1267ph	59 y F	acetaminophen/hydrocodone	1	1	A	Ingst + Unk	Int-S	3		
		alprazolam	2	2						
		trazodone	3	3						
		gabapentin	4	4						
		viral disease (COVID-19-Confirmed)	5	5						
1268i	59 y M	narcotic, N.O.S.	1	1	A/C	Inhal	Int-A	2		
		cocaine	2	2						
1269i	59 y M	narcotic, N.O.S.	1	1	A	Unk	Unk	2		
1270ai	60 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1271ai	60 y F	heroin	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1272ai	60 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1273h	60 y M	acetaminophen	1	1	C	Ingst	Int-M	2	acetaminophen (apap)	53 mcg/mL In Blood (unspecified) @ Unknown
1274ai	60 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		quetiapine	2	2						
		gabapentin	3	3						
1275ai	60 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		hydrocodone	2	2						
		alprazolam	3	3						
1276ai	60 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		cocaine	3	3						
1277ai	60 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		marijuana, N.O.S.	2	2						
1278ai	60 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1279ai	60 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1280h	60 y F	acetaminophen	1	1	A	Ingst + Unk	Unk	2	acetaminophen (apap)	136 mcg/mL In Serum @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	40 mcg/mL In Serum @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	60 mcg/mL In Serum @ Unknown
1281pha	60 y M	methadone	1	1	U	Ingst	Int-S	1	methadone	0.753 mg/L In Blood (unspecified) @ Autopsy
		clonazepam	2	2					7-aminoclonazepam	0.01 mg/L In Blood (unspecified) @ Autopsy
1282ph	60 y M	acetaminophen/oxycodone	1	1	A/C	Ingst	Int-S	3	acetaminophen (apap)	24 mcg/mL In Serum @ 5 m (pe)
1283h	60 y M	clonidine	2	2	U	Ingst	Unk	3	salicylate	47 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1						
1284i	60 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1285ph	60 y M	acetaminophen	1	1	C	Ingst	Int-M	1	acetaminophen (apap)	28.3 mcg/mL In Serum @ Unknown
		ethanol (beverage)	2	1						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1286ai	61 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1287ai	61 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1288ai	61 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1289i	61 y M	methamphetamine	2	2	U	Unk	Int-A	2		
1290i	61 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1291ai	61 y M	narcotic, N.O.S.	1	1	U	Unk	Unk	2		
1292ai	61 y F	oxycodone	1	1						
		duloxetine (ER)	2	2						
		methylphenidate	3	3						
1293h	61 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		benzodiazepine	2	2						
		ethanol (beverage)	3	3						
		acetaminophen/caffeine/ acetylsalicylate	1	1	A/C	Ingst	Int-S	2	acetaminophen (apap)	136 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/caffeine/ acetylsalicylate	1	1					salicylate	38.8 mg/dL In Blood (unspecified) @ Unknown
		clonazepam	2	2						
		trazodone	3	3						
		cyclobenzaprine	4	4						
		ethanol (beverage)	5	5						
1294ai	61 y F	methadone	1	1	U	Unk	Int-S	1		
		marijuana, N.O.S.	2	2						
1295pha	61 y F	fentanyl (prescription)	1	1	A	Unk	Int-A	2	fentanyl	15 ng/mL In Whole Blood @ Autopsy
		cyclobenzaprine	2	2					cyclobenzaprine	230 ng/mL In Whole Blood @ Autopsy
		diphenhydramine	3	3					diphenhydramine	400 ng/mL In Whole Blood @ Autopsy
		ethanol (beverage)	4	4					ethanol	78 mg/dL In Whole Blood @ Autopsy
1296ai	61 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	2		
		ethanol (beverage)	2	2						
1297ai	61 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		ethanol (beverage)	3	3						
1298h	61 y M	acetaminophen	1	1	C	Ingst	Unt-M	3		
1299h	61 y M	heroin	1	1	C	Par	Int-A	2		
		botulism	2	2						
1300h	61 y M	acetaminophen	1	1					acetaminophen (apap)	18.8 mcg/mL In Serum @ 32 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	20.2 mcg/mL In Serum @ 26 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	23.4 mcg/mL In Serum @ 22 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	27.5 mcg/mL In Serum @ 17 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	33.5 mcg/mL In Serum @ 10 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	40 mcg/mL In Serum @ 5 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	52.7 mcg/mL In Serum @ 0 h (pe)
1301ai	62 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		heroin	2	2						
		methamphetamine	3	3						
1302ai	62 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1303i	62 y M	fentanyl (prescription)	1	1	U	Unk	Int-A	2		
1304h	62 y F	acetaminophen/hydrocodone	1	1	U	Ingst	Int-U	3	acetaminophen (apap)	39.5 mcg/mL In Blood (unspecified) @ Unknown
1305ph	62 y F	fentanyl (prescription)	1	1	U	Ingst + Unk	Int-S	2		
		alprazolam	2	2						
		diltiazem (ER)	3	2						
		metoprolol (ER)	4	3						
1306	62 y M	ibuprofen	1	1	A	Ingst	Int-S	2		
		drug, N.O.S.	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1307i	62 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1308h	62 y F	morphine	1	1	A/C	Ingst	Int-S	1		
		hydromorphone	2	2						
		lorazepam	3	3						
1309ai	62 y M	fenanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
1310ai	62 y M	fenanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		fenanyl analog (acetylfentanyl)	2	2						
		heroin	3	3						
1311i	62 y M	narcotic, N.O.S.	1	1	A/C	Unk	Int-A	2		
1312ai	62 y M	fenanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		marijuana, N.O.S.	3	3						
1313i	62 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1314ph	62 y F	salicylate	1	1	A/C	Ingst	Int-S	2	salicylate	55 mg/dL In Blood (unspecified) @ Unknown
		risperidone	2	2						
		hydroxyzine	3	3						
		gabapentin	4	4						
		duloxetine (ER)	5	5						
		oxycodone	6	6						
1315ha	62 y F	acetaminophen/oxycodone	1	1	A	Ingst	Int-S	1	oxymorphone (free)	0.05 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/oxycodone	1	1					oxycodone (free)	1.3 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/oxycodone	1	1					acetaminophen (apap)	242 mg/L In Blood (unspecified) @ Unknown
		acetaminophen/oxycodone	1	1					acetaminophen (apap)	629 mg/L In Blood (unspecified) @ Unknown
		benzodiazepine, N.O.S.	2	2					nordiazepam	2.4 mg/L In Blood (unspecified) @ Unknown
		benzodiazepine, N.O.S.	2	2					diazepam	2.6 mg/L In Blood (unspecified) @ Unknown
1316ai	62 y M	fenanyl (non-prescription)	1	1	U	Unk	Int-A	2		
		methamphetamine	2	2						
1317ai	62 y M	oxycodone	1	1	U	Unk	Int-S	1		
1318i	62 y M	fenanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		oxycodone	2	2						
		alprazolam	3	3						
1319h	62 y F	acetaminophen	1	1	C	Ingst	Int-M	1		
1320	62 y M	methadone	1	1	C	Ingst	Unk	2		
		quetiapine	2	2						
1321h	62 y F	acetaminophen	1	1	C	Ingst	Unt-T	3	acetaminophen (apap)	27.8 mcg/mL In Blood (unspecified) @ 2 d (pe)
		acetaminophen	1	1					acetaminophen (apap)	43.5 mcg/mL In Blood (unspecified) @ Unknown
1322ph	62 y F	oxycodone	1	1	A/C	Ingst	Int-S	2		
		methadone	2	2						
		sodium carboxymethyl cellulose	3	3						
		citric acid, isopropanol	4	4						
1323a	63 y M	acetaminophen	1	1	A	Ingst	Int-S	2	acetaminophen (apap)	334.2 mcg/mL In Blood (unspecified) @ Unknown
		ibuprofen	2	2						
1324ai	63 y M	fenanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
		ethanol (beverage)	3	3						
1325ph	63 y F	oxycodone	1	1	A	Ingst	Int-S	2		
		amlodipine	2	2						
		imipramine	3	3						
		lamotrigine	4	4						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time																																																																																																																																																																																																																																																																		
1326i	63 y M	alprazolam	5	5	U	Ingst	AR-D	2																																																																																																																																																																																																																																																																				
		valacyclovir	6	6							1327h	63 y F	narcotic, N.O.S.	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	127 mcg/mL In Blood (unspecified) @ Unknown	acetaminophen	1	1	1328ai	63 y M				U	Unk	Int-A	1			1329ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	1330ai	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	1331ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	1332i	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			morphine	2	2	methamphetamine	3	3	1333ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	marijuana, N.O.S.	3	3	1334ai	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			dextromethorphan	2	2	marijuana, N.O.S.	3	3	1335	63 y M	acetaminophen	1	1	A	Ingst	Unt-G	2	acetaminophen (apap)	57 mcg/mL In Serum @ Unknown	1336h	63 y F	acetaminophen	1	1	A/C	Ingst	Int-S	2			1337h	63 y M	benzodiazepine, N.O.S.	2	2	U	Ingst	Int-U	2	acetaminophen (apap)	25 mcg/mL In Serum @ Unknown	acetaminophen	1	1	1338ai	63 y M				U	Unk	Int-A	1			1339h	63 y M	fentanyl (non-prescription)	1	1	U	Ingst	Int-M	2	acetaminophen (apap)	243 mcg/mL In Blood (unspecified) @ Unknown	methamphetamine	2	2	1340i	63 y M	acetaminophen	1	1	A/C	Unk	Int-A	2	acetaminophen (apap)	283 mcg/mL In Blood (unspecified) @ Unknown	ethanol (beverage)	2	2	acetaminophen	1	1	1341h	63 y F	acetaminophen	1	1	U	Ingst	Unk	2	acetaminophen (apap)	238 mcg/mL In Serum @ Unknown	isopropanol	2	2	1342pha	63 y F				U	Inhal + Unk	AR-O	1			1343h	64 y F	fentanyl (non-prescription)	1	1	U	Ingst	Int-U	1	acetaminophen (apap)	216 mcg/mL In Plasma @ Unknown	fentanyl (non-prescription)	2	2	cocaine	3	3	venlafaxine	4	4	1344h	64 y M	acetaminophen	1	1	A	Ingst	Int-U	1	salicylate	15.2 mg/dL In Blood (unspecified) @ Unknown	cyclobenzaprine	2	2			salicylate
1327h	63 y F	narcotic, N.O.S.	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	127 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																		
		acetaminophen	1	1							1328ai	63 y M				U	Unk	Int-A	1			1329ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	1330ai	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	1331ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	1332i	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			morphine	2	2			methamphetamine	3	3							1333ai	63 y M	fentanyl (non-prescription)	1	1	U			Unk	Int-A	1									ethanol (beverage)	2	2	marijuana, N.O.S.			3	3	1334ai							63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			dextromethorphan	2	2	marijuana, N.O.S.	3	3	1335	63 y M	acetaminophen	1	1	A	Ingst	Unt-G	2	acetaminophen (apap)	57 mcg/mL In Serum @ Unknown	1336h	63 y F	acetaminophen	1	1	A/C	Ingst	Int-S	2			1337h	63 y M	benzodiazepine, N.O.S.	2	2	U	Ingst	Int-U	2	acetaminophen (apap)	25 mcg/mL In Serum @ Unknown	acetaminophen	1	1	1338ai	63 y M				U	Unk	Int-A	1			1339h	63 y M	fentanyl (non-prescription)	1			1	U	Ingst							Int-M	2	acetaminophen (apap)	243 mcg/mL In Blood (unspecified) @ Unknown	methamphetamine	2	2	1340i	63 y M	acetaminophen	1	1	A/C	Unk	Int-A	2	acetaminophen (apap)	283 mcg/mL In Blood (unspecified) @ Unknown	ethanol (beverage)	2	2	acetaminophen	1	1	1341h	63 y F	acetaminophen	1	1	U	Ingst			Unk	2	acetaminophen (apap)							238 mcg/mL In Serum @ Unknown	isopropanol	2	2	1342pha	63 y F				U	Inhal + Unk	AR-O	1			1343h	64 y F	fentanyl (non-prescription)	1	1	U	Ingst	Int-U	1	acetaminophen (apap)	216 mcg/mL In Plasma @ Unknown
1328ai	63 y M				U	Unk	Int-A	1																																																																																																																																																																																																																																																																				
1329ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																				
		ethanol (beverage)	2	2							1330ai	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	1331ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	1332i	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			morphine	2	2	methamphetamine	3	3	1333ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2	marijuana, N.O.S.	3	3	1334ai	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			dextromethorphan	2	2	marijuana, N.O.S.	3	3	1335	63 y M	acetaminophen	1	1	A	Ingst	Unt-G	2	acetaminophen (apap)	57 mcg/mL In Serum @ Unknown	1336h	63 y F	acetaminophen	1	1	A/C	Ingst	Int-S	2			1337h	63 y M	benzodiazepine, N.O.S.	2	2	U	Ingst	Int-U	2	acetaminophen (apap)	25 mcg/mL In Serum @ Unknown	acetaminophen	1	1	1338ai	63 y M				U	Unk	Int-A	1			1339h	63 y M	fentanyl (non-prescription)	1	1	U	Ingst	Int-M	2	acetaminophen (apap)	243 mcg/mL In Blood (unspecified) @ Unknown	methamphetamine	2	2	1340i	63 y M	acetaminophen	1	1	A/C	Unk	Int-A	2	acetaminophen (apap)	283 mcg/mL In Blood (unspecified) @ Unknown	ethanol (beverage)	2	2	acetaminophen	1	1	1341h	63 y F	acetaminophen	1	1	U	Ingst	Unk	2	acetaminophen (apap)	238 mcg/mL In Serum @ Unknown	isopropanol	2	2	1342pha	63 y F				U	Inhal + Unk	AR-O	1			1343h	64 y F	fentanyl (non-prescription)	1	1	U	Ingst	Int-U	1	acetaminophen (apap)	216 mcg/mL In Plasma @ Unknown	fentanyl (non-prescription)	2	2	cocaine	3	3	venlafaxine	4	4	1344h	64 y M	acetaminophen	1	1	A	Ingst	Int-U	1	salicylate	15.2 mg/dL In Blood (unspecified) @ Unknown	cyclobenzaprine	2	2			salicylate	1	1																																					
1330ai	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																				
		methamphetamine	2	2							1331ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			methamphetamine	2	2	1332i	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			morphine	2	2			methamphetamine	3	3							1333ai	63 y M	fentanyl (non-prescription)	1	1	U			Unk	Int-A	1									ethanol (beverage)	2	2	marijuana, N.O.S.			3	3	1334ai							63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			dextromethorphan	2	2	marijuana, N.O.S.	3	3	1335	63 y M	acetaminophen	1	1	A	Ingst	Unt-G	2	acetaminophen (apap)	57 mcg/mL In Serum @ Unknown	1336h	63 y F	acetaminophen	1	1	A/C	Ingst	Int-S	2			1337h	63 y M	benzodiazepine, N.O.S.	2	2	U	Ingst	Int-U	2	acetaminophen (apap)	25 mcg/mL In Serum @ Unknown	acetaminophen	1	1	1338ai	63 y M				U	Unk	Int-A	1			1339h	63 y M	fentanyl (non-prescription)	1			1	U	Ingst							Int-M	2	acetaminophen (apap)	243 mcg/mL In Blood (unspecified) @ Unknown	methamphetamine	2	2	1340i	63 y M	acetaminophen	1	1	A/C	Unk	Int-A	2	acetaminophen (apap)	283 mcg/mL In Blood (unspecified) @ Unknown	ethanol (beverage)	2	2	acetaminophen	1	1	1341h	63 y F	acetaminophen	1	1	U	Ingst			Unk	2	acetaminophen (apap)							238 mcg/mL In Serum @ Unknown	isopropanol	2	2	1342pha	63 y F				U	Inhal + Unk	AR-O	1			1343h	64 y F	fentanyl (non-prescription)	1	1	U	Ingst	Int-U	1	acetaminophen (apap)	216 mcg/mL In Plasma @ Unknown	fentanyl (non-prescription)	2	2	cocaine	3	3	venlafaxine	4	4	1344h	64 y M	acetaminophen	1	1	A	Ingst	Int-U	1	salicylate	15.2 mg/dL In Blood (unspecified) @ Unknown	cyclobenzaprine	2	2			salicylate	1	1											
1331ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																				
		methamphetamine	2	2							1332i	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			morphine	2	2			methamphetamine	3	3							1333ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1			ethanol (beverage)	2	2			marijuana, N.O.S.	3	3		1334ai	63 y F				fentanyl (non-prescription)	1	1	U	Unk	Int-A			1			dextromethorphan	2	2	marijuana, N.O.S.	3		3	1335	63 y M	acetaminophen	1	1		A	Ingst	Unt-G							2	acetaminophen (apap)	57 mcg/mL In Serum @ Unknown	1336h	63 y F	acetaminophen	1	1	A/C	Ingst	Int-S	2			1337h	63 y M	benzodiazepine, N.O.S.	2	2	U	Ingst	Int-U	2	acetaminophen (apap)	25 mcg/mL In Serum @ Unknown	acetaminophen	1	1	1338ai	63 y M				U	Unk	Int-A	1			1339h	63 y M	fentanyl (non-prescription)	1	1	U	Ingst	Int-M	2	acetaminophen (apap)	243 mcg/mL In Blood (unspecified) @ Unknown	methamphetamine	2	2	1340i	63 y M	acetaminophen	1	1	A/C	Unk	Int-A	2	acetaminophen (apap)	283 mcg/mL In Blood (unspecified) @ Unknown	ethanol (beverage)	2	2	acetaminophen	1	1	1341h	63 y F	acetaminophen	1	1			U	Ingst	Unk							2	acetaminophen (apap)	238 mcg/mL In Serum @ Unknown	isopropanol	2	2	1342pha	63 y F				U	Inhal + Unk	AR-O	1			1343h	64 y F	fentanyl (non-prescription)	1	1	U	Ingst	Int-U	1	acetaminophen (apap)	216 mcg/mL In Plasma @ Unknown	fentanyl (non-prescription)	2	2	cocaine	3	3	venlafaxine	4	4	1344h	64 y M			acetaminophen	1	1							A	Ingst	Int-U	1	salicylate	15.2 mg/dL In Blood (unspecified) @ Unknown	cyclobenzaprine	2	2			salicylate	1	1																									
1332i	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																				
		morphine	2	2																																																																																																																																																																																																																																																																								
		methamphetamine	3	3																																																																																																																																																																																																																																																																								
1333ai	63 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																				
		ethanol (beverage)	2	2																																																																																																																																																																																																																																																																								
		marijuana, N.O.S.	3	3																																																																																																																																																																																																																																																																								
1334ai	63 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																				
		dextromethorphan	2	2																																																																																																																																																																																																																																																																								
		marijuana, N.O.S.	3	3																																																																																																																																																																																																																																																																								
1335	63 y M	acetaminophen	1	1	A	Ingst	Unt-G	2	acetaminophen (apap)	57 mcg/mL In Serum @ Unknown																																																																																																																																																																																																																																																																		
1336h	63 y F	acetaminophen	1	1	A/C	Ingst	Int-S	2																																																																																																																																																																																																																																																																				
1337h	63 y M	benzodiazepine, N.O.S.	2	2	U	Ingst	Int-U	2	acetaminophen (apap)	25 mcg/mL In Serum @ Unknown																																																																																																																																																																																																																																																																		
		acetaminophen	1	1							1338ai	63 y M				U	Unk	Int-A	1			1339h	63 y M	fentanyl (non-prescription)	1	1	U	Ingst	Int-M	2	acetaminophen (apap)	243 mcg/mL In Blood (unspecified) @ Unknown	methamphetamine	2	2	1340i	63 y M	acetaminophen	1	1	A/C	Unk	Int-A	2	acetaminophen (apap)	283 mcg/mL In Blood (unspecified) @ Unknown	ethanol (beverage)	2	2	acetaminophen	1	1	1341h	63 y F	acetaminophen	1	1	U	Ingst	Unk	2	acetaminophen (apap)	238 mcg/mL In Serum @ Unknown	isopropanol	2	2	1342pha	63 y F				U	Inhal + Unk	AR-O	1			1343h	64 y F	fentanyl (non-prescription)	1	1	U	Ingst	Int-U	1	acetaminophen (apap)	216 mcg/mL In Plasma @ Unknown	fentanyl (non-prescription)	2	2	cocaine	3	3	venlafaxine	4	4	1344h	64 y M	acetaminophen	1	1	A	Ingst	Int-U	1	salicylate	15.2 mg/dL In Blood (unspecified) @ Unknown	cyclobenzaprine	2	2			salicylate	1	1																																																																																																																																																								
1338ai	63 y M				U	Unk	Int-A	1																																																																																																																																																																																																																																																																				
1339h	63 y M	fentanyl (non-prescription)	1	1	U	Ingst	Int-M	2	acetaminophen (apap)	243 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																		
		methamphetamine	2	2																																																																																																																																																																																																																																																																								
1340i	63 y M	acetaminophen	1	1	A/C	Unk	Int-A	2	acetaminophen (apap)	283 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																		
		ethanol (beverage)	2	2																																																																																																																																																																																																																																																																								
		acetaminophen	1	1																																																																																																																																																																																																																																																																								
1341h	63 y F	acetaminophen	1	1	U	Ingst	Unk	2	acetaminophen (apap)	238 mcg/mL In Serum @ Unknown																																																																																																																																																																																																																																																																		
		isopropanol	2	2																																																																																																																																																																																																																																																																								
1342pha	63 y F				U	Inhal + Unk	AR-O	1																																																																																																																																																																																																																																																																				
1343h	64 y F	fentanyl (non-prescription)	1	1	U	Ingst	Int-U	1	acetaminophen (apap)	216 mcg/mL In Plasma @ Unknown																																																																																																																																																																																																																																																																		
		fentanyl (non-prescription)	2	2																																																																																																																																																																																																																																																																								
		cocaine	3	3																																																																																																																																																																																																																																																																								
		venlafaxine	4	4																																																																																																																																																																																																																																																																								
1344h	64 y M	acetaminophen	1	1	A	Ingst	Int-U	1	salicylate	15.2 mg/dL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																		
		cyclobenzaprine	2	2																																																																																																																																																																																																																																																																								
		salicylate	1	1																																																																																																																																																																																																																																																																								

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		salicylate	1	1					salicylate	69.7 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	70 mg/dL In Blood (unspecified) @ Unknown
1345ph	64 y M				U	Unk	Int-S	2		
		hydrocodone	1	1						
1346pha	64 y M				A/C	Ingst	Int-S	3		
		oxycodone (ER)	1	1					oxycodone	0.19 mcg/mL In Blood (unspecified) @ Unknown
		lorazepam	2	2						
		suvorexant	3	3						
1347ai	64 y F				U	Unk	Int-A	1		
		oxycodone	1	1						
		methamphetamine	2	2						
1348ai	64 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methylphenidate	2	2						
		ethanol (beverage)	3	3						
1349ai	64 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
1350ai	64 y F				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
		trazodone	3	3						
1351ai	64 y F				U	Unk	Int-A	2		
		fentanyl (non-prescription)	1	1						
		marijuana, N.O.S.	2	2						
1352i	64 y F				A	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
1353	64 y F				U	Ingst	Int-S	3		
		acetaminophen	1	1					acetaminophen (apap)	18 mcg/mL In Blood (unspecified) @ Unknown
1354h	64 y F				A/C	Ingst	AR-D	1		
		acetaminophen	1	1					acetaminophen (apap)	34.6 mcg/mL In Serum @ Unknown
1355h	64 y M				C	Ingst	Unt-T	2		
		acetaminophen	1	1					acetaminophen (apap)	14 mcg/mL In Blood (unspecified) @ Unknown
1356ai	65 y F				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
1357h	65 y F				U	Ingst+Unk	Unk	3		
		acetaminophen	1	1						
		salicylate	2	2					salicylate	10.9 mg/dL In Blood (unspecified) @ Unknown
1358ai	65 y M				U	Unk	Int-A	1		
		ethanol (beverage)	3	3						
		codeine	1	1						
		hydrocodone	2	2						
		alprazolam	3	3						
1359ai	65 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
1360ai	65 y F				U	Unk	Int-A	1		
		oxycodone	1	1						
		doxylamine	2	2						
1361ai	65 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
1362ha	65 y F				A/C	Ingst	Int-S	1		
		acetaminophen	1	1					acetaminophen (apap)	128.8 mcg/mL In Serum @ 22 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	20.2 mcg/mL In Serum @ 53 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	297 mcg/mL In Serum @ 17 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	350 mcg/mL In Blood (unspecified) @ 11 h (pe)

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		diazepam	2	2					nordiazepam	0.36 mg/L In Blood (unspecified) @ 11 h (pe)
		diazepam	2	2					diazepam	1 mg/L In Blood (unspecified) @ 11 h (pe)
		gabapentin	3	3					gabapentin	3.2 mg/L In Blood (unspecified) @ 11 h (pe)
1363h	65 y F				A	Ingst	Int-U	2		
		acetaminophen	1	1						
		ethanol (beverage)	2	2						
1364ha	65 y F				U	Ingst	Int-S	1		
		acetaminophen/hydrocodone	1	1					hydromorphone	2.9 ng/mL In Blood (unspecified) @ Unknown
		acetaminophen/hydrocodone	1	1					hydrocodone (free)	270 ng/mL In Blood (unspecified) @ Unknown
		acetaminophen/hydrocodone	1	1					acetaminophen (apap)	52 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/hydrocodone	1	1					dihydrocodeine/hydrocodol (free)	65 ng/mL In Blood (unspecified) @ Unknown
1365h	65 y F				C	Ingst	Int-M	3		
		acetaminophen	1	1					acetaminophen (apap)	225 mcg/mL In Blood (unspecified) @ Unknown
1366i	65 y M				A	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
1367ha	65 y M				A	Ingst	Unk	1		
		methadone	1	1						
		acetaminophen	2	2					acetaminophen (apap)	405.3 mcg/mL In Blood (unspecified) @ Unknown
1368h	65 y M				A	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen (apap)	21 mcg/mL In Blood (unspecified) @ 2 d (pe)
1369pha	66 y F				A	Ingst	Int-S	3		
		methadone	1	1					methadone	0.4 mg/L In Serum @ Unknown
		methamphetamine	2	2						
1370i	66 y M				A	Par	Int-A	2		
		narcotic, N.O.S.	1	1						
1371h	66 y M				C	Ingst	Unt-T	3		
		acetaminophen	1	1					acetaminophen (apap)	35 mcg/mL In Blood (unspecified) @ Unknown
1372h	66 y F				A	Ingst	Int-S	1		
		acetaminophen	1	1					ethanol	0.016 g/dL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	189 mcg/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2						
1373i	66 y F				U	Ingst+Unk	Int-U	2		
		narcotic, N.O.S.	1	1						
		lorazepam	2	2						
1374	66 y F				C	Ingst	Unt-M	2		
		acetaminophen	1	1					acetaminophen (apap)	17 mcg/mL In Blood (unspecified) @ Unknown
1375h	66 y F				C	Ingst	Int-S	2		
		acetaminophen	1	1					acetaminophen (apap)	5 mcg/mL In Serum @ Unknown
		salicylate	2	2					salicylate	12 mg/dL In Serum @ Unknown
1376i	66 y M				A/C	Ingst	Int-S	2		
		oxycodone	1	1						
		tramadol	2	2						
1377	66 y F				U	Ingst	Int-U	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1378h	66 y M	acetaminophen	1	1					acetaminophen (apap)	72 mg/mL In Serum @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	12 mcg/mL In Serum @ Unknown
1379i	66 y M	ethanol (non-beverage)	2	2						
		heroin	1	1	A/C	Par	Int-A	2		
1380h	66 y M	acetaminophen	1	1	A	Ingst	Int-S	2		
1381i	66 y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1382h	66 y M	acetaminophen	1	1	A	Ingst + Inhal	Int-M	2	acetaminophen (apap)	105 mcg/mL In Blood (unspecified) @ 2 d (pe)
		acetaminophen	1	1					acetaminophen (apap)	187 mcg/mL In Blood (unspecified) @ Unknown
		plant, N.O.S.	2	2						
		viral disease (COVID-19-Confirmed)	3	3						
1383ai	67 y M				U	Unk	Int-A	3		
		opiod/salicylate	1	1						
1384i	67 y M				U	Unk	Int-A	2		
		narcotic, N.O.S.	1	1						
1385ai	67 y M				U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		heroin	2	2						
		methamphetamine	3	3						
1386h	67 y M				U	Ingst + Unk	Int-A	3		
		narcotic, N.O.S.	1	1						
		amphetamine	2	2						
		ethanol (beverage)	3	3						
1387	67 y F				C	Ingst	Int-M	2		
		acetaminophen	1	1					acetaminophen (apap)	21.4 mcg/mL In Serum @ Unknown
1388i	67 y M				U	Par	Int-A	2		
		narcotic, N.O.S.	1	1						
1389h	67 y M				A	Ingst	Int-S	2		
		salicylate	1	1					salicylate	58.6 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	65 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	68.8 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	72 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	82 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	91 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	94 mg/dL In Blood (unspecified) @ Unknown
1390	68 y M				U	Ingst	Int-U	2		
		acetaminophen/oxycodone	1	1					acetaminophen (apap)	12 mcg/dL In Serum @ Unknown
1391i	68 y F				A	Ingst	Int-A	2		
		oxycodone (ER)	1	1						
1392h	68 y F				U	Ingst	Unk	2		
		acetaminophen	1	1					acetaminophen (apap)	7.4 mcg/mL In Blood (unspecified) @ Unknown
1393a	68 y F				U	Ingst	Int-S	2		
		acetaminophen/hydrocodone	1	1					acetaminophen (apap)	120.8 mcg/mL In Blood (unspecified) @ Unknown
		metoprolol	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1394h	68 y F	acetaminophen	1	1	C	Ingst	AR-D	3		
		amiodarone	2	2						
1395ai	68 y M	morphine	1	1	U	Unk	Unk	1		
		oxymorphone	2	2						
		oxycodone	3	3						
1396h	68 y M	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	281.7 mcg/mL In Blood (unspecified) @ Unknown
1397i	68 y M	fentanyl (non-prescription)	1	1	A/C	Inhal	Int-A	2		
1398h	68 y M	acetaminophen	1	1	C	Ingst	Int-U	2	acetaminophen (apap)	34 mcg/mL In Blood (unspecified) @ Unknown
		salicylate	2	2					salicylate	7.7 mcg/mL In Blood (unspecified) @ Unknown
1399h	68 y F	salicylate (EC)	1	1	A	Ingst	Int-S	2	salicylate	68.1 mg/dL In Blood (unspecified) @ Unknown
1400ph	68 y F	acetaminophen	1	1	U	Ingst	Int-M	2	acetaminophen (apap)	236.3 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/hydrocodone	2	2						
		vitamin B	3	3						
		magnesium	4	4						
		Curcuma domestica	5	5						
		glucosamine	6	6						
		cholecalciferol	7	7						
		hyaluronic acid	8	8						
		bifidobacterium	9	9						
		black elderberry	10	10						
1401h	69 y F	acetaminophen	1	1	A	Ingst	Int-S	3	acetaminophen (apap)	111 mcg/mL In Blood (unspecified) @ Unknown
1402h	69 y F	acetaminophen	1	1	C	Ingst	AR-D	3	acetaminophen (apap)	31 mcg/mL In Blood (unspecified) @ Unknown
1403ha	69 y M	acetaminophen/hydrocodone	1	1	U	Ingst + Unk	Int-S	3	hydromorphone	1.2 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/hydrocodone	1	1					hydrocodone	200 ng/mL In Blood (unspecified) @ Autopsy
		ethanol (beverage)	3	2					ethanol	70 mg/dL In Blood (unspecified) @ Unknown
		oxycodone	2	2					oxycodone	29 ng/mL In Blood (unspecified) @ Autopsy
1404i	69 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		paliperidone	3	3						
1405	69 y M	methadone	1	1	A/C	Ingst	Int-A	2		
1406h	69 y M	acetaminophen	1	1	C	Ingst	Int-M	1	acetaminophen (apap)	94 mcg/mL In Blood (unspecified) @ Unknown
1407ai	69 y F	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1408h	69 y F	morphine	1	1	A	Ingst	Int-S	2		
		ethanol (beverage)	2	2					ethanol	155 mg/dL In Blood (unspecified) @ 1 h (pe)

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Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures— Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1409h	69 y F	acetaminophen	1	1	A	Ingst	Int-S	2	acetaminophen (apap)	568 mcg/mL In Serum @ Unknown
		ibuprofen	2	2						
		salicylate	3	3					salicylate	36 mg/dL In Serum @ Unknown
1410i	69 y F	narcotic, N.O.S.	1	1	A	Inhal	Int-A	2		
		ethanol (beverage)	2	2						
1411i	69 y M	narcotic, N.O.S.	1	1	A/C	Inhal	Int-A	2		
1412h	69 y F	acetaminophen	1	1	A/C	Ingst	Int-U	3		
1413	70 y F	acetaminophen	1	1	C	Ingst + Unk	Unt-M	3	acetaminophen (apap)	87 mcg/mL In Serum @ Unknown
		viral disease (COVID-19-Confirmed)	2	2						
1414ai	70 y M	oxycodone	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
1415ai	70 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
1416h	70 y M	acetaminophen	1	1	A	Ingst	Int-S	2	acetaminophen (apap)	104 mcg/mL In Blood (unspecified) @ Unknown
1417ai	70 y M	fentanyl (non-prescription)	1	1	U	Unk	Int-A	1		
		methamphetamine	2	2						
		alprazolam	3	3						
1418p	70 y M	morphine	1	1	A	Ingst	Int-S	2		
1419i	70 y F	oxycodone (ER)	1	1	A	Ingst	Unk	2		
		oxycodone	2	2						
1420h	70 y M	acetaminophen	1	1	U	Ingst	Unk	2	acetaminophen (apap)	56 mcg/mL In Serum @ Unknown
1421h	70 y F	acetaminophen	1	1	A	Ingst	Int-M	2	acetaminophen (apap)	42 mcg/mL In Blood (unspecified) @ Unknown
		albuterol	2	2						
		ziprasidone	3	3						
		trazodone	4	4						
		clonazepam	5	5						
1422h	70 y M	acetaminophen	1	1	C	Ingst + Oth	Int-M	2	acetaminophen (apap)	50 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/hydrocodone	2	2						
		ethanol (beverage)	3	3						
1423h	70 y F	acetaminophen/hydrocodone	1	1	U	Ingst	Unk	2	acetaminophen (apap)	288 mcg/mL In Blood (unspecified) @ Unknown
1424	71 y F	acetaminophen	1	1	U	Ingst	Unk	2	acetaminophen (apap)	176 mcg/mL In Blood (unspecified) @ Unknown
1425ha	71 y M	acetaminophen	1	1	A/C	Ingst	Int-S	1	acetaminophen (apap)	94 mg/dL In Plasma @ Unknown
		pregabalin	2	2						
		beta blocker, N.O.S.	3	3						
		clopidogrel	4	4						
1426	71 y M	acetaminophen	1	1	A	Ingst	Int-U	2	acetaminophen (apap)	230 mcg/mL In Blood (unspecified) @ Unknown
1427h	71 y F	acetaminophen	1	1	U	Ingst	Unk	3		
		diphenhydramine	2	2					acetaminophen (apap)	194 mg/L In Serum @ Unknown
		drug, N.O.S.	3	2					acetaminophen (apap)	41 mg/L In Serum @ 48 h (pe)
		drug, N.O.S.	3	2					acetaminophen (apap)	91.3 mg/L In Serum @ 24 h (pe)
1428	71 y M	acetaminophen/oxycodone	1	1	U	Ingst	Int-S	3		
1429	72 y F	acetaminophen	1	1	U	Ingst	Unk	2	acetaminophen (apap)	66 mcg/mL In Blood (unspecified) @ Unknown
1430ai	72 y M	salicylate	2	2	U	Unk	Int-A	1		
		fentanyl (non-prescription)	1	1						
		methamphetamine	2	2						
1431h	72 y F				U	Ingst	Int-S	3		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1432ha	72 y F	methadone	2	1	C	Ingst	Int-M	1	acetaminophen (apap)	169mcg/mL In Serum @ Unknown
		duloxetine (ER)	3	2						
		acetaminophen	1	3						
		acetaminophen	1	1						
		acetaminophen	1	1						
1433h	72 y M	acetaminophen	1	1	U	Ingst	Unt-T	1	acetaminophen (apap)	76.3mcg/mL In Blood (unspecified) @ 4 h (pe)
		acetaminophen/hydrocodone	2	2						55mcg/mL In Blood (unspecified) @ Unknown
1434h	73 y M	oxycodone	1	1	A	Ingst + Inhal	Int-S	2		
1435	73 y F	carbon monoxide	2	2	A/C	Ingst	Unt-T	3		
1436ph	73 y F	colchicine	1	1	A/C	Unk	Int-S	2	acetaminophen (apap)	30.8mcg/mL In Serum @ Unknown
		methadone	1	1						
1437i	73 y M	acetaminophen/hydrocodone	2	2						
		lorazepam	3	3						
		ropinirole	4	4	U	Unk	Int-A	2		
1438ph	73 y M	narcotic, N.O.S.	1	1	A/C	Ingst	Int-S	1		
		morphine	1	1					hydrocodone (free)	170 ng/mL In Blood (unspecified) @ Unknown
		morphine	1	1					dihydrocodeine/hydrocodol (free)	28 ng/mL In Blood (unspecified) @ Unknown
		morphine	1	1					morphine (free)	310 ng/mL In Blood (unspecified) @ Unknown
		morphine	1	1					hydromorphone (free)	5.4 ng/mL In Blood (unspecified) @ Unknown
		morphine	1	1					lorazepam	95 ng/mL In Blood (unspecified) @ Unknown
1439h	73 y M	sedative-hypnotic-antianxiety-antipsychotic drug, N.O.S.	2	2						
		furosemide	3	3						
		potassium	4	4						
		hyoscyamine	5	5						
		lorazepam	6	6	A	Ingst	Int-S	2		
		acetaminophen/hydrocodone	1	1						
1440	74 y F	acetaminophen/hydrocodone	1	1	A	Ingst	Unt-G	3	acetaminophen (apap)	25 mcg/mL In Serum @ Unknown
		ethanol (beverage)	2	2					ethanol	26 mg/dL In Serum @ Unknown
1441ph	74 y F	acetaminophen	1	1	U	Ingst	Int-S	2	acetaminophen (apap)	99.7mcg/mL In Blood (unspecified) @ Unknown
1442h	74 y F	acetaminophen	1	1	A/C	Ingst	Int-S	1		
1443h	74 y F	acetaminophen	1	1	A/C	Ingst	Unk	2	acetaminophen (apap)	28.8mcg/mL In Serum @ Unknown
		acetaminophen	1	1						
1444ph	74 y F	acetaminophen/diphenhydramine	1	1	A	Ingst	Int-S	2	acetaminophen (apap)	32mcg/mL In Serum @ Unknown
		acetaminophen	1	1	U	Ingst	Int-S	2	acetaminophen (apap)	27.7mcg/mL In Blood (unspecified) @ 3 d (pe)
1445h	75 y F	acetaminophen	1	1					acetaminophen (apap)	45.3mcg/mL In Blood (unspecified) @ 3 d (pe)
		acetaminophen	1	1						
		tramadol	2	2						
		trazodone	3	3						
1446h	75 y F	gabapentin	4	4	A/C	Ingst	Int-S	2		
		oxycodone	1	1						
1447	75 y M	trazodone	2	2	A	Ingst	Int-S	1	acetaminophen (apap)	246mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1						
1448ai	75 y F	acetaminophen	1	1	U	Unk	Int-S	1		
		oxycodone	1	1						
		trazodone	2	2						
		venlafaxine	3	3						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1449ph	75 y F	acetaminophen	1	1	A	Ingst	Int-S	3	acetaminophen (apap)	12mcg/mL In Blood (unspecified) @ 3 d (pe)
		acetaminophen	1	1					acetaminophen (apap)	16mcg/mL In Blood (unspecified) @ 2 d (pe)
		acetaminophen	1	1					acetaminophen (apap)	160mcg/mL In Blood (unspecified) @ 1 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	30mcg/mL In Blood (unspecified) @ 36 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	69mcg/mL In Blood (unspecified) @ 1 d (pe)
1450ai	75 y M	narcoctic, N.O.S. carbidopa/levodopa	2	2	U	Unk	Int-A	1		
			3	3						
1451h	75 y M	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	1		
		lorazepam	2	2						
1452h	75 y M	acetaminophen	1	1	C	Ingst	Unt-T	2	acetaminophen (apap)	179mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	21mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	421mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	50mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	640mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	1					acetaminophen (apap)	773mcg/mL In Blood (unspecified) @ Unknown
1453h	76 y M	acetaminophen	1	1	A/C	Ingst	Int-M	3	acetaminophen (apap)	48.8mcg/mL In Serum @ 4 h (pe)
1454h	76 y M	hydromorphone	1	1	A/C	Ingst	Unt-T	3		
		salicylate	1	1					salicylate	21.8mg/dL In Blood (unspecified) @ 14 h (pe)
		salicylate	1	1					salicylate	23.1mg/dL In Blood (unspecified) @ 10 h (pe)
		salicylate	1	1					salicylate	39.6mg/dL In Blood (unspecified) @ 5 h (pe)
		salicylate	1	1					salicylate	40.2mg/dL In Blood (unspecified) @ 6 h (pe)
1455ai	77 y F	salicylate	1	1					salicylate	52.5mg/dL In Blood (unspecified) @ 0 h (pe)
		hydrocodone	1	1	U	Unk	Int-S	1		
		lorazepam	2	2						
clonazepam	3	3								
1456	78 y M	acetaminophen	1	1	C	Ingst	Int-M	2		
1457h	78 y F	acetaminophen	1	1	U	Ingst	Int-S	2	acetaminophen (apap)	178mcg/mL In Blood (unspecified) @ 38 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	184mcg/mL In Blood (unspecified) @ 51 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	291mcg/mL In Blood (unspecified) @ 44 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	544mcg/mL In Blood (unspecified) @ 16 h (pe)
		acetaminophen	1	1					acetaminophen (apap)	601mcg/mL In Blood (unspecified) @ 1 h (pe)
1458	78 y M	acetaminophen	1	1	A	Ingst	Int-S	2	acetaminophen (apap)	218mcg/mL In Serum @ Unknown
1459h	78 y F	ethanol (beverage)	2	2	A	Ingst	Int-S	2		
		acetaminophen	1	1						
1460ph	78 y F	diphenhydramine	2	2	A/C	Ingst	Int-S	3		
		tapentadol	1	1						
1461h	78 y F	acetaminophen/diphenhydramine	1	1	A	Ingst	Unk	1	acetaminophen (apap)	252mcg/mL In Blood (unspecified) @ Unknown
1462i	79 y F	oxycodone (ER)	1	1	U	Ingst	Unk	2		
1463h	79 y M	acetaminophen	1	1	A	Ingst	Unt-T	1	acetaminophen (apap)	315mcg/mL In Blood (unspecified) @ Unknown
1464h	79 y F	salicylate	1	1	A	Ingst	Unk	2	salicylate	31mg/dL In Serum @ 20.5 h (pe)
		salicylate	1	1					salicylate	36mg/dL In Serum @ 15 h (pe)

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		salicylate	1	1					salicylate	37 mg/dL In Serum @ 0h (pe)
		salicylate	1	1					salicylate	38 mg/dL In Serum @ 11.5h (pe)
		salicylate	1	1					salicylate	43 mg/dL In Serum @ 8.5h (pe)
		salicylate	1	1					salicylate	45 mg/dL In Serum @ 2.5h (pe)
1465h	79 y F	acetaminophen	1	1	C	Ingst	Int-M	3		
1466ha	80 y F	acetaminophen	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	684 mcg/mL In Blood (unspecified) @ Unknown
1467ha	80 y M	viral disease (COVID-19-Confirmed)	2	2						
		salicylate	1	1	A	Ingst	Int-S	1	salicylate	78.9 mg/mL In Blood (unspecified) @ Unknown
1468i	80 y F	oxycodone	1	1	U	Ingst	Int-A	2		
1469h	80 y F	acetaminophen	1	1	U	Ingst	Unk	1	acetaminophen (apap)	128 mcg/mL In Serum @ 15 m (pe)
		acetaminophen	1	1					acetaminophen (apap)	38.1 mcg/mL In Serum @ 1 d (pe)
1470	80 y F	acetaminophen	1	1	A	Ingst	Int-S	3	acetaminophen (apap)	9.9 mcg/mL In Serum @ Unknown
1471i	81 y F	drug, N.O.S.	2	2						
		fentanyl (TD)	1	1	A	Unk	Int-U	2		
1472ph	81 y F	acetaminophen/hydrocodone	1	1	A/C	Ingst	Int-M	2	acetaminophen (apap)	28 mcg/mL In Blood (unspecified) @ Unknown
1473a	81 y F	duloxetine (ER)	3	2						
		alprazolam	2	3						
		trazodone	4	4						
		morphine (ER)	1	1	A/C	Ingst	Unk	1	morphine	1.66 mg/L In Blood (unspecified) @ Autopsy
		morphine	2	2						
		oxycodone	3	3					oxycodone	0.67 mg/L In Blood (unspecified) @ Autopsy
1474h	81 y F	lorazepam	4	4						
		acetaminophen/hydrocodone	1	1	U	Ingst	Int-S	3	acetaminophen (apap)	350 mcg/mL In Blood (unspecified) @ Unknown
1475ai	82 y F	acetaminophen	1	1	U	Unk	Int-S	1		
		diphenhydramine	2	2						
		citalopram	3	3						
1476ha	82 y M	acetaminophen	1	1	A	Ingst	Unk	2	acetaminophen (apap)	71 mcg/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	18 mg/dL In Blood (unspecified) @ Unknown
1477ai	82 y M	acetaminophen	1	1	U	Unk	Int-A	1		
1478ha	82 y F	acetaminophen	1	1	U	Ingst	Int-S	1	acetaminophen (apap)	620 mcg/mL In Blood (unspecified) @ Unknown
		citalopram	2	2					citalopram	220 ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	3	3					ethanol	0.15 mg/mL In Blood (unspecified) @ Unknown
1479	82 y F	acetaminophen	1	1	A/C	Ingst+Par	AR-D	3	acetaminophen (apap)	37 mcg/mL In Blood (unspecified) @ Unknown
1480	82 y F	acetaminophen/hydrocodone	5	1	A/C	Ingst	Int-S	1	acetaminophen (apap)	50 mcg/mL In Serum @ 0h (pe)
		clonidine	3	2						
		carvedilol	2	3						
		amlodipine	1	4						
		enalapril	4	5						
		lorazepam	6	6						
		prochlorperazine	7	7						
		diphenhydramine	8	8						
1481ha	83 y M	salicylate	1	1	A	Ingst	Int-S	2	salicylate	8 mg/dL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time			
1482i	83 y M	diphenhydramine	2	2	U	Ingst	Int-U	2					
		ibuprofen	3	3									
		Myristica fragrans	4	4									
		Diospyros kaki	5	5									
1483h	83 y F	hydrocodone	1	1	A/C	Ingst	Int-S	3					
1484	83 y F	morphine	1	1	A/C	Ingst	Unt-M	3					
		lorazepam	2	2									
		gabapentin	3	3									
		ibuprofen	4	4									
1485h	83 y M	acetaminophen	1	1	U	Unk	Int-U	3	acetaminophen (apap)	44 mcg/mL In Blood (unspecified) @ Unknown			
1486	83 y F	narcotic, N.O.S.	1	1	A	Ingst	Unt-G	2					
		benzodiazepine, N.O.S.	2	2									
		acetaminophen	1	1					acetaminophen (apap)	76.4 mcg/mL In Blood (unspecified) @ Unknown			
1487h	83 y F	acetaminophen	1	1	A	Ingst	Int-U	3					
1488ha	84 y M	salicylate	1	1	A	Ingst	Int-S	1					
		salicylate	1	1								salicylate	43.7 mg/dL In Blood (unspecified) @ 3 d (pe)
		salicylate	1	1								salicylate	47.4 mg/dL In Blood (unspecified) @ 12h (pe)
		salicylate	1	1								salicylate	58 mg/dL In Blood (unspecified) @ 2 d (pe)
		salicylate	1	1								salicylate	80.4 mg/dL In Blood (unspecified) @ 1.5 h (pe)
		acetaminophen	2	2								acetaminophen (apap)	138.8 mcg/mL In Blood (unspecified) @ 1.5 h (pe)
		acetaminophen	2	2								acetaminophen (apap)	15.5 mcg/mL In Blood (unspecified) @ 2 d (pe)
		acetaminophen	2	2								acetaminophen (apap)	4.4 mcg/mL In Blood (unspecified) @ 3 d (pe)
		ibuprofen	3	3									
		lisinopril	4	4									
1489	84 y F	acetaminophen	1	1	A	Ingst	Int-S	2					
1490h	84 y F	tramadol	2	2	C	Ingst	Unt-M	2					
		acetaminophen	1	1							acetaminophen (apap)	284 mcg/mL In Blood (unspecified) @ Unknown	
1491	84 y F	colchicine	2	2	U	Ingst	Int-S	3					
		acetaminophen/hydrocodone	1	1							acetaminophen (apap)	247 mcg/mL In Blood (unspecified) @ Unknown	
1492a	85 y M	viral disease (COVID-19-Confirmed)	2	2	A	Ingst	Int-S	1					
1493ph	85 y F	acetaminophen/oxycodone	1	1	A	Ingst	Int-S	2					
		salicylate	1	1							salicylate	105.6 mg/dL In Blood (unspecified) @ Unknown	
1494h	85 y F	acetaminophen	1	1	C	Ingst+Unk	Unk	2	acetaminophen (apap)	70 mcg/mL In Blood (unspecified) @ Unknown			
1495h	86 y F	viral disease (COVID-19-Confirmed)	2	2	C	Ingst	Unk	2					
		acetaminophen	1	1							acetaminophen (apap)	50.8 mcg/mL In Serum @ Unknown	
1496gai	86 y F				U	Unk	Int-S	1					
1497h	87 y F	fentanyl (non-prescription)	1	1	A	Ingst	Int-S	3					
		estazolam	2	2									
		mirtazapine	3	3									
		acetaminophen/hydrocodone	1	1					acetaminophen (apap)	60 mcg/mL In Blood (unspecified) @ 8h (pe)			
1498h	87 y M	acetaminophen	1	1	A	Ingst	Int-S	2					
				acetaminophen (apap)							26.9 mcg/mL In Serum @ Unknown		
		ethylene glycol (antifreeze)	2	2							ethanol	47 mg/dL In Serum @ Unknown	
		ethanol (beverage)	3	3							salicylate	9.4 mg/dL In Serum @ Unknown	
1499h	87 y F	salicylate	4	4	C	Ingst	Unt-G	1					
		acetaminophen	1	1							acetaminophen (apap)	137 mcg/mL In Blood (unspecified) @ Unknown	
1500ha	89 y F				C	Ingst	Unt-U	1					

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		salicylate	1	1					salicylate	67 mg/dL In Blood (unspecified) @ Unknown
		salicylate	1	1					salicylate	90.6 mg/dL In Blood (unspecified) @ Unknown
1501ai	89 y F	salicylate	1	1	U	Unk	Int-A	1		
1502h	89 y F	acetaminophen	1	1	C	Ingst	Unt-T	2		
1503ha	93 y M	morphine	1	1	A	Unk	Unk	1	morphine (free)	58 ng/mL In Blood (unspecified) @ Unknown
1504h	95 y M	acetaminophen/hydrocodone	1	1	A/C	Ingst	Int-S	3	acetaminophen (apap)	4 mcg/mL In Blood (unspecified) @ Unknown
1505h	95 y F	morphine	1	1	A/C	Ingst	Int-S	2		
		tramadol	2	2						
1506h	95 y F	acetaminophen	1	1	A/C	Ingst	Unt-T	3		
		nonsteroidal antiinflammatory drug, N.O.S.	2	2						
1507ai	1 d F	fentanyl (non-prescription)	1	1	U	Unk	Unt-U	1		
1508ph	13 m F	fentanyl (non-prescription)	1	1	A	Ingst	Unt-G	2		
1509p	16 m M	fentanyl (prescription)	1	1	U	Unk	Unt-G	2		
		benzodiazepine	2	2						
[1510pha]	19 m F	fentanyl (non-prescription)	1	1	A	Ingst	Unt-G	1	fentanyl	0.004 mg/L In Plasma @ Unknown
		tramadol	2	2					tramadol	0.027 mg/L In Plasma @ Unknown
		cocaine	3	3					benzoyllecognine	0.01 mg/L In Plasma @ Unknown
1511pai	20 m M	fentanyl (non-prescription)	1	1	A	Unk	Unt-G	1		
1512ha	22 m M	fentanyl (non-prescription)	1	1	U	Ingst+Unk	Unt-G	1	norfentanyl	1.5 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl (non-prescription)	1	1					fentanyl	2.6 ng/mL In Whole Blood @ Autopsy
		methamphetamine	2	2						
1513i	30+ y F	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1514i	40+ y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2		
1515i	40+ y M	fentanyl (prescription)	1	1	U	Inhal	Int-A	2		
1516i	40+ y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1517i	40+ y M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1518i	40+ y M	narcotic, N.O.S.	1	1	A	Par	Int-A	2		
1519i	50+ y M	fentanyl (prescription)	1	1	A/C	Unk	Int-A	2		
1520i	60+ y M	narcotic, N.O.S.	1	1	U	Par	Int-A	2		
1521h	Unknown adult (≥20 yrs) F	salicylate	1	1	A/C	Ingst	AR-D	2		
									salicylate	50.5 mg/dL In Serum @ Unknown
1522i	Unknown adult (≥20 yrs) M	narcotic, N.O.S.	1	1	U	Unk	Int-A	2		
1523i	Unknown adult (≥20 yrs) F	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
1524i	Unknown adult (≥20 yrs) F	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
1525i	Unknown adult (≥20 yrs) F	narcotic, N.O.S.	1	1	A	Unk	Int-A	2		
		cocaine	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1526i	Unknown adult (≥20 yrs) F	narcotic, N.O.S.	1	1	A	Ingst	Int-A	2		
See Also case 15, 33, 39, 42, 53, 64, 73, 75, 82, 91, 161, 194, 212, 241, 276, 302, 321, 1536, 1542, 1547, 1553, 1562, 1564, 1565, 1566, 1582, 1586, 1587, 1595, 1598, 1602, 1603, 1606, 1607, 1616, 1628, 1637, 1638, 1641, 1643, 1645, 1654, 1656, 1664, 1671, 1675, 1679, 1697, 1699, 1714, 1715, 1716, 1722, 1726, 1733, 1735, 1742, 1757, 1759, 1761, 1765, 1770, 1785, 1787, 1803, 1809, 1812, 1833, 1834, 1839, 1853, 1858, 1868, 1881, 1882, 1885, 1896, 1897, 1898, 1908, 1911, 1926, 1935, 1937, 1940, 1943, 1950, 1953, 1963, 1966, 1969, 1985, 1987, 1997, 2006, 2007, 2008, 2017, 2019, 2024, 2025, 2028, 2030, 2032, 2038, 2041, 2043, 2046, 2053, 2054, 2062, 2066, 2068, 2083, 2099, 2102, 2107, 2111, 2115, 2125, 2140, 2141, 2142, 2149, 2150, 2160, 2166, 2177, 2179, 2189, 2190, 2193, 2195, 2197, 2198, 2208, 2214, 2215, 2223, 2231, 2235, 2240, 2243, 2245, 2246, 2249, 2256, 2268, 2308, 2320, 2323, 2326, 2353, 2357, 2379, 2383, 2386, 2395, 2431, 2433, 2504, 2505, 2509, 2517, 2525, 2546, 2562, 2569, 2586, 2591, 2596, 2598, 2605, 2622										
Anesthetics										
1527ph	13 y F	lidocaine	1	1	A	Par	Unt-G	3		
[1528h]	41 y M	lidocaine	1	1	A	Par	Unt-T	1		
1529ph	53 y F	bupivacaine	1	1	A	Par	AR-D	2		
1530ph	53 y M	isoflurane	1	1	A	Inhal	Int-S	2		
		ethanol (beverage)	2	2						
1531ph	57 y M	lidocaine	1	1	A	Ingst	Unt-G	3		
1532pi	30+ y M	propofol	1	1	A	Par	Int-S	2		
See Also case 112, 666, 787, 2244, 2303										
Anticoagulants										
1533ha	63 y M	apixiban	3	1	A	Ingst + Par	Int-S	1		
		insulin	1	2						
		metoprolol	4	3						
		empagliflozin	2	4						
1534p	69 y F	apixiban	1	1	A	Ingst	Int-S	2		
		flecainide	2	2						
		fludrocortisone	3	3						
1535h	73 y M	thrombolytics, N.O.S.	1	1	U	Ingst	AR-D	2		
1536pha	75 y F	warfarin	5	1	U	Ingst	Int-S	2		
		escitalopram	4	2						
		alprazolam (ER)	2	3						
		metoprolol	3	4						
		oxycodone	1	5						
1537h	78 y F	apixaban	1	1	A	Ingst	Unk	2		
1538h	84 y M	apixaban	1	1	A/C	Ingst	Int-S	2		
		propranolol (ER)	2	2						
1539ai	89 y M	anticoagulant, N.O.S.	1	1	U	Unk	Unt-G	3		
See Also case 266, 1425, 1630, 1663, 1765, 1816, 1858, 1860, 1897, 1902, 1923, 1978, 1985, 1986, 1987, 1993, 1997, 2000, 2004, 2010, 2011, 2083, 2190										
Anticonvulsants										
1540h	23 y F	lamotrigine	1	1	A/C	Ingst + Par	Int-S	2		
		hydroxychloroquine	2	2						
		methotrexate	3	3						
		insulin (detemir) (ER)	4	4						
		insulin (lispro)	5	5						
		quetiapine	6	6						
		lorazepam	7	7						
		levothyroxine	8	8						
1541ai	25 y M	lamotrigine	1	1	U	Unk	Int-S	1		
		venlafaxine	2	2						
		ethanol (beverage)	3	3						
1542h	30 y F	lamotrigine	1	1	A	Ingst + Unk	Int-S	2		
		hydroxyzine	2	2						
		aripiprazole	3	3						
		fluoxetine	4	4						
		levothyroxine	5	5						
		acetaminophen	6	6					acetaminophen (apap)	68 mcg/mL In Blood (unspecified) @ Unknown
1543ph	34 y F	oxcarbazepine	1	1	A/C	Unk	Int-U	2		
1544ph	36 y F	lamotrigine	1	1	U	Ingst + Inhal	Unk	2		
		butane	2	2						
1545	36 y F	valproic acid	1	1	A/C	Ingst	Unk	1		
		lithium	2	2						
1546h	38 y M	valproic acid (ER)	1	1	A/C	Ingst	Int-S	2	valproic acid	483 mcg/mL In Blood (unspecified) @ Unknown
1547	38 y F	gabapentin	1	1	A	Ingst	Int-S	2		
		acetaminophen	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1548pa	39 y F	brivaracetam	1	1	U	Ingst	Int-S	2	brivaracetam	24 ng/mL In Blood (unspecified) @ Autopsy
		lacosamide	2	2						
		hydroxyzine	3	3						
1549	39 y F	lamotrigine	1	1	U	Ingst	Int-S	2		
1550ph	40 y F	gabapentin drug, N.O.S.	1	1	U	Ingst + Unk	Int-A	2		
1551h	41 y M	gabapentin ethanol (beverage)	1	1	A	Ingst	Int-S	3	ethanol	320 mg/dL In Blood (unspecified) @ Unknown
			2	2						
1552h	47 y F	carbamazepine	1	1	A	Ingst	Int-S	2	carbamazepine	18.7 mg/L In Serum @ 2 d (pe)
		carbamazepine	1	1					carbamazepine	24 mg/L In Serum @ 1 d (pe)
		carbamazepine drug, N.O.S.	1	1					carbamazepine	47 mg/L In Serum @ 2h (pe)
			2	2						
1553h	49 y F	gabapentin	2	1	A/C	Ingst	Int-A	2		
		methadone	1	2						
		diphenhydramine	3	3						
1554a	54 y M	gabapentin	1	1	A/C	Ingst	Int-S	2		
		hydrochlorothiazide	2	2						
		lorazepam	3	3						
		lisinopril	4	4						
		duloxetine (ER)	5	5						
1555ha	54 y F	lamotrigine	1	1	A/C	Ingst	Int-S	1	lamotrigine	36 mg/L In Blood (unspecified) @ 6 h (pe)
1556	54 y M	valproic acid	1	1	A/C	Ingst	Int-S	2	valproic acid	181 mcg/mL In Serum @ 27 h (pe)
		valproic acid	1	1					valproic acid	450 mcg/mL In Serum @ 1 h (pe)
		valproic acid	1	1					valproic acid	750 mcg/mL In Serum @ 15 h (pe)
		ethanol (beverage)	2	2						
1557h	56 y F	valproic acid	1	1	A/C	Ingst	Int-S	2	valproic acid	117 mcg/mL In Blood (unspecified) @ Unknown
		valproic acid	1	1					valproic acid	300 mcg/mL In Blood (unspecified) @ Unknown
		clonazepam	2	2						
		hydrochlorothiazide	3	3						
1558	58 y M	gabapentin	1	1	A	Ingst	Int-S	2		
		levetiracetam	2	2						
		atorvastatin	3	3						
		omeprazole	4	4						
		lisinopril	5	5						
		ethanol (beverage)	6	6					ethanol	207 mg/dL In Blood (unspecified) @ Unknown
		quetiapine	7	7						
1559h	59 y M	valproic acid (ER)	1	1	A/C	Ingst	Int-S	3		
1560ha	59 y F	oxcarbazepine	1	1	A/C	Ingst	Int-S	1	oxcarbazepine	0.5 mg/L In Blood (unspecified) @ Unknown
		trazodone	2	2					trazodone	3.87 mg/L In Blood (unspecified) @ Unknown
		metformin	3	3						
		caffeine	4	4					caffeine	0.55 mg/L In Blood (unspecified) @ Unknown
1561ph	63 y M	gabapentin	1	1	A/C	Ingst	Int-M	2		
1562	65 y F	lamotrigine	1	1	A	Ingst	Int-S	2		
		eszopiclone	2	2						
		vortioxetine	3	3						
		mirtazapine	4	4						
		acetaminophen	5	5					acetaminophen (apap)	41 mcg/mL In Blood (unspecified) @ Unknown
		propranolol	6	6						
1563h	67 y M	gabapentin	1	1	U	Ingst + Inhal	Int-A	3		
		cocaine	2	2						
1564h	69 y F	gabapentin	3	1	A	Ingst	Int-S	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1565	70 y F	benzonatate	2	2	A	Ingst	Int-S	3	acetaminophen (apap)	99.6 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen	1	3						
		valproic acid (ER)	1	1						
1566h	72 y M	lamotrigine	2	2	A	Ingst	Int-S	2	valproic acid	83 mcg/mL In Serum @ Unknown
		salicylate	3	3						
		acetaminophen	4	4						
		lamotrigine	1	1						
		bupropion	2	2						
		olanzapine	3	3						
		doxazosin	4	4						
hydralazine	5	5								
1567ai	76 y F	salicylate	6	6	U	Unk	Int-A	1	temazepam	16.3 mg/dL In Serum @ Unknown
		gabapentin	7	7						
1568h	77 y F	gabapentin	1	1	A/C	Ingst	Int-S	2	valproic acid	229.6 mcg/mL In Blood (unspecified) @ Unknown
		valproic acid (ER)	1	1						
		lamotrigine	2	2						
		gabapentin	3	3						
		trazodone	4	4						
		sertraline	5	5						
		bupropion	6	6						
		quetiapine	7	7						
		hydrochlorothiazide	8	8						
		angiotensin converting enzyme inhibitor, N.O.S.	9	9						
See Also case 19, 66, 194, 504, 506, 514, 587, 671, 705, 778, 783, 794, 843, 913, 991, 1059, 1069, 1133, 1142, 1186, 1196, 1208, 1267, 1274, 1314, 1325, 1362, 1425, 1445, 1483, 1582, 1587, 1594, 1598, 1606, 1624, 1628, 1636, 1640, 1641, 1646, 1651, 1654, 1656, 1663, 1666, 1669, 1674, 1678, 1679, 1701, 1726, 1763, 1766, 1767, 1781, 1785, 1807, 1809, 1810, 1813, 1816, 1818, 1833, 1843, 1848, 1850, 1854, 1863, 1866, 1868, 1876, 1883, 1887, 1903, 1918, 1925, 1935, 1971, 1972, 1985, 2006, 2010, 2019, 2032, 2038, 2052, 2059, 2076, 2103, 2107, 2114, 2115, 2127, 2132, 2136, 2139, 2141, 2150, 2160, 2167, 2180, 2181, 2244, 2331, 2346, 2374, 2383, 2392, 2444, 2456, 2598										
Antidepressants										
[1569ha]	3 y F	bupropion	1	1	A	Ingst	Unt-G	1	bupropion	42000 ng/mL In Blood (unspecified) @ Unknown
		bupropion	1	1					hydroxybupropion	8900 ng/mL In Blood (unspecified) @ Unknown
1570pha	13 y F	amitriptyline	1	1	A/C	Ingst	Int-S	1	amitriptyline	1200 ng/mL In Blood (unspecified) @ Unknown
		amitriptyline	1	1						
1571p	14 y F	bupropion (ER)	1	1	A/C	Ingst	Int-S	2		
1572ph	14 y F	bupropion (ER)	1	1	U	Ingst	Int-S	2		
1573pha	14 y F	bupropion (ER)	1	1	U	Ingst	Int-S	1	fluoxetine	160 ng/mL In Blood (unspecified) @ Unknown
		fluoxetine	1	1						
1574ph	14 y F	promethazine	2	2	U	Ingst	Int-S	2		
		benzonatate	3	3						
		sulfamethoxazole/trimethoprim	4	4						
1575p	14 y F	amitriptyline	1	1	A/C	Ingst	Int-S	2		
1576ph	15 y F	bupropion (ER)	1	1	U	Unk	Int-S	2		
		escitalopram	2	2						
1577ph	15 y F	bupropion	1	1	U	Unk	Unk	2		
1578h	16 y M	bupropion	1	1	A	Ingst	Int-S	2		
		amitriptyline	1	1						
		benzonatate	2	1						
1579pha	16 y F	duloxetine (ER)	3	3	A	Ingst	Int-U	2	norfluoxetine	1900 ng/mL In Blood (unspecified) @ Unknown
		fluoxetine	1	1						
[1580h]	17 y F	fluoxetine	1	1	A/C	Ingst	Int-S	1	bupropion	15 ng/mL In Blood (unspecified) @ 7 d (pe)
		bupropion (ER)	1	1						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		bupropion (ER)	1	1					hydroxybupropion	701 ng/mL In Blood (unspecified) @ 7 d (pe)
		bupropion (ER)	1	1					bupropion	83 ng/mL In Blood (unspecified) @ 10 d (pe)
1581p	17 y F	bupropion	1	1	U	Ingst	Int-S	2		
1582ph	18 y F	bupropion (ER)	1	1	U	Ingst	Int-S	2		
		acetaminophen	2	2					acetaminophen (apap)	100 mcg/mL In Blood (unspecified) @ Unknown
		lamotrigine	3	3						
		hydroxyzine	4	4						
		sertraline	5	5						
		cetirizine	6	6						
		alcohol, N.O.S.	7	7					ethanol	92 mg/dL In Blood (unspecified) @ Unknown
1583ph	19 y F				A	Ingst	Int-S	2		
		bupropion	1	1						
		caffeine	2	2						
1584ha	22 y F				A/C	Ingst	Int-S	1		
		bupropion	1	1					bupropion	0.82 mcg/mL In Blood (unspecified) @ Unknown
		bupropion	1	1					bupropion	28 mcg/mL In Blood (unspecified) @ Autopsy
		alprazolam	2	2					alprazolam	86 ng/mL In Serum @ Unknown
1585h	22 y M				U	Ingst	Int-S	1		
		bupropion	1	1						
1586h	22 y F				A/C	Ingst	Int-S	2		
		bupropion	1	1						
		acetaminophen	2	2						
		fexofenadine	3	3						
1587ha	24 y F				A/C	Ingst	Int-S	1		
		bupropion	1	1					hydroxybupropion	1300 ng/mL In Blood (unspecified) @ Unknown
		bupropion	1	1					bupropion	190 ng/mL In Blood (unspecified) @ Unknown
		lamotrigine	2	2					lamotrigine	7.7 mcg/mL In Blood (unspecified) @ Unknown
		escitalopram	3	3					escitalopram	310 ng/mL In Blood (unspecified) @ Unknown
		amphetamine/dextroamphetamine	4	4					amphetamine	220 ng/mL In Blood (unspecified) @ Unknown
		lorazepam	5	5					lorazepam	83 ng/mL In Blood (unspecified) @ Unknown
		naproxen	6	6					naproxen	250 mcg/mL In Blood (unspecified) @ Unknown
		loratadine	7	7						
1588h	24 y F				A/C	Ingst	Int-S	2		
		bupropion	1	1						
		quetiapine	2	2						
		duloxetine (ER)	3	3						
		diphenhydramine	4	4						
1589	25 y M				A	Ingst	Int-S	2		
		venlafaxine	1	1						
		fluoxetine	2	2						
		hydroxyzine	3	3						
		ethanol (beverage)	4	4					ethanol	151 mg/dL In Blood (unspecified) @ Unknown
1590h	25 y F				A/C	Ingst	Int-S	2		
		bupropion (ER)	1	1						
		fluoxetine	2	2						
		aripiprazole	3	3						
		levothyroxine	4	4						
1591h	26 y F				U	Ingst	Int-S	2		
		venlafaxine (ER)	1	1						
1592ph	27 y M				U	Ingst	Int-S	2		
		escitalopram	1	1						
		carbon monoxide	2	2					carboxyhemoglobin	7.4 % In Blood (unspecified) @ Unknown
1593ph	29 y M				A	Ingst	Int-S	2		
		amitriptyline	1	1						
		alprazolam	2	2						
1594h	31 y F				A/C	Ingst	Int-S	2		
		bupropion	1	1						
		lamotrigine	2	2						
		guanfacine	3	3						
		lorazepam	4	4						
		gabapentin	5	5						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1595ph	31 y M	aripiprazole	6	6	U	Ingst	Int-S	2		
		cyclic antidepressant, N.O.S.	1	1						
		ibuprofen	2	2						
		hydrochlorothiazide	3	3						
1596	31 y F	methocarbamol	4	4	A	Ingst	Int-S	2		
		bupropion	1	1						
1597h	32 y F	bupropion (ER)	1	1	A/C	Ingst	Int-S	2		
		escitalopram	2	2						
1598h	33 y F	trazodone	1	1	A	Ingst	Int-S	1		
		propranolol	2	2						
		escitalopram	3	3						
		oxycodone (ER)	4	4						
		tramadol	5	5						
		tizanidine	6	6						
		hydroxyzine	7	7						
		gabapentin	8	8						
		celecoxib	9	9						
		levothyroxine	10	10						
1599p	33 y M	bupropion	1	1	A	Ingst	Int-U	1		
1600ha	33 y F	venlafaxine	1	1	A/C	Ingst	Int-S	1	venlafaxine	41000ng/mL In Blood (unspecified) @ Autopsy
		venlafaxine	1	1					o-desmethylvenlafaxine	4400ng/mL In Blood (unspecified) @ Autopsy
		sedative-hypnotic-antianxiety-antipsychotic drug, N.O.S.	2	2						
		hypnotic (nonbenzodiazepine, N.O.S)	3	3						
		diphenhydramine	4	4						
		loperamide	5	5						
		caffeine	6	6						
beta blocker, N.O.S.	7	7								
1601h	34 y M	nortriptyline	1	1	C	Ingst	Int-S	2	nortriptyline	200mg/dL In Serum @ 1h (pe)
		nortriptyline	1	1					ethanol	300mg/dL In Serum @ Unknown
		ethanol (beverage)	2	2					ethanol	300mg/dL In Serum @ Unknown
1602ai	34 y M	citalopram	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	2	2						
		hydroxyzine	3	3						
1603pha	34 y F	amitriptyline	1	1	A	Ingst	Int-S	1	amitriptyline	2500ng/mL In Blood (unspecified) @ Unknown
		verapamil	2	2						
1604h	36 y M	acetaminophen	3	3	A	Ingst	Int-S	2		
		amitriptyline	1	1						
1605h	36 y M	venlafaxine	1	1	A/C	Ingst	Int-S	2		
		escitalopram	2	2						
		hydroxyzine	3	3						
		prazosin	4	4						
1606ai	37 y F	citalopram	1	1	U	Unk	Int-A	1		
		gabapentin	2	2						
		hydromorphone	3	3						
		oxycodone	4	4						
		zolpidem	5	5						
1607pha	37 y M	venlafaxine	1	1	A	Ingst	Int-S	1	venlafaxine	3700ng/mL In Blood (unspecified) @ Unknown
		venlafaxine	1	1					o-desmethylvenlafaxine	600ng/mL In Blood (unspecified) @ Unknown
		hydroxyzine	2	2					hydroxyzine	4700ng/mL In Blood (unspecified) @ Unknown
		salicylate	3	3					salicylate	4.5mg/dL In Blood (unspecified) @ Unknown
1608a	38 y M	bupropion	1	1	A/C	Ingst + Aspir	Int-S	1	bupropion	1600ng/mL In Blood (unspecified) @ Unknown
		bupropion	1	1					hydroxybupropion	4300ng/mL In Blood (unspecified) @ Unknown
1609a	39 y F	duloxetine (ER)	1	1	A/C	Ingst	Int-S	3		
		ethanol (beverage)	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time	
1610pa	39 y M	bupropion	1	1	A/C	Ingst	Int-S	2			
		citalopram	2	2							
		Mitragyna speciosa korthals	3	3							
		dextromethorphan	4	4							
		pseudoephedrine	5	5							
		phenylpropanolamine	6	6							
1611ph	39 y F	trazodone	1	1	A/C	Ingst	Int-S	3			
1612h	39 y F	duloxetine (ER)	1	1	A	Ingst	Int-S	2			
1613h	39 y M	venlafaxine	1	1	A/C	Ingst + Par	Int-S	3			
		ethanol (beverage)	2	2							ethanol
1614h	40 y F				A	Ingst	Int-S	2			
		bupropion	1	1							
		clonazepam	2	2							
1615h	40 y F	venlafaxine	3	3	A/C	Ingst	Int-S	2			
		bupropion (ER)	1	1							
		ethanol (beverage)	2	2					ethanol	338 mg/dL In Blood (unspecified) @ 75 m (pe)	
1616h	41 y F				U	Ingst	Int-S	2			
		bupropion	1	1							
		diphenhydramine	2	2							
		ibuprofen	3	2							
1617h	41 y F	ethanol (beverage)	4	3	A/C	Ingst	Int-S	2			
		bupropion	1	1							
1618h	41 y F	venlafaxine (ER)	1	1	A	Ingst	Int-S	2			
1619ha	41 y F				A/C	Ingst	Int-S	1			
1620h	42 y F	bupropion (ER)	1	1	A	Ingst	Int-S	2			
		ethanol (beverage)	2	2							
1621ai	42 y F	doxepin	1	1	U	Unk	Int-S	1			
		zolpidem	2	2							
		sertraline	3	3							
1622ph	42 y M	bupropion	1	1	A	Ingst	Int-S	2			
		diphenhydramine	2	2							
		hydroxyzine	3	3							
1623h	42 y F	trazodone	1	1	A	Ingst	Int-S	1			
1624h	43 y F	bupropion (ER)	1	1	A/C	Ingst	Int-S	2			
1625pha	43 y F				A/C	Ingst	Oth-W	2			
		bupropion	4	1							
		topiramate	1	1							
		hydroxyzine	2	2							
1626ai	44 y F	trazodone	3	3	U	Unk	Int-U	1			
		sertraline	1	1							
		ethanol (beverage)	3	3							
1627pa	44 y F	sertraline	1	1	A	Ingst	Int-S	2	mirtazapine	3.5 mcg/mL In Whole Blood @ Autopsy	
										ethanol	0.22 g/dL In Whole Blood @ Autopsy
										ethanol	0.27 g/dL In Vitreous @ Autopsy
1628	46 y M				A/C	Ingst+Par	Int-S	2			
		bupropion	1	1							
		pregabalin	2	2							
		cyclobenzaprine	3	3							
		atorvastatin	4	4							
		duloxetine (ER)	5	5							
		acetaminophen/hydrocodone	6	6							
insulin (aspart)	7	7									
1629h	46 y M				U	Ingst	Int-S	2			
		fluoxetine	1	1							
		risperidone	2	2							
		quetiapine	3	3							
1630h	46 y F	levothyroxine	4	4	A/C	Ingst	Int-S	2			
		nortriptyline	1	1							
1631h	46 y F	rivaroxaban	2	2	A/C	Ingst	Int-S	2			
		bupropion (ER)	1	1							
1632pha	47 y F	trazodone	2	2	U	Ingst	Int-S	1			
		escitalopram	3	3							
		hydroxyzine	4	4							

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		bupropion (ER)	1	1					hydroxybupropion	1000 ng/mL In Blood (unspecified) @ Autopsy
		bupropion (ER)	1	1					bupropion	1300 ng/mL In Blood (unspecified) @ Autopsy
		metoprolol	2	2					metoprolol	3400 ng/mL In Blood (unspecified) @ Autopsy
		fluoxetine	3	3					norfluoxetine	0.297 mg/L In Blood (unspecified) @ Autopsy
		fluoxetine	3	3					fluoxetine	1.54 mg/L In Blood (unspecified) @ Autopsy
		ethanol (beverage)	4	4					ethanol	0.074 mg/dL In Blood (unspecified) @ Autopsy
1633	47 y F	escitalopram	1	1	A	Ingst	Int-S	2		
1634h	48 y F	bupropion (ER)	1	1	A	Ingst	Int-S	1	ethanol	0.09 g/dL In Blood (unspecified) @ Unknown
1635h	49 y F	ethanol (beverage)	2	2	A/C	Ingst	Int-S	2		
		doxepin	1	1					ethanol	182 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2						
1636ha	50 y F				A/C	Ingst	Int-S	1		
		bupropion	1	1						
		gabapentin	2	2						
		metoprolol	3	3						
		methimazole	4	4						
		pantoprazole (ER)	5	5						
1637h	50 y M				A	Ingst	Int-S	2		
		amitriptyline	1	1						
		tizanidine	2	2						
		meloxicam	3	3						
1638h	51 y M				U	Ingst	Int-U	2		
		venlafaxine	1	1					acetaminophen (apap)	15.5 mcg/mL In Serum @ Unknown
		methamphetamine	2	2						
		acetaminophen	3	3						
1639	51 y F				A	Ingst	Int-S	1		
		amitriptyline	1	1						
		diphenhydramine	2	2						
1640h	52 y F				A/C	Ingst	Int-S	2		
		venlafaxine	1	1						
		primidone	2	2						
1641h	52 y M				A/C	Ingst + Unk	Int-S	2		
		amitriptyline	1	1					nortriptyline	0.6 mg/L In Blood (unspecified) @ Autopsy
		amitriptyline	1	1					amitriptyline	1.4 mg/L In Blood (unspecified) @ Autopsy
		acetaminophen/butalbital/caffeine	2	2					butalbital	10 mg/L In Blood (unspecified) @ Autopsy
		acetaminophen/butalbital/caffeine	2	2					acetaminophen (apap)	26 mcg/mL In Blood (unspecified) @ Unknown
		ibuprofen	6	3						
		olanzapine	7	4						
		gabapentin	5	5						
		narcotic, N.O.S.	3	5					morphine	0.01 mg/L In Blood (unspecified) @ Autopsy
		narcotic, N.O.S.	3	5					codeine	0.04 mg/L In Blood (unspecified) @ Unknown
		narcotic, N.O.S.	3	5					codeine	0.16 mg/L In Blood (unspecified) @ Autopsy
		narcotic, N.O.S.	3	5					morphine	0.27 mg/L In Urine (quantitative only) @ Autopsy
		phencyclidine	4	6					phencyclidine	0.04 mg/L In Blood (unspecified) @ Unknown
		phencyclidine	4	6					phencyclidine	0.25 mg/L In Blood (unspecified) @ Autopsy
		levetiracetam	8	8						
		sulfamethoxazole/trimethoprim	9	9						
1642ph	52 y M				U	Unk	Int-S	2		
		trazodone	1	1						
1643h	52 y F				A	Ingst	Int-S	2		
		fluoxetine	1	1						
		clonidine	2	2						
		aripiprazole	3	3						
		acetaminophen/hydrocodone	4	4					acetaminophen (apap)	38 mcg/mL In Blood (unspecified) @ Unknown
1644ha	53 y F				A	Ingst	Unk	3		
		amitriptyline	1	1					nortriptyline	52 ng/mL In Blood (unspecified) @ Unknown
		amitriptyline	1	1					amitriptyline	74 ng/mL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time								
1645ha	53 y M	bupropion (ER)	1	1	A/C	Ingst	Int-S	1	trazodone	7.6 mcg/mL In Blood (unspecified) @ Unknown								
		trazodone	2	2														
		ethanol (beverage)	4	3														
		meloxicam	5	4														
		prazosin	3	5														
1646a	53 y M	duloxetine (ER)	6	6	A/C	Ingst	Int-S	1	hydroxybupropion	920 ng/mL In Blood (unspecified) @ Unknown								
		bupropion (ER)	1	1														
		glimepiride	7	2														
		metformin (ER)	4	3														
		metformin	4	3														
		paliperidone (ER)	3	4														
1647ph	54 y F	escitalopram	2	5	A/C	Ingst	Int-S	2	ethanol	205 mg/dL In Blood (unspecified) @ Unknown								
		lamotrigine (ER)	5	6														
		linagliptin	6	7														
		simvastatin	8	8														
		trazodone	1	1														
		ethanol (beverage)	2	2														
		1648h	55 y M	alprazolam							3	3	A/C	Ingst	Int-S	1	citalopram	10000 ng/mL In Blood (unspecified) @ Autopsy
				citalopram							1	1						
1649ha	55 y F	ethanol (beverage)	2	2	A/C	Ingst+Unk	Int-S	1	o-desmethylvenlafaxine	1200 ng/mL In Blood (unspecified) @ Unknown								
		venlafaxine	1	1														
		venlafaxine	1	1														
		marijuana, N.O.S.	2	2														
		marijuana, N.O.S.	2	2														
1650ph	55 y F	venlafaxine	1	1	A	Ingst	Int-S	2	venlafaxine	26000 ng/mL In Blood (unspecified) @ Unknown								
		venlafaxine	1	1														
1651ph	56 y F	marijuana, N.O.S.	2	2	U	Ingst	Int-S	1	11-oh-thc (11-hydroxy-delta-9-tetrahydrocannabinol)	2.3 ng/mL In Blood (unspecified) @ Unknown								
		amitriptyline	1	1														
		quetiapine	2	2														
1652h	56 y F	gabapentin	3	3	A/C	Ingst	Int-S	2	delta-9-carboxy-thc	210 ng/mL In Blood (unspecified) @ Unknown								
		venlafaxine	1	1														
		venlafaxine	1	1														
		venlafaxine	1	1														
		venlafaxine	1	1														
		venlafaxine	1	1														
1653p	57 y M	marijuana, N.O.S.	2	2	U	Ingst	Int-S	2	delta-9-thc	7.3 ng/mL In Blood (unspecified) @ Unknown								
		venlafaxine	1	1														
		quetiapine	2	2														
		methocarbamol	3	3														
		prazosin	4	4														
		clonazepam	5	5														
1654h	57 y F	ethanol (beverage)	6	6	A/C	Ingst	Int-S	3	7-aminoclonazepam	54.5 ng/mL In Blood (unspecified) @ Autopsy								
		trazodone	1	1														
		lisinopril	2	2														
		oxycodone	3	3														
		lamotrigine	4	4														
1655h	57 y M	pantoprazole	5	5	U	Ingst	Int-S	2	meta-chlorophenylpiperazine (mcpp)	70 ng/mL In Blood (unspecified) @ Autopsy								
		bupropion	1	1														
		ethanol (beverage)	2	2					o-desmethylvenlafaxine	8787 ng/mL In Blood (unspecified) @ Autopsy								
									ethanol	64 mg/dL In Serum @ Unknown								

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1656h	57 y F	bupropion duloxetine (ER) oxycodone tizanidine topiramate trazodone	1 2 3 4 5 6	1 2 3 4 5 6	U	Ingst	Int-S	2		
1657pha	58 y F	fluoxetine fluoxetine bupropion olanzapine mirtazapine metoprolol diphenhydramine haloperidol omeprazole	1 1 2 3 4 5 6 7 8	1 1 2 3 4 5 6 7 8	U	Ingst	Int-S	1	norfluoxetine fluoxetine bupropion olanzapine mirtazapine	1.2 mcg/mL In Blood (unspecified) @ Autopsy 4.6 mcg/mL In Blood (unspecified) @ Autopsy 2.1 mcg/mL In Blood (unspecified) @ Autopsy 0.89 mcg/mL In Blood (unspecified) @ Autopsy 1.1 mcg/mL In Blood (unspecified) @ Autopsy
1658ha	58 y F	amitriptyline amitriptyline atenolol benzodiazepine, N.O.S.	1 1 2 3	1 1 2 2	A/C	Ingst	Int-S	1	nortriptyline amitriptyline alprazolam	0.5 mg/L In Serum @ Unknown 1.2 mg/L In Serum @ Unknown 0.03 mg/L In Serum @ Unknown
1659pha	58 y F	bupropion propranolol venlafaxine trazodone	1 2 3 4	1 1 3 4	A	Ingst	Int-U	1		
1660h	58 y F	bupropion cocaine ethanol (beverage)	1 2 3	1 2 3	A/C	Ingst + Unk	Int-S	2		
1661ph	58 y F	bupropion	1	1	U	Unk	Unk	2		
1662ha	61 y F	nortriptyline	1	1	A/C	Ingst	Int-S	1	nortriptyline	2400 ng/mL In Blood (unspecified) @ Unknown
1663h	61 y F	amitriptyline gabapentin clopidogrel	1 2 3	1 2 3	A/C	Ingst	Int-S	2		
1664ph	61 y F	bupropion (ER) oxycodone alprazolam methocarbamol	1 2 3 4	1 2 3 4	A/C	Ingst	Int-U	2		
1665ph	62 y M	amitriptyline	1	1	U	Ingst	Int-S	3		
1666pha	62 y F	trazodone eszopiclone chlorpromazine fluoxetine alprazolam donepezil lamotrigine 2-(2-methyl-4-chlorophenoxy) propionic acid amphetamine	1 2 3 4 5 6 7 8 9	1 2 3 4 5 6 7 8 9	A	Ingst	Int-S	1	trazodone eszopiclone norfluoxetine alprazolam lamotrigine mcpp (meta-chlorophenylpiperazine) amphetamine	10 mcg/mL In Blood (unspecified) @ Autopsy 130 ng/mL In Blood (unspecified) @ Autopsy 190 ng/mL In Blood (unspecified) @ Autopsy 280 ng/mL In Blood (unspecified) @ Autopsy 9.4 mcg/mL In Blood (unspecified) @ Autopsy 0.66 mcg/mL In Blood (unspecified) @ Autopsy 100 ng/mL In Blood (unspecified) @ Autopsy
1667h	62 y M	lithium	1	1	A/C	Ingst	AR-D	3	lithium	3 mmol/L In Serum @ Unknown
1668	62 y F	bupropion	1	1	A/C	Ingst	Int-S	2		
1669ph	62 y F	citalopram bupropion lamotrigine hydroxyzine olanzapine primidone	1 2 3 4 5 6	1 2 3 4 5 6	A	Ingst	Int-S	2		
1670h	63 y F	trazodone	1	1	A	Ingst	Int-S	3		
1671a	63 y F	paroxetine	1	1	A	Ingst	Int-S	3	paroxetine	1300 ng/mL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		salicylate	2	2					salicylate	62.8 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	3	3					ethanol	262 mg/dL In Blood (unspecified) @ Unknown
1672ph	63 y M	amitriptyline	1	1	A	Ingst	Int-S	2		
		cyclobenzaprine	2	2						
		temazepam	3	3						
1673p	64 y F	escitalopram	1	1	A	Ingst	Int-S	2		
		zolpidem	2	2						
		alprazolam	3	3						
		ethanol (beverage)	4	4					ethanol	154 mg/dL In Blood (unspecified) @ Unknown
1674h	64 y F	bupropion	2	1	A	Ingst	Int-S	2		
		propranolol	1	1						
		primidone	3	2						
		methimazole	4	3						
		hydrochlorothiazide	5	5						
1675pha	64 y F	amitriptyline	3	1	U	Ingst+Unk	Int-S	1	nortriptyline	0.19 mg/L In Blood (unspecified) @ Unknown
		amitriptyline	3	1					amitriptyline	3.01 mg/L In Blood (unspecified) @ Unknown
		venlafaxine	6	2					venlafaxine	840 ng/mL In Blood (unspecified) @ Autopsy
		venlafaxine	6	2					o-desmethylvenlafaxine	860 ng/mL In Blood (unspecified) @ Autopsy
		hydrocodone	5	3					hydrocodone (free)	0.022 mg/L In Blood (unspecified) @ Unknown
		diphenhydramine	4	4					diphenhydramine	0.859 mg/L In Blood (unspecified) @ Autopsy
		amlodipine	1	5						
		clonidine	2	6						
1676h	64 y F	bupropion (ER)	1	1	A	Ingst	Int-S	3		
		escitalopram	2	2						
		clonazepam	3	3						
		ethanol (beverage)	4	4						
1677ph	65 y F	amitriptyline	1	1	A	Ingst	Int-S	1		
1678h	65 y F	bupropion (ER)	2	1	A	Ingst	Int-S	2		
		propranolol	1	2						
		primidone	3	3						
		lisinopril	4	4						
		venlafaxine	5	5						
1679h	66 y F	nortriptyline	1	1	A/C	Ingst	Int-S	2		
		quetiapine	2	2						
		olanzapine	3	3						
		methadone	4	4						
		gabapentin	5	5						
		clonazepam	6	6						
1680ph	66 y F	amitriptyline	1	1	A/C	Ingst	Int-S	2		
		amlodipine	2	2						
		riluzole	3	3						
		temazepam	4	4						
1681ha	67 y M	bupropion drug, N.O.S.	1	1	A	Ingst	Int-S	2		
			2	2						
1682ph	67 y M	bupropion	1	1	A/C	Ingst	Int-S	2		
		ethanol (beverage)	2	2					ethanol	232 mg/dL In Blood (unspecified) @ Unknown
1683h	67 y F	bupropion	1	1	A	Ingst	Int-S	2		
		alprazolam	2	2						
		zolpidem	3	3						
		ethanol (beverage)	4	4						
1684h	67 y F	bupropion	1	1	A	Ingst	Int-S	2		
		duloxetine (ER)	2	2						
1685h	69 y F	lithium	1	1	A	Ingst	AR-D	3	lithium	4.9 mEq/L In Serum @ Unknown
1686h	70 y M	lithium	1	1	C	Ingst	AR-D	3	lithium	1.72 mEq/L In Serum @ Unknown
1687h	71 y F	imipramine	1	1	A/C	Ingst	Int-S	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1688h	71 y M	sertraline	2	2	A/C	Ingst	Int-S	2		
		bupropion	1	1						
		sertraline	2	2						
		lansoprazole	3	3						
		pseudoephedrine	4	4						
		montelukast	5	5						
ethanol (beverage)	6	6	ethanol	101 mg/dL In Serum @ Unknown						
1689h	71 y F				A/C	Ingst	Int-S	2		
1690ha	73 y F	amitriptyline	1	1	A/C	Ingst	Unk	1	norvenlafaxine	1617 ng/mL In Blood (unspecified) @ Unknown
		venlafaxine	1	1					venlafaxine	17682 ng/mL In Blood (unspecified) @ Unknown
1691h	73 y F	venlafaxine	1	1	A/C	Ingst	Int-S	3		
1692ha	73 y M	lithium	1	1	C	Ingst	Unt-U	1	lithium	3.6 mmol/L In Blood (unspecified) @ Unknown
1693ai	73 y F	amitriptyline	1	1	U	Unk	Int-S	1		
		butalbital	2	2						
		ethanol (beverage)	3	3						
1694h	75 y F	nortriptyline	1	1	A	Ingst	Int-S	3		
1695h	75 y F	lithium	1	1	U	Ingst	Int-S	3	lithium	2.77 mmol/L In Blood (unspecified) @ 54 h (pe)
		lithium	1	1					lithium	5.5 mmol/L In Blood (unspecified) @ 10 h (pe)
		trazodone	2	2						
		lorazepam	3	3						
1696h	76 y F	bupropion	1	1	A/C	Ingst	Int-S	2		
		ethanol (beverage)	2	2						
1697ha	76 y F	bupropion	1	1	A/C	Ingst	Int-S	3	bupropion	170 ng/mL In Blood (unspecified) @ Unknown
		bupropion	1	1					hydroxybupropion	2100 ng/mL In Blood (unspecified) @ Unknown
		trazodone	2	2					trazodone	0.22 mcg/mL In Blood (unspecified) @ Unknown
		acetaminophen/hydrocodone	3	3					hydrocodone (free)	7.2 ng/mL In Blood (unspecified) @ Unknown
1698hi	76 y F	bupropion	1	1	U	Ingst + Unk	Unk	2		
		drug, N.O.S.	4	1						
		venlafaxine	2	2						
		trazodone	3	3						
1699	82 y F	fluoxetine	1	1	A/C	Ingst	Int-S	2		
		furosemide	2	2						
		beta blocker, N.O.S.	3	3						
		meloxicam	4	4						
1700ha	84 y M	bupropion	1	1	A	Ingst	Int-S	1	hydroxybupropion	3600 ng/mL In Blood (unspecified) @ Unknown
		bupropion	1	1					bupropion	440 ng/mL In Blood (unspecified) @ Unknown
		diphenhydramine	2	2					diphenhydramine	430 ng/mL In Blood (unspecified) @ Unknown
		hydroxyzine	3	3					hydroxyzine	350 ng/mL In Blood (unspecified) @ Unknown
1701	85 y F	calcium antagonist, N.O.S.	4	4	A	Ingst	Int-S	3		
		bupropion	1	1						
		lamotrigine	2	2						
1702h	86 y F	donepezil	3	3	A/C	Ingst	AR-D	2		
		duloxetine (ER)	1	1						
1703ai	Unknown adult (≥20 yrs) M				A/C	Ingst + Par	Int-S	2		
		amitriptyline	1	1						
		diphenhydramine	2	2						
		insulin (glargine) (ER)	3	3						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
See Also case 12, 66, 84, 154, 172, 316, 381, 400, 429, 447, 450, 472, 473, 482, 491, 504, 514, 529, 587, 608, 649, 651, 658, 671, 792, 795, 852, 867, 939, 1013, 1059, 1072, 1080, 1094, 1138, 1186, 1225, 1267, 1291, 1293, 1314, 1325, 1342, 1350, 1421, 1431, 1445, 1446, 1448, 1472, 1475, 1478, 1496, 1536, 1541, 1542, 1545, 1554, 1560, 1562, 1566, 1568, 1716, 1723, 1727, 1730, 1741, 1765, 1766, 1772, 1780, 1781, 1785, 1793, 1795, 1796, 1797, 1801, 1806, 1807, 1812, 1813, 1816, 1817, 1818, 1819, 1821, 1830, 1833, 1838, 1841, 1843, 1844, 1846, 1848, 1850, 1857, 1863, 1866, 1867, 1877, 1883, 1886, 1887, 1898, 1903, 1905, 1921, 1931, 1933, 1934, 1935, 1938, 1939, 1950, 1951, 1965, 1972, 1987, 1997, 2029, 2035, 2048, 2056, 2063, 2065, 2068, 2074, 2076, 2102, 2105, 2122, 2136, 2142, 2156, 2160, 2166, 2173, 2177, 2187, 2194, 2196, 2202, 2203, 2215, 2247, 2253, 2331, 2346, 2383, 2403, 2404, 2407, 2444, 2463, 2476, 2531										
Antihistamines										
1704ph	13 y F	diphenhydramine	1	1	A	Ingst	Int-S	2		
1705h	14 y F	diphenhydramine	1	1	A	Ingst	Int-M	1		
1706pa	15 y F	diphenhydramine	1	1	A	Ingst	Int-S	1	fluoxetine	0.6 mg/L In Whole Blood @ Autopsy
		diphenhydramine	1	1					diphenhydramine	20 mg/L In Whole Blood @ Autopsy
1707ph	15 y F	diphenhydramine	1	1	A	Ingst	Int-S	1	diphenhydramine	4400 ng/mL In Urine (quantitative only) @ 22.15 h (pe)
		diphenhydramine	1	1					diphenhydramine	950 ng/mL In Serum @ 20 h (pe)
1708ph	16 y F	diphenhydramine	1	1	A	Ingst	Int-S	2		
1709ph	16 y M	diphenhydramine	1	1	A	Ingst	Int-S	2		
1710ai	20 y F	diphenhydramine	1	1	U	Unk	Int-S	1		
1711h	20 y M	diphenhydramine	1	1	A	Ingst	Int-S	2		
		marijuana (concentrate)	2	2						
		drug, N.O.S.	3	3						
1712ha	25 y M	hydroxyzine	1	1	A	Ingst + Inhal	Int-A	2	hydroxyzine	130 ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	200 mg/dL In Whole Blood @ Unknown
		methamphetamine	3	3					methamphetamine	190 ng/mL In Blood (unspecified) @ Unknown
1713a	25 y M	diphenhydramine	2	1	A	Ingst	Int-S	1		
		amlodipine	1	2						
1714ph	25 y F	diphenhydramine	1	1	A	Ingst	Int-S	2		
		diphenhydramine	2	2						
		salicylate	3	3						
		drug, N.O.S.	4	4						
1715ph	25 y F	diphenhydramine	1	1	A	Ingst	Int-S	2		
		diphenhydramine	2	2						
		diphenhydramine	3	3						
		ibuprofen	4	4						
		ethanol (beverage)	5	5						
		fexofenadine	6	6						
1716h	25 y M	hydroxyzine	1	1	A	Ingst	Int-S	2		
		methamphetamine	2	2						
		acetaminophen	3	3						
		bupropion	4	4						
		sertraline	5	5						
		clonazepam	6	6						
		ibuprofen	7	7						
		prazosin	8	8						
		fluoxetine	9	9						
1717h	25 y F	diphenhydramine	1	1	A	Ingst	Int-S	2		
1718ai	27 y F	diphenhydramine	1	1	U	Unk	Int-A	1		
		diphenhydramine	2	2						
		dextromethorphan	3	3						
		ethanol (beverage)	3	3						
[1719pa]	30 y M	diphenhydramine	1	1	A	Ingst	Int-S	1	diphenhydramine	30225 ng/mL In Blood (unspecified) @ Autopsy
1720ph	31 y M	diphenhydramine	1	1	A	Ingst	Int-S	2		
1721h	31 y F	hydroxyzine	1	1	A/C	Ingst	Int-S	2		
1722pha	34 y M	diphenhydramine	1	1	U	Ingst + Unk	Int-U	1	diphenhydramine	8600 ng/mL In Blood (unspecified) @ Unknown
		methamphetamine	2	2					methamphetamine	100 ng/mL In Blood (unspecified) @ Unknown
		methamphetamine	2	2					methamphetamine	1000 ng/mL In Urine (quantitative only) @ Unknown
		methamphetamine	2	2					amphetamine	1000 ng/mL In Urine (quantitative only) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1723a	42 y M	methamphetamine	2	2					amphetamine	21 ng/mL In Blood (unspecified) @ Unknown
		buprenorphine	3	3					norbuprenorphine	101 ng/mL In Urine (quantitative only) @ Unknown
		buprenorphine	3	3					buprenorphine	164 ng/mL In Urine (quantitative only) @ Unknown
		diphenhydramine	1	1	U	Ingst	Int-A	2	diphenhydramine	630 ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	41 mg/dL In Blood (unspecified) @ Unknown
1724	43 y F	mirtazapine	3	3					mirtazapine	1300 ng/mL In Blood (unspecified) @ Unknown
		diphenhydramine	1	1	U	Ingst	Int-S	2		
		acetaminophen/dextromethorphan/doxylamine	2	2					acetaminophen (apap)	50 mcg/mL In Serum @ Unknown
1725h	44 y M	ethanol (beverage)	3	3						
1726ph	50 y M	diphenhydramine	1	1	A	Ingst	Int-S	2		
		diphenhydramine	1	1	C	Ingst	Int-U	3		
1727pai	52 y F	dimenhydrinate	1	1						
		methadone	2	2						
		diphenhydramine	3	3						
		gabapentin	4	4	U	Ingst	Int-U	1		
1728ph	52 y F	diphenhydramine	1	1					diphenhydramine	150 mg/L In Blood (unspecified) @ Autopsy
		diphenhydramine	1	1					diphenhydramine	28 mg/L In Blood (unspecified) @ Autopsy
		trazodone	2	2					trazodone	0.3 mg/L In Blood (unspecified) @ Autopsy
		ethanol (beverage)	3	3					ethanol	0.03 % In Blood (unspecified) @ Autopsy
1729ha	55 y M	diphenhydramine	1	1	A	Ingst+Unk	Int-S	1		
1730ai	56 y F	diphenhydramine	1	1					diphenhydramine	20000 ng/mL In Blood (unspecified) @ Unknown
		diapirone	2	2						
		trazodone	3	3					delta-9-thc	0.73 ng/mL In Blood (unspecified) @ Unknown
1731ai	57 y M	diphenhydramine	1	1	U	Unk	Int-S	1		
		diphenhydramine	1	1						
1732h	67 y M	diphenhydramine	1	1	A	Ingst	Int-S	3		
		ethanol (beverage)	2	2					ethanol	89 mg/dL In Blood (unspecified) @ Unknown
1733ph	73 y F	diphenhydramine	1	1						
		acetaminophen/hydrocodone	2	2	A	Ingst	Int-S	1	acetaminophen (apap)	186 mcg/mL In Blood (unspecified) @ Unknown
1734	75 y F	diphenhydramine	1	1	A	Ingst	Int-S	2		
1735h	75 y F	diphenhydramine	1	1						
		cetirizine	1	1	A	Ingst	Int-S	2		
1736pha	81 y F	naproxen	2	2						
		diphenhydramine	1	1	A	Ingst	Int-S	1	diphenhydramine	16000 ng/mL In Blood (unspecified) @ Unknown
1737ha	89 y F	diphenhydramine	1	1					diphenhydramine	3200 ng/mL In Blood (unspecified) @ Unknown
		doxylamine	2	2	A	Ingst	Int-S	3	doxylamine	3800 ng/mL In Blood (unspecified) @ Unknown

See Also case 121, 172, 374, 376, 386, 429, 450, 479, 544, 554, 570, 603, 671, 686, 872, 892, 919, 945, 962, 980, 1017, 1074, 1079, 1109, 1157, 1170, 1295, 1314, 1427, 1459, 1475, 1480, 1481, 1542, 1548, 1553, 1573, 1582, 1586, 1587, 1588, 1589, 1598, 1600, 1602, 1605, 1607, 1616, 1621, 1624, 1631, 1639, 1657, 1669, 1675, 1700, 1703, 1765, 1776, 1778, 1785, 1800, 1805, 1806, 1812, 1817, 1829, 1833, 1863, 1866, 1882, 1908, 1919, 1939, 1943, 1968, 2019, 2022, 2024, 2027, 2056, 2065, 2077, 2105, 2128, 2142, 2150, 2157, 2214, 2215, 2315, 2430, 2437, 2605

Antimicrobials

1738h	31 y F	ivermectin	1	1	A	Ingst	AR-D	2		
[1739pha]	34 y M	viral disease (COVID-19-Confirmed)	2	2						
		ivermectin	1	1	A/C	Ingst+Derm	Int-M	2		
[1740ha]	38 y M				A/C	Ingst	Int-S	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		hydroxychloroquine	1	1					hydroxychloroquine	130 mcg/mL In Blood (unspecified) @ Unknown
1741a	43 y M	hydroxychloroquine	1	1	A/C	Ingst	Int-S	1		
		trazodone	2	2						
		metformin	3	3						
		ethanol (beverage)	4	4						
1742h	48 y F	dapsone	1	1	C	Ingst	AR-D	3		
		acetaminophen	2	2					acetaminophen (apap)	20 mcg/mL In Blood (unspecified) @ Unknown
1743h	57 y F	hydroxychloroquine	1	1	A/C	Ingst	Int-S	2		
		benzodiazepine	2	2						
1744	58 y M	ivermectin	1	1	A	Ingst	Int-M	2		
		viral disease (COVID-19-Confirmed)	2	2						
1745h	59 y M	metronidazole	1	1	A	Par	Unt-T	1		
		citric acid, glycerin	2	2						
1746h	59 y F	nirmatrelvir/ritonavir	1	1	C	Ingst	AR-D	2		
		nifedipine	2	2						
See Also case 325, 390, 530, 641, 764, 1325, 1540, 1573, 1641, 1833, 1877, 1882, 1950, 1967, 2004, 2029, 2071, 2177, 2383										
Antineoplastics										
1747h	44 y M	methotrexate	1	1	C	Ingst	Unt-T	3	methotrexate	0.1 µmol/L In Serum @ Unknown
1748h	51 y M	methotrexate	1	1	C	Ingst	Unt-U	1	methotrexate	0.09 µmol/L In Serum @ 0 d (pe)
1749	60 y M	pembrolizumab	1	1	A	Par	AR-D	3		
		ethylene glycol	2	2						
1750h	66 y F	methotrexate	1	1	C	Ingst	AR-D	3		
[1751ha]	80 y M	methotrexate	1	1	C	Ingst	Unt-T	2	methotrexate	0.4 µmol/L In Blood (unspecified) @ Unknown
See Also case 1540, 1847, 1942, 2102										
Asthma Therapies										
1752h	36 y M	clenbuterol	1	1	A	Ingst+Par	Int-S	2		
		insulin (NPH) (ER)	2	2						
1753h	75 y F	theophylline	1	1	C	Ingst	AR-D	3	theophylline	22.7 mcg/mL In Serum @ Unknown
		theophylline	1	1					theophylline	31.3 mcg/mL In Serum @ Unknown
		theophylline	1	1					theophylline	8.7 mcg/mL In Serum @ Unknown
See Also case 1421, 1688, 1883, 1904, 1978, 2038										
Cardiovascular Drugs										
1754ph	14 y F	propranolol	1	1	A	Ingst+Oth	Int-S	1		
		viral disease (COVID-19-Confirmed)	2	2						
1755h	15 y F	verapamil	1	1	A	Ingst	Int-S	1		
		lisinopril	2	2						
		chlorthalidone	3	3						
1756	18 y F	amlodipine	1	1	A	Ingst	Int-S	2		
		atorvastatin	2	2						
1757h	21 y F	amlodipine	1	1	A	Ingst	Int-S	2		
		losartan	2	2						
		salicylate	3	3						
1758ph	25 y F	propranolol	1	1	A/C	Ingst	Int-S	2	propranolol	2000 ng/mL In Blood (unspecified) @ Unknown
		Mitragyna speciosa korthals	2	2					mitragynine	330 ng/mL In Blood (unspecified) @ Unknown
1759h	29 y F	nifedipine	1	1	A	Ingst	Int-S	1		
		carvedilol	2	2						
		acetaminophen/hydrocodone	3	3						
		zolpidem	4	4						
		pramipexole	5	5						
		spironolactone	6	6						
		ondansetron	7	7						
		ethanol (beverage)	8	8						
1760h	29 y F	propranolol	1	1	A	Ingst	Int-U	2		
1761h	31 y F	metoprolol	1	1	A/C	Ingst	Int-S	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1762h	31 y M	acetaminophen/oxycodone	2	2					acetaminophen (apap)	0.7 mcg/mL In Serum @ Unknown
		carvedilol	1	1	A/C	Ingst	Int-S	1		
		amlodipine	2	2						
		ethanol (beverage)	3	3						
		furosemide	4	4						
1763h	32 y M				A	Ingst	Int-S	2		
		calcium antagonist, N.O.S.	1	1					valproic acid	24.7 mcg/mL In Blood (unspecified) @ Unknown
		metoprolol	2	1						
		valproic acid (ER)	5	3					ethanol	0.234 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	3	4						
1764ha	32 y F	losartan	4	5	A	Ingst	Int-S	1		
1765	33 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		amlodipine	1	1						
		doxepin	2	2						
		brilinta	3	3						
		metoprolol	4	4						
		quetiapine	5	5						
		losartan	6	6						
		tramadol	7	7						
		hydroxyzine	8	8						
1766ph	33 y F				A	Ingst	Int-S	2		
		propranolol	1	1						
		lamotrigine	2	2						
		trazodone	3	3						
		fluoxetine	4	4						
		amphetamine/dextroamphetamine	5	5						
1767h	34 y M	amlodipine	1	1	A	Ingst	Int-S	1		
		gabapentin	2	2						
1768ph	35 y M				A/C	Ingst	Int-S	2		
		flecainide	1	1						
		metoprolol (ER)	2	2						
		quetiapine	3	3						
1769h	35 y F				A/C	Ingst	Int-S	2		
		amlodipine	1	1						
		lisinopril	2	2					ethanol	190 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	3	3						
1770h	35 y F				A/C	Ingst	Int-S	2		
		propranolol	1	1						
		quetiapine	2	2						
		ibuprofen	3	3						
1771h	35 y M	amlodipine	1	1	A/C	Ingst	Int-S	1		
1772h	36 y M				A	Ingst	Int-S	2		
		angiotensin converting enzyme inhibitor/diuretic	1	1						
		bupropion	2	2						
		beta blocker, N.O.S.	3	3						
		antihyperlipidemic	4	4						
		benzodiazepine, N.O.S.	5	5						
1773	37 y F	propranolol	1	1	A	Ingst	Int-S	2		
		metformin (ER)	2	2						
1774ha	37 y M	propranolol	1	1	U	Ingst	Int-S	1	propranolol	5300 ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	209 mg/dL In Blood (unspecified) @ Unknown
1775ha	38 y M	amlodipine	1	1	A/C	Ingst	Int-S	1	amlodipine	130 ng/mL In Blood (unspecified) @ Unknown
		metoprolol	2	2						
		lisinopril	3	3						
		hydralazine	4	4						
1776ha	39 y F	verapamil	1	1	U	Ingst + Unk	Int-S	1	verapamil	1900 ng/mL In Blood (unspecified) @ Autopsy
		propranolol	2	2						
		ethanol (beverage)	3	3					ethanol	171 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	3	3					ethanol	203 mg/dL In Blood (unspecified) @ Unknown
		hydroxyzine	4	4					hydroxyzine	2000 ng/mL In Blood (unspecified) @ Autopsy
		marijuana, N.O.S.	5	5					delta-9-carboxy-thc	120 ng/mL In Blood (unspecified) @ Autopsy

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1777p	39 y M	marijuana, N.O.S.	5	5					11-oh-thc (11-hydroxy-delta-9-tetrahydrocannabinol)	2.2 ng/mL In Blood (unspecified) @ Autopsy
		marijuana, N.O.S.	5	5					delta-9-thc	5.6 ng/mL In Blood (unspecified) @ Autopsy
1778ha	39 y M	verapamil	1	1	A	Ingst	Int-S	2		
1779ha	39 y F	amlodipine	1	1	A/C	Ingst	Int-S	2	amlodipine	56 ng/mL In Blood (unspecified) @ Unknown
		metoprolol	2	2					metoprolol	140 ng/mL In Blood (unspecified) @ Unknown
		hydralazine	3	3						
		lisinopril	4	4						
		losartan	5	5						
		glimepiride	6	6						
		quetiapine	7	7					quetiapine	230 ng/mL In Blood (unspecified) @ Unknown
1780ha	39 y F	hydroxyzine	8	8					hydroxyzine	92 ng/mL In Blood (unspecified) @ Unknown
		metoprolol	1	1	A	Ingst	Int-S	1	metoprolol	3100 ng/mL In Blood (unspecified) @ Unknown
		metoprolol	1	1					metoprolol	48000 ng/mL In Blood (unspecified) @ Autopsy
		diltiazem (ER)	2	2					diltiazem	2300 ng/mL In Blood (unspecified) @ Autopsy
1781ha	40 y F	methamphetamine	3	3					methamphetamine	0.1 mg/L In Blood (unspecified) @ Unknown
		verapamil	1	1	A/C	Ingst	Int-S	1	verapamil	700 ng/mL In Blood (unspecified) @ Unknown
		prazosin	2	2					prazosin	760 ng/mL In Blood (unspecified) @ Unknown
		venlafaxine	3	3					o-desmethylvenlafaxine	250 ng/mL In Blood (unspecified) @ Unknown
		venlafaxine	3	3					venlafaxine	410 ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	4	4					ethanol	147 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	4	4					ethanol	188 mg/dL In Blood (unspecified) @ Unknown
1782ph	40 y F	propranolol	1	1	A/C	Ingst	Int-S	1	propranolol	850 ng/mL In Blood (unspecified) @ Unknown
		bupropion	2	2					bupropion	4156 ng/mL In Blood (unspecified) @ 11 h (pe)
		bupropion	2	2					bupropion	478 ng/mL In Blood (unspecified) @ 45 m (pe)
		ethanol (beverage)	3	3					ethanol	258 mg/dL In Blood (unspecified) @ Unknown
		lamotrigine	4	4					lamotrigine	15.1 mcg/mL In Blood (unspecified) @ 11 h (pe)
		lamotrigine	4	4					lamotrigine	17.3 mcg/mL In Blood (unspecified) @ 45 m (pe)
1783pha	40 y F	naltrexone	5	5	A	Ingst	Unk	3		
1784h	41 y F	clonidine drug, N.O.S.	1	1						
		propranolol	2	2	A/C	Ingst	Int-S	1		
1785p	41 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		omeprazole	2	2						
		amlodipine	1	1						
		baclofen	2	2						
		escitalopram	3	3						
		alprazolam	4	4						
		hydroxyzine	5	5						
levetiracetam	6	6								
1786h	41 y M	ibuprofen	7	7						
		verapamil	1	1	A/C	Ingst	Int-S	2		
		ethanol (beverage)	2	2				ethanol	137 mg/dL In Serum @ Unknown	

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1787	42 y M	diltiazem	1	1	C	Ingst	Unt-T	2		
		atenolol	2	2						
		acetaminophen/codeine	3	3						
1788a	42 y F	diltiazem (ER)	1	1	A/C	Ingst	Int-S	2		
		ethanol (beverage)	2	2					ethanol	242mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	3	3						
1789ph	42 y F	propranolol	1	1	U	Ingst	Int-S	2		
		clonidine	2	2						
1790	42 y F	amlodipine	1	1	A	Ingst	Int-S	2		
1791h	43 y M	amlodipine	1	1	A	Ingst	Int-S	2		
		calcium antagonist, N.O.S.	1	1						
		atenolol	2	2						
		hydrochlorothiazide	3	3						
		atorvastatin	4	4						
1792h	43 y F	amlodipine	1	1	A	Ingst	Int-S	2		
		tizanidine	2	2						
		lorazepam	3	3						
1793h	43 y M	carvedilol	1	1	C	Ingst	Unt-G	2		
		mirtazapine	2	2						
		quetiapine	3	3						
1794h	44 y M	diltiazem	1	1	A	Ingst	Int-S	1		
		amlodipine	2	2						
1795h	44 y F	amlodipine	1	1	A	Ingst	Int-S	2		
		venlafaxine (ER)	2	2						
1796h	44 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		metoprolol	2	2						
		metformin	3	3						
		doxepin	4	4						
		duloxetine (ER)	4	4						
1797h	45 y F	amlodipine	1	1	U	Ingst	Int-S	1		
		escitalopram	2	2						
		potassium	3	3						
		ethanol (beverage)	4	4					ethanol	262mg/dL In Serum @ Unknown
1798h	45 y F	propranolol	1	1	A/C	Ingst	Unt-T	2		
		drug, N.O.S.	2	2						
1799a	45 y M	amlodipine	1	1	A	Ingst	Int-S	2		
		clonazepam	2	2						
		marijuana	3	3						
1800h	45 y M	amlodipine	1	1	U	Ingst+Unk	Int-S	2		
		hydroxyzine	3	2						
		hydralazine	4	3						
		amlodipine	2	4						
1801h	46 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		buspirone	2	2						
		fluoxetine	3	3						
		trazodone	4	4						
		lorazepam	5	5						
1802ha	46 y F	amlodipine	1	1	A/C	Ingst	Int-S	1	amlodipine	890ng/mL In Blood (unspecified) @ Unknown
		tadalafil	2	2					tadalafil	1300ng/mL In Blood (unspecified) @ Unknown
		phentermine	3	3					phentermine	5000ng/mL In Blood (unspecified) @ Unknown
		metoclopramide	4	4					metoclopramide	3100ng/mL In Blood (unspecified) @ Unknown
1803	46 y M	amlodipine	1	1	U	Ingst	Int-S	2		
		acetaminophen	2	2					acetaminophen (apap)	73.4mcg/mL In Serum @ 8h (pe)
1804ha	47 y M	amlodipine	1	1	A/C	Ingst	Int-S	1	amlodipine	380ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	95mg/dL In Blood (unspecified) @ Unknown
1805pha	48 y F	flecainide	1	1	A	Ingst	Int-S	1	flecainide	11mcg/mL In Blood (unspecified) @ Autopsy

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time		
1806h	48 y F	methamphetamine	2	2	A	Ingst	Int-S	2	methamphetamine	87 ng/mL In Blood (unspecified) @ Autopsy		
		hydroxyzine	3	3					hydroxyzine		26 ng/mL In Blood (unspecified) @ Autopsy	
		ethanol (beverage)	4	4					ethanol			0.081 g/dL In Blood (unspecified) @ Autopsy
		amlodipine	1	1								
		diphenhydramine	2	2								
1807h	48 y F	lisinopril	3	3	A/C	Ingst	Int-S	2				
		trazodone	4	4								
		amlodipine	1	1								
		venlafaxine	2	2								
		olanzapine	3	3								
1808h	48 y F	valproic acid (ER)	4	4	A/C	Ingst	Int-S	2				
		clonazepam	5	5								
		amlodipine	1	1								
1809ha	49 y F	alprazolam	2	2	A/C	Ingst	Int-S	1				
		amlodipine	1	1								
		metoprolol	2	2								
		clonazepam	3	3								
		diazepam	4	4					nordiazepam	0.33 mg/L In Blood (unspecified) @ 16 h (pe)		
		diazepam	4	4					diazepam	0.43 mg/L In Blood (unspecified) @ 16 h (pe)		
		acetaminophen/butalbital/caffeine	5	5					acetaminophen (apap)	12 mcg/mL In Serum @ 11 h (pe)		
		acetaminophen/butalbital/caffeine	5	5					acetaminophen (apap)	43 mcg/mL In Serum @ 5 h (pe)		
		acetaminophen/butalbital/caffeine	5	5					butalbital	5.9 mg/L In Blood (unspecified) @ 16 h (pe)		
		potassium	6	6								
levothyroxine	7	7										
1810h	49 y M	gabapentin	8	8	A	Ingst	Int-S	2				
		metoprolol	1	1								
1811a	49 y M	gabapentin	2	2	A	Ingst	Int-S	1				
		amlodipine	1	1								
		clonidine	2	2					clonidine	24 ng/mL In Blood (unspecified) @ Unknown		
		quetiapine	3	3					quetiapine	780 ng/mL In Blood (unspecified) @ Unknown		
		ethanol (beverage)	4	4					ethanol	96 mg/dL In Blood (unspecified) @ Unknown		
1812ha	49 y F				C	Ingst	Int-S	2				
		diltiazem	1	1								
		acetaminophen/hydrocodone	2	2					hydrocodone (free)	120 ng/mL In Blood (unspecified) @ Unknown		
		bupropion	3	3								
		hydroxyzine	4	4					hydroxyzine	1800 ng/mL In Blood (unspecified) @ Unknown		
		fluoxetine	5	5								
		metoprolol (ER)	6	6					metoprolol	140 ng/mL In Blood (unspecified) @ Unknown		
		isosorbide mononitrate (ER)	7	7								
		ethanol (beverage)	8	8								
		1813ph	49 y F								A/C	Ingst
metoprolol	1			1								
citalopram	2			2								
lamotrigine (ER)	3			3								
ethanol (beverage)	4			4								
1814h	49 y F				A	Ingst	Int-S	2				
1815	49 y M	amlodipine	1	1	A/C	Ingst	Int-S	2				
		metoprolol	2	2								
		metformin	3	3								
1816ha	50 y F				U	Ingst	Int-S	1				
		carvedilol	1	1								
		venlafaxine	5	2								
		alprazolam	4	3								
		gabapentin	3	4								
		brilinta	2	5								
1817ha	50 y M	clonidine	1	1	A/C	Ingst+Unk	Int-S	1	clonidine	56 ng/mL In Blood (unspecified) @ Unknown		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		hydroxyzine	2	2					hydroxyzine	3700 ng/mL In Blood (unspecified) @ Unknown
		methamphetamine	3	3					amphetamine	51 ng/mL In Blood (unspecified) @ Unknown
		methamphetamine	3	3					methamphetamine	570 ng/mL In Blood (unspecified) @ Unknown
		haloperidol	4	4					haloperidol	29 ng/mL In Blood (unspecified) @ Unknown
		trazodone	5	5					mcpp (meta-chlorophenylpiperazine)	0.08 mcg/mL In Blood (unspecified) @ Unknown
		trazodone	5	5					trazodone	1.8 mcg/mL In Blood (unspecified) @ Unknown
		marijuana	6	6					delta-9-carboxy-thc	14 ng/mL In Blood (unspecified) @ Unknown
		marijuana	6	6					delta-9-thc	3.4 ng/mL In Blood (unspecified) @ Unknown
1818	50 y F				A	Ingst	Int-S	2		
		amlodipine	1	1						
		lisinopril	2	2						
		duloxetine (ER)	3	3						
		metoprolol	4	4						
		prazosin	5	5						
		quetiapine	6	6						
		gabapentin	7	7						
1819h	50 y M				A/C	Ingst + Inhal	Int-S	3		
		amlodipine	1	1					amlodipine	280 ng/mL In Blood (unspecified) @ Unknown
		citalopram	2	2					citalopram	600 ng/mL In Blood (unspecified) @ Unknown
		fluoxetine	3	2					fluoxetine	2200 ng/mL In Blood (unspecified) @ Unknown
		fluoxetine	3	2					norfluoxetine	280 ng/mL In Blood (unspecified) @ Unknown
1820	50 y M	viral disease (COVID-19-Confirmed)	4	3						
		calcium antagonist, N.O.S.	1	1	U	Ingst	Unk	2		
		carvedilol	2	2						
		methyldopa	3	3						
		nitrates, N.O.S.	4	4						
1821h	51 y F				A	Ingst	Int-S	2		
		amlodipine	1	1						
		ethanol (beverage)	3	2					ethanol	190 mg/dL In Serum @ Unknown
		duloxetine (ER)	2	3						
		melatonin	4	4						
1822h	51 y F				A	Ingst	Unt-T	1		
		sotalol	1	1						
1823h	51 y M				A	Ingst	Int-S	2		
		amlodipine	1	1						
		metoprolol	2	2						
		lisinopril	3	3						
		ethanol (beverage)	4	4						
1824h	51 y M				A	Ingst	Int-S	2		
		metoprolol	1	1						
		diltiazem	2	2						
1825h	51 y F				A	Ingst	Int-S	1		
		calcium antagonist, N.O.S.	1	1						
1826h	51 y M				C	Ingst	AR-D	2		
		digoxin	1	1					digoxin	3.7 ng/mL In Blood (unspecified) @ Unknown
1827h	51 y M				A/C	Ingst	Int-S	2		
		amlodipine/benazepril	1	1						
		tizanidine	2	2						
1828h	51 y F				A/C	Ingst	AR-D	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1829ha	52 y M	digoxin	1	1					digoxin	2.6 ng/mL In Serum @ Unknown
		amlodipine	1	1	A/C	Ingst	Int-S	1	amlodipine	4.2 mg/L In Blood (unspecified) @ Unknown
		lipid emulsion	2	2						
		lisinopril	3	3						
		levocetirizine	4	4						
1830ha	52 y M	acetaminophen/dextromethorphan/phenylephrine	5	5						
		metoprolol	1	1	A/C	Ingst	Int-S	1		
		amlodipine	2	2						
		escitalopram	3	3						
		losartan	4	4						
1831h	52 y F	ethanol (beverage)	5	5						
		amlodipine	1	1	A/C	Ingst	Int-S	2		
		metoprolol	1	1						
		amlodipine	1	1	A/C	Ingst	Int-S	2		
		metoprolol	1	1						
1833h	52 y F	metoprolol	1	1	U	Ingst	Int-S	2		
		verapamil	1	1						
		gabapentin	2	2						
		tamsulosin	3	3						
		metoprolol	4	4						
		duloxetine (ER)	5	5						
		tramadol	6	6						
		oxybutynin	7	7						
		rizatriptan	8	8						
		acyclovir	9	9						
		methenamine/sodium salicylate	10	10						
		buspirone	11	11						
		cetirizine	12	12						
omeprazole	13	13								
1834h	53 y F	amlodipine	1	1	A/C	Ingst	Int-S	2		
		lipid emulsion	2	2						
		acetaminophen	3	3						
1835pha	53 y F	calcium antagonist, N.O.S.	1	1	A	Ingst	Int-S	1	diltiazem	11000 ng/mL In Blood (unspecified) @ Autopsy
		amlodipine	1	1						
1836h	53 y F	amlodipine	1	1	A	Ingst	Int-S	2		
1837ha	53 y F	amlodipine/benazepril	1	1	A	Ingst	Int-S	1	ethanol	0.011 pg/mL In Blood (unspecified) @ Unknown
		amlodipine/benazepril	1	1					hydroxybupropion	140.6 ng/mL In Blood (unspecified) @ Unknown
		amlodipine/benazepril	1	1					bupropion	375.1 ng/mL In Blood (unspecified) @ Unknown
		amlodipine/benazepril	1	1					carboxy-thc	4.8 ng/mL In Blood (unspecified) @ Unknown
		amlodipine/benazepril	1	1					amlodipine	870 ng/mL In Blood (unspecified) @ Unknown
1838ha	54 y M	metoprolol	1	1	A	Ingst	Int-S	1		
		lisinopril	2	2						
		isosorbide mononitrate (ER)	3	3						
		ropinirole	4	4						
		vortioxetine	5	5						
		pantoprazole (ER)	6	6						
1839ph	54 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		acetaminophen	2	2					acetaminophen (apap)	60 mcg/mL In Serum @ 15 m (pe)
		oxycodone	3	3						
1840h	54 y M	amlodipine	1	1	A	Ingst	Int-S	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time						
1841h	54 y F	metoprolol	2	2	U	Ingst	Int-S	2	ethanol	363 mg/dL In Serum @ Unknown						
		lorazepam	3	3												
		bupirone	4	4												
		amlodipine	1	1												
		clonidine	2	2												
		lisinopril	3	3												
		duloxetine (ER)	4	4												
aripiprazole	5	5														
1842a	54 y M	ethanol (beverage)	6	6	A/C	Ingst	Int-U	1								
		metoprolol	7	7												
		amlodipine	1	1												
		propranolol	2	2												
		losartan	3	3												
		cyclobenzaprine	4	4												
		ethanol (beverage)	5	5												
1843h	54 y F				A/C	Ingst	Int-S	2								
		clonidine	1	1												
		sertraline	2	2												
1844ha	54 y M	gabapentin	3	3	A/C	Ingst	Int-S	1								
		amlodipine	1	1												
		carvedilol	2	2												
		sertraline	3	3												
		sertraline	3	3												
		ethanol (beverage)	4	4												
		diazepam	5	5												
diazepam	5	5														
1845h	54 y M				A/C	Ingst	Int-S	2								
1846h	55 y F	amlodipine	1	1	A/C	Ingst	Int-S	2								
		acetutolol	1	1												
		citalopram	2	2												
		ethanol (beverage)	3	3												
1847ha	55 y F				A/C	Ingst	Int-S	2								
		antacid (proton pump inhibitor, N.O.S.)	4	4												
		atorvastatin	5	5												
		losartan	1	1												
		letrozole	2	2												
1848ph	55 y F	ethanol (beverage)	3	3	U	Ingst	Int-S	2	ethanol	92 mg/dL In Blood (unspecified) @ Unknown						
		propranolol	1	1												
		valproic acid	2	2												
		trazodone	3	3												
1849	55 y F	lovastatin	4	4	A	Ingst	Int-S	1								
		calcium antagonist, N.O.S.	1	1												
											A	Ingst	Int-S	2		
		clonidine	1	1												
sertraline	2	2														
gabapentin	3	3														
1851h	56 y M	methylphenidate	4	4	U	Ingst	Int-S	2								
		amlodipine	1	1												
											A	Ingst	Unt-G	2		
		nifedipine	1	1												
metoprolol	2	2														
1853h	56 y M				A	Ingst	Int-S	2								
		nitroglycerin	1	1												

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1854h	56 y M	acetaminophen/hydrocodone	2	2					acetaminophen (apap)	31.1 mcg/mL In Serum @ 1 h (pe)
		acetaminophen/hydrocodone	2	2					acetaminophen (apap)	34.1 mcg/mL In Serum @ 5 h (pe)
		drug, N.O.S.	3	3						
		amlodipine	1	1	A/C	Ingst	Int-S	2		
		atorvastatin	2	2						
1855ha	56 y F	diazepam	3	3						
		gabapentin	4	4						
		propranolol	1	1	A/C	Ingst	Int-S	1	propranolol	22000 ng/mL In Blood (unspecified) @ Autopsy
1856h	56 y M				C	Ingst	Int-S	2		
		metoprolol (ER)	1	1						
		clonazepam	2	3						
		clozapine	3	3						
		benztropine	4	4						
1857ha	56 y M	fluphenazine	5	5						
		propranolol	1	1	A/C	Ingst	Int-S	1	propranolol	4800 ng/mL In Blood (unspecified) @ Autopsy
		amitriptyline	2	2					nortriptyline	150 ng/mL In Blood (unspecified) @ Autopsy
		amitriptyline	2	2					amitriptyline	1500 ng/mL In Blood (unspecified) @ Autopsy
						A	Ingst	Int-S	2	
1858h	56 y F	metoprolol	1	1						
		baclofen	2	2						
		acetaminophen/hydrocodone	3	3					acetaminophen (apap)	32.4 mcg/mL In Serum @ Unknown
		tramadol	4	4						
		valsartan	5	5						
		warfarin	6	6						
1859phi	56 y M	propranolol	1	1	A	Ingst	Int-S	2		
1860i	56 y M				A/C	Ingst	Int-S	2		
		carvedilol	1	1						
		isosorbide mononitrate (ER)	2	2						
		losartan	3	3						
		simvastatin	4	4						
		ethanol (beverage)	6	5					ethanol	127 mg/dL In Blood (unspecified) @ Unknown
1861h	57 y M	rivaroxaban	5	5						
		diltiazem	1	1	U	Ingst	Int-S	2		
		losartan	2	2						
1862h	57 y F				U	Ingst	Int-S	2		
		metoprolol	1	1						
1863h	57 y M	ethanol (beverage)	2	2						
					A	Ingst	Int-S	2		
1864ha	57 y F	amlodipine	1	1						
		bupropion (ER)	2	2						
		metformin	3	3						
		lithium	4	4						
		hydroxyzine	5	5						
		gabapentin	6	6						
		glimepiride	7	7						
		lisinopril	8	8						
		simvastatin	9	9						
1865h	57 y F	amlodipine	1	1						
		ethanol (beverage)	2	2					ethanol	179 mg/dL In Plasma @ 30 m (pe)
		estradiol	3	3						
		dextrose	4	4						
1865h	57 y F				A/C	Ingst	Unt-T	2		
1866ph	57 y M	amlodipine	1	1						
		propranolol	1	1	A/C	Ingst	Int-S	2		
		gabapentin	4	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1867h	57 y M	hydroxyzine	3	3	A	Ingst	Int-S	1		
		duloxetine (ER)	2	4						
		amlodipine	1	1						
		citalopram	2	2						
1868ph	58 y F	ethanol (beverage)	3	3	A	Ingst	Int-S	2		
		metoprolol	1	1						
		clonazepam	2	2						
		acetaminophen/hydrocodone	3	3						
		gabapentin	4	4						
		furosemide	5	5						
		bumetanide	6	6						
1869ha	58 y M	carvedilol	1	1	A/C	Ingst	Int-S	2		
		methamphetamine	2	2						
		methamphetamine	2	2						
		methamphetamine	2	2						
1870ha	58 y F	amlodipine	1	1	A/C	Ingst	Int-S	1		
		metoprolol	2	2						
		lorazepam	3	3						
		ethanol (beverage)	4	4						
1871	58 y M	atenolol	1	1	A	Ingst	Int-S	2		
1872ha	58 y M	beta blocker, N.O.S.	1	1	A	Ingst	Int-S	1	atenolol	7100 ng/mL In Blood (unspecified) @ Autopsy
		calcium antagonist, N.O.S.	2	2						
1873h	58 y M	metoprolol	1	1	A/C	Ingst + Par	Int-S	2		
		insulin (lispro)	2	2						
		insulin (glargine) (ER)	3	3						
1874ph	59 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		beta blocker, N.O.S.	2	2						
		hydrochlorothiazide/lisinopril	3	3						
1875h	59 y F	amlodipine	1	1	A/C	Ingst	Int-S	2		
1876h	59 y M	amlodipine	1	1	A	Ingst	Int-S	1		
		icosapent ethyl	2	2						
		levetiracetam	3	3						
1877h	59 y M	beta blocker, N.O.S.	1	1	A	Ingst	Int-S	2		
		antimalarial, N.O.S.	2	2						
		escitalopram	3	3						
		benzodiazepine, N.O.S.	4	4						
1878h	59 y F	amlodipine	1	1	A	Ingst	Int-S	2		
		lisinopril	2	2						
		clonazepam	3	3						
1879h	60 y M	digoxin	1	1	A/C	Ingst	Unk	3		
[1880h]	2 m M	digoxin	1	1	A	Ingst	Unt-T	1	digoxin	4.8 ng/mL In Blood (unspecified) @ Unknown
1881ha	60 y F	amlodipine	1	1	A/C	Ingst	Int-S	1		
		acetaminophen	2	2						
		temazepam	3	3						
1882h	60 y F	carvedilol	1	1	A/C	Ingst	Int-S	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1883pha	60 y M	acetaminophen/diphenhydramine	2	2					acetaminophen (apap)	152.6 mcg/mL In Serum @ Unknown
		promethazine	3	3						
		ashwagandha	4	4						
		omeprazole	5	5						
		amoxicillin	6	6						
		echinacea	7	7						
		melatonin	8	8						
							A	Ingst	Int-U	1
1884	61 y F	amlodipine	1	1						
		atypical antipsychotic, N.O.S.	2	2						
		bupropion	3	3						
		topiramate	4	4						
		benzodiazepine, N.O.S.	5	5						
		atypical antipsychotic, N.O.S.	6	6						
		montelukast	7	7			A	Ingst	Int-S	2
1885	61 y F	amlodipine	1	1						
		propranolol	1	1						
		salicylate	2	2						
1886ha	61 y F	acetaminophen/butalbital/caffeine	3	3						
		nadolol	1	1						
		venlafaxine	2	2						o-desmethylvenlafaxine 6300 ng/mL In Blood (unspecified) @ Autopsy
		venlafaxine	2	2						venlafaxine 8300 ng/mL In Blood (unspecified) @ Autopsy
		alprazolam	3	3						alprazolam 22 ng/mL In Blood (unspecified) @ Autopsy
		levothyroxine	4	4						
		omeprazole	5	5						
		temazepam	6	6						temazepam 510 ng/mL In Blood (unspecified) @ Autopsy
1887a	61 y M				A	Ingst	Int-S	2		
		amlodipine	1	1						
		duloxetine (ER)	2	2						
		pregabalin	3	3						
		pregabalin	4	4						
1888ph	61 y M	atorvastatin	5	5						
		amiodarone	1	1		A/C	Ingst	Int-S	2	
		ethanol (beverage)	2	2						ethanol 325 mg/dL In Blood (unspecified) @ Unknown
1889h	61 y M				A/C	Ingst+Par	Int-S	2		
		amlodipine	1	1						
		insulin (detemir) (ER)	2	2						
		insulin (lispro)	3	3						
1890h	61 y F	metformin (ER)	4	4						
		amlodipine	1	1						
		atenolol	2	2						
		hydrochlorothiazide	3	3						
1891ha	61 y M	simvastatin	4	4						
		amlodipine	1	1		A/C	Ingst	Int-S	1	
		lisinopril	2	2						
1892ha	61 y F	amlodipine	1	1						
					A	Ingst	Int-S	1		
1893	61 y M				U	Ingst	Unk	2		
		amlodipine	1	1						
1894ha	62 y F	ethanol (beverage)	2	2						ethanol 238 mg/dL In Serum @ Unknown
					A/C	Ingst	Int-S	2		
		diltiazem	1	1						
		ethanol (beverage)	2	2					ethanol 51 mg/dL In Blood (unspecified) @ Unknown	

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1895i	62 y M				A/C	Ingst	Int-S	2		
		diltiazem	1	1						
		lisinopril	2	2						
1896i	63 y M				A	Ingst	Int-S	2		
		verapamil	1	1						
		ibuprofen	2	2						
		losartan	3	3						
		ethanol (beverage)	4	4						
1897	63 y M				A/C	Ingst	Int-S	2		
		metoprolol	1	1						
		calcium antagonist, N.O.S.	2	2						
		atenolol	3	3						
		clonidine	4	4						
		rivaroxaban	5	5						
		oxycodone	6	6						
		angiotensin converting enzyme inhibitor, N.O.S.	7	7						
		furosemide	8	8						
1898ph	63 y F				A/C	Ingst	Unk	2		
		amlodipine	1	1						
		metoprolol	2	2						
		escitalopram	3	3						
		trazodone	4	4						
		hydrochlorothiazide	5	5						
		losartan	6	6						
		acetaminophen	7	7					acetaminophen (apap)	184 mg/L In Plasma @ 15 m (pe)
1899h	63 y M				A/C	Ingst	Int-M	3		
		amlodipine	1	1						
		metoprolol	2	2						
1900ph	63 y M				A	Ingst + Inhal	Unt-M	2		
		carvedilol	1	1						
		beta blocker, N.O.S.	2	2						
		methamphetamine	3	3						
1901h	63 y F				A/C	Ingst	Int-S	2		
		metoprolol	1	1						
1902h	63 y M				A	Ingst	Int-S	2		
		diltiazem (ER)	1	1						
		lisinopril	2	2						
		clopidogrel	3	3						
		atorvastatin	4	4						
1903ha	63 y F				A	Ingst	Int-S	1		
		metoprolol	1	1					metoprolol	82 ng/mL In Blood (unspecified) @ Unknown
		lorazepam	2	2					lorazepam	190 ng/mL In Blood (unspecified) @ Unknown
		zolpidem	3	3					zolpidem	480 ng/mL In Blood (unspecified) @ Unknown
		gabapentin	4	4					gabapentin	25 ng/mL In Blood (unspecified) @ Unknown
		duloxetine (ER)	5	5					duloxetine	92 ng/mL In Blood (unspecified) @ Unknown
1904	63 y M				A	Ingst	Int-S	2		
		metoprolol	1	1						
		lisinopril	2	2						
		furosemide	3	3						
		montelukast	4	4						
1905h	63 y F				A/C	Ingst	Int-S	2		
		labetalol	1	1						
		diltiazem (ER)	2	2						
		doxazosin	3	3						
		fluvoxamine (ER)	4	4						
		quetiapine	5	5						
		sertraline	6	6						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1906	63 y F	valbenazine	7	7						
		coenzyme Q	8	8						
		amlodipine	1	1	A/C	Ingst	Int-S	1		
1907h	65 y F	metoprolol	2	2						
		potassium	3	3						
		diltiazem (ER)	1	1	A/C	Ingst	Int-S	2		
1908h	65 y F	amlodipine	1	1						
		meloxicam	2	2						
		hydroxyzine	3	3						
1909a	65 y F	lisinopril	1	1	A	Ingst	Int-S	1	lisinopril	930 ng/mL In Blood (unspecified) @ Autopsy
		amphetamine/dextroamphetamine	2	2					amphetamine	34 ng/mL In Blood (unspecified) @ Autopsy
		amphetamine/dextroamphetamine	2	2					methamphetamine	530 ng/mL In Blood (unspecified) @ Autopsy
		benzodiazepine, N.O.S.	3	3					diazepam	100 ng/mL In Blood (unspecified) @ Autopsy
		benzodiazepine, N.O.S.	3	3					alprazolam	20 ng/mL In Blood (unspecified) @ Autopsy
		benzodiazepine, N.O.S.	3	3					nordiazepam	42 ng/mL In Blood (unspecified) @ Autopsy
		benzodiazepine, N.O.S.	4	4						
1910ha	65 y F	amlodipine	1	1	A/C	Ingst	Int-S	1		
		carvedilol	2	2						
1911ha	66 y M	amlodipine	1	1	A	Ingst	Int-S	1	amlodipine	980 ng/mL In Blood (unspecified) @ Unknown
		ibuprofen	2	2					ibuprofen	25 ng/mL In Blood (unspecified) @ Unknown
1912ha	66 y M	ethanol (beverage)	3	3						
		amlodipine	1	1	A/C	Ingst + Inhal	Int-S	1	amlodipine	0.49 mg/L In Blood (unspecified) @ Unknown
1913h	66 y F	cocaine	2	1						
		diphacinone	3	2						
		amlodipine	1	1	A/C	Ingst	Int-S	1		
1914ph	66 y F	metoprolol	2	2						
		cyclobenzaprine	3	3						
		flecainide	1	1	A	Ingst	Int-S	2		
1915h	66 y M	diltiazem	1	1	A	Ingst	AR-D	3		
1916h	66 y M	amlodipine	1	1	A/C	Ingst	Int-U	2		
		beta blocker, N.O.S.	1	1						
1917h	66 y M	ethanol (beverage)	2	2						
		amlodipine	1	1	A/C	Ingst	Int-S	2		
1918	66 y F	amlodipine	1	1	A/C	Ingst	Int-S	2		
		valproic acid	2	2					valproic acid	25 mcg/mL In Serum @ Unknown
1919ha	66 y F	carbidopa/drug, N.O.S.	3	3						
		beta blocker, N.O.S.	1	1	A	Ingst	Int-S	1		
		calcium antagonist, N.O.S.	6	2						
		diphenhydramine	4	3					diphenhydramine	940 ng/mL In Blood (unspecified) @ Unknown
		zolpidem	3	4				zolpidem	1700 ng/mL In Blood (unspecified) @ Unknown	

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		alprazolam	2	5					alprazolam	82 ng/mL In Blood (unspecified) @ Unknown
1920	67 y F	ethanol (beverage)	5	6						
		ethanol (beverage)			A	Ingst	Int-S	2		
1921h	67 y M	metoprolol (ER)	1	1						
		metoprolol (ER)			A/C	Ingst	Int-U	3		
		amlodipine	1	1						
1922h	67 y M	fluoxetine	2	2						
		fluoxetine			A/C	Ingst	Int-S	2		
		diltiazem (ER)	1	1						
1923h	67 y M	nifedipine	2	2						
		nifedipine			C	Ingst	AR-D	1		
		digoxin	1	1					digoxin	11.27 ng/mL In Blood (unspecified) @ Unknown
		warfarin	2	2						
1924h	67 y M	warfarin			A	Ingst	Int-S	3		
		lisinopril	1	1						
1925h	67 y F	lisinopril			A/C	Ingst	Int-S	3		
		carvedilol	1	1						
		levetiracetam	2	2					levetiracetam	54.4 mcg/mL In Blood (unspecified) @ Unknown
1926ha	68 y F	levetiracetam			A/C	Ingst	Int-S	1		
		nifedipine (ER)	1	1						
		acetaminophen/diphenhydramine	2	2					acetaminophen (apap)	57 mg/L In Blood (unspecified) @ Unknown
		ethanol (beverage)	3	3					ethanol	16 mg/dL In Blood (unspecified) @ Unknown
		salicylate	4	4					salicylate	11 mg/dL In Blood (unspecified) @ Unknown
1927	68 y M	salicylate			A	Ingst	Int-S	2		
		labetalol	1	1						
		amlodipine	2	2						
1928h	68 y M	amlodipine			A/C	Ingst	Int-M	1		
		amlodipine	1	1						
		carvedilol	2	2						
1929	68 y M	carvedilol			A/C	Ingst	Int-S	1		
		amlodipine	1	1						
1930	69 y M	amlodipine			A/C	Ingst	Int-S	2		
		metoprolol (ER)	1	1						
		metformin	2	2						
1931h	69 y F	metformin			A/C	Ingst	Int-S	2		
		verapamil	1	1						
		quetiapine	2	2						
		duloxetine (ER)	3	3						
		pantoprazole	4	4						
		ethanol (beverage)	5	5					ethanol	71 mg/dL In Serum @ Unknown
1932h	69 y F	ethanol (beverage)			A	Ingst	Int-S	2		
		amlodipine	1	1						
1933	69 y F	amlodipine			A	Ingst	Int-S	2		
		calcium antagonist, N.O.S.	1	1						
		citalopram	2	2						
1934h	69 y F	citalopram			A/C	Ingst	Int-S	2		
		amlodipine	1	1						
		venlafaxine	2	2						
1935h	69 y F	venlafaxine			A/C	Ingst	Int-S	2		
		verapamil	1	1						
		gabapentin	2	2						
		quetiapine	3	3						
		indomethacin	4	4						
		duloxetine (ER)	5	5						
		hydrochlorothiazide	6	6						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1936a	69 y M	digoxin	1	1	C	Ingst	AR-D	3	digoxin	3.9 ng/mL In Blood (unspecified) @ Unknown
1937	69 y M	amiodarone	1	1	A/C	Ingst	Int-S	2		
		acetaminophen/hydrocodone	2	2					acetaminophen (apap)	42 mg/L In Plasma @ Unknown
		metolazone	3	3						
		spironolactone	4	4						
		carvedilol	5	5						
1938	69 y F	amlodipine	1	1	A/C	Ingst	Int-S	2		
		lithium	2	2					lithium	0.8 mmol/L In Blood (unspecified) @ Unknown
		risperidone	3	3						
		benzodiazepine, N.O.S.	4	4						
		bupirone	5	5						
1939ha	70 y F	diltiazem	1	1	A	Ingst	Int-S	1		
		nortriptyline	2	2						
		metoprolol (ER)	3	3						
		clonazepam	4	4						
		histamine-2 blocker, N.O.S.	5	5						
		duloxetine (ER)	6	6						
		levothyroxine	7	7						
		vitamin D	8	8						
1940p	70 y M	metoprolol	1	1	A	Ingst	Int-S	2		
		losartan	2	2						
		acetaminophen/hydrocodone	3	3					acetaminophen (apap)	105 mcg/mL In Blood (unspecified) @ Unknown
		diazepam	4	4						
		amphetamine, N.O.S.	5	5						
1941h	70 y F	amlodipine	1	1	A	Ingst	Int-S	1		
1942ha	70 y F	amlodipine	1	1	A/C	Ingst	Int-S	1		
		methotrexate	2	2					methotrexate	0.07 µmol/L In Serum @ 5 d (pe)
		methotrexate	2	2					methotrexate	0.48 µmol/L In Serum @ 1 d (pe)
		folic acid	3	3						
1943h	70 y F	amlodipine	1	1	A/C	Ingst + Derm	Int-S	2		
		carvedilol	2	2						
		alprazolam	3	3						
		temazepam	4	4						
		famotidine	5	5						
		esomeprazole	6	6						
		carafate	7	7						
		buprenorphine (TD)	8	8						
1944h	71 y M	atenolol	1	1	A	Ingst	Int-S	2		
		amlodipine	2	2						
		valsartan	3	3						
		quetiapine	4	4						
1945h	71 y F	amlodipine	1	1	A/C	Ingst	Int-S	2		
		clonazepam	2	2						
1946h	71 y F	cardiac glycoside	1	1	A/C	Ingst	AR-D	3		
1947h	71 y F	amlodipine	1	1	A/C	Ingst	Int-S	2		
1948h	72 y F	digoxin	1	1	A	Ingst	Unk	3	digoxin	3.5 ng/mL In Blood (unspecified) @ Unknown
1949h	72 y M	nadolol	1	1	C	Ingst	AR-D	3		
1950h	72 y F	metoprolol (ER)	1	1	A	Ingst	Int-S	2		
		amlodipine	2	2						
		narcotic, N.O.S.	3	3						
		iron	4	4						
		benzodiazepine	5	5						
		ramipril	6	6						
		tamsulosin	7	7						
		mirtazapine	8	8						
		famciclovir	9	9						
		allopurinol	10	10						
1951h	72 y M	verapamil	1	1	A/C	Ingst	Int-S	2		
		escitalopram	2	2						
		losartan	3	3						
		lorazepam	4	4						
1952h	72 y M	amlodipine	1	1	A/C	Ingst	Int-S	1		

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Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1953h	72 y F	amlodipine	1	1	C	Ingst	Unt-T	2		
		acetaminophen/hydrocodone	2	2						
1954h	72 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		tamsulosin	2	2						
		lisinopril	3	3						
		clonazepam	4	4						
1955h	72 y F	amlodipine	1	1	A/C	Ingst	Int-S	1		
		lisinopril	2	2						
1956ph	73 y M	sotalol	1	1	A/C	Ingst	Int-U	2		
1957h	73 y F	digoxin	1	1	C	Ingst	Unt-T	1	digoxin	8 ng/mL In Blood (unspecified) @ Unknown
1958h	73 y M	digoxin	1	1	C	Ingst	AR-D	3	digoxin	3.9 ng/mL In Serum @ Unknown
1959h	74 y F	cardiac glycoside	2	1	A	Ingst	Int-S	3		
		diazepam	1	2						
1960ph	74 y F	metoprolol	1	1	A/C	Ingst	Unt-T	2		
		amlodipine	2	2						
		clonidine	3	3						
1961	74 y F	ranolazine (ER)	1	1	A	Ingst	Int-S	2		
		isosorbide mononitrate (ER)	2	2						
		amlodipine	3	3						
		losartan	4	4						
1962	74 y F	cardiac glycoside, N.O.S.	1	1	A	Ingst	AR-D	2	digoxin	5 ng/mL In Blood (unspecified) @ Unknown
1963	74 y F	diltiazem (ER)	1	1	A	Ingst	Int-S	2		
		acetaminophen/oxycodone	2	2					acetaminophen (apap)	21.8 mcg/mL In Serum @ Unknown
1964h	74 y F	amlodipine	2	1	A	Ingst	Int-S	2		
		losartan	1	2						
		ethanol (beverage)	3	3					ethanol	248 mg/dL In Blood (unspecified) @ Unknown
1965ha	74 y F	amlodipine	1	1	A/C	Ingst	Int-S	1	amlodipine	1200 ng/mL In Blood (unspecified) @ Unknown
		bupropion	2	2					hydroxybupropion	320 ng/mL In Blood (unspecified) @ Unknown
		bupropion	2	2					bupropion	440 ng/mL In Blood (unspecified) @ Unknown
		escitalopram	3	3					escitalopram	1800 ng/mL In Blood (unspecified) @ Unknown
1966h	75 y F	diltiazem	1	1	A	Ingst	Int-S	2		
		diazepam	2	2						
		salicylate	3	3						
1967h	75 y F	carvedilol	1	1	C	Ingst	Unt-T	3		
		fluconazole	2	2						
		viral disease (COVID-19-Confirmed)	3	3						
1968hi	75 y F	amlodipine	1	1	A	Ingst	Int-S	2		
		lisinopril	3	2						
		metoprolol	2	2						
		roflumilast	5	3						
		diphenhydramine	4	4						
		ethanol (beverage)	6	5					ethanol	99 mg/dL In Blood (unspecified) @ Unknown
1969h	75 y M	metoprolol	1	1	A/C	Ingst	Int-S	1		
		amlodipine	2	2						
		acetaminophen	3	3					acetaminophen (apap)	95 mg/L In Serum @ Unknown
1970	75 y F	amlodipine	1	1	A	Ingst	Int-S	2		
1971h	76 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		mirabegron	2	2						
		gabapentin	3	3						
		tamsulosin	4	4						
1972ha	76 y F	amlodipine	1	1	A/C	Ingst	Unk	1	amlodipine	0.14 mg/L In Serum @ 0.1 d (pe)

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1973ha	77 y M	metoprolol (ER)	2	2	A/C	Ingst	Int-S	1	metoprolol	2.5 mg/L In Blood (unspecified) @ 1 d (pe)
		gabapentin	3	3					gabapentin	100 mg/L In Blood (unspecified) @ 1 d (pe)
		duloxetine (ER)	4	4					duloxetine	1.1 mg/L In Blood (unspecified) @ 1 d (pe)
		lorazepam	5	5					lorazepam	0.011 mg/L In Blood (unspecified) @ 1 d (pe)
1974h	77 y F	calcium antagonist, N.O.S.	1	1	A	Ingst	Int-S	2	carvedilol	
		amlodipine	1	1						
1975	77 y F	metoprolol	2	2	C	Ingst	AR-D	3		
		digoxin	1	1						
1976h	78 y M	metformin	2	2	C	Ingst	AR-D	3		
		digoxin	1	1					digoxin	4.7 ng/mL In Serum @ Unknown
1977ha	78 y M	amlodipine/benazepril	1	1	U	Ingst	Int-S	1		
		clonidine	2	2						
		hydralazine	3	3						
		simvastatin	4	4						
1978	78 y M	calcium antagonist, N.O.S.	1	1	A/C	Ingst	Int-S	1		
		donepezil	2	2						
		apixiban	3	3						
		hydrochlorothiazide	4	4						
		tamsulosin	5	5						
		acridinium	6	6						
		mometasone	7	7						
1979h	79 y F	atenolol	1	1	A/C	Ingst	Int-S	1		
1980ha	79 y M	amlodipine	1	1	A/C	Ingst	Int-S	1		
		lisinopril	2	2						
1981i	79 y M	amlodipine	1	1	A	Ingst	Int-S	2		
1982	79 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		sotalol	1	1						
		potassium	2	2						
		diltiazem	3	3						
		glipizide	4	4						
		oxybutynin	5	5						
furosemide	6	6								
1983h	79 y F	digoxin	1	1	C	Ingst	AR-D	3	digoxin	5.5 ng/mL In Blood (unspecified) @ Unknown
1984	79 y M				A	Ingst	Int-M	2		
1985h	79 y F	metoprolol	1	1	A	Ingst	Int-S	3		
		amlodipine	1	1						
		warfarin	2	2						
		methocarbamol	3	3						
		gabapentin	4	4						
acetaminophen	5	5								
1986h	80 y F	digoxin	1	1	C	Ingst + Par	Unk	2	acetaminophen (apap)	11.6 mcg/mL In Plasma @ Unknown
1987h	80 y F	insulin (lispro)	2	2	A	Ingst	Int-S	2	digoxin	2.9 ng/mL In Blood (unspecified) @ Unknown
		warfarin	3	3						
1988h	80 y M	atenolol	1	1	A/C	Ingst	Int-S	2		
		losartan	2	2						
		duloxetine (ER)	3	3						
		clonazepam	4	4						
		apixaban	5	5						
		acetaminophen/propoxyphene	6	6					acetaminophen (apap)	55 mcg/mL In Blood (unspecified) @ Unknown
1988h	80 y M	atorvastatin	7	7						
		bupirone	8	8						
		mirtazapine	9	9						
		lorazepam	10	10						
1989h	80 y F	metoprolol (ER)	1	1	A/C	Ingst	Unk	3		
		lisinopril	2	2						
1990h	81 y F	digoxin	1	1	C	Ingst	AR-D	3		
		digoxin	1	1					digoxin	3.1 ng/mL In Blood (unspecified) @ Unknown
		digoxin	1	1					digoxin	3.5 mcg/mL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
1991h	81 y M	amlodipine	1	1	A/C	Ingst	Int-S	2		
		lisinopril	2	2						
1992h	81 y F	digoxin	1	1	A	Par	Unt-T	2		
1993h	82 y F	metoprolol (ER)	1	1	A	Ingst	Int-S	3		
		apixaban	2	2						
1994h	82 y M	metoprolol	1	1	A/C	Ingst	Int-S	2		
1995	82 y M	cardiac glycoside, N.O.S.	1	1	A	Ingst	AR-D	3	digoxin	6.4 ng/mL In Blood (unspecified) @ Unknown
		viral disease (COVID-19-Confirmed)	2	2						
1996h	83 y F	digoxin	1	1	C	Ingst	AR-D	3	digoxin	4.1 ng/mL In Serum @ Unknown
1997h	83 y F	metoprolol	4	1	A/C	Ingst + Unk	Int-S	1		
		citalopram	1	2					citalopram	3000 ng/mL In Blood (unspecified) @ Unknown
		acetaminophen/butalbital/caffeine	2	3					butalbital	4.7 mcg/mL In Blood (unspecified) @ Unknown
		warfarin	3	3						
1998h	83 y M	carvedilol	1	1	U	Ingst	Int-S	2		
		amlodipine	2	2						
		ezetimibe	3	3						
		ethanol (beverage)	4	4					ethanol	226 mg/dL In Blood (unspecified) @ Unknown
		furosemide	6	5						
		sacubitril/valsartan	5	6						
		pravastatin	7	7						
1999h	83 y M	calcium antagonist, N.O.S.	1	1	A/C	Ingst	Int-S	3		
		metoprolol	2	2						
		tamsulosin	3	3						
		candesartan/hydrochlorothiazide	4	4						
		metformin	5	5						
		allopurinol	6	6						
2000h	83 y F	digoxin	1	1	C	Unk	Unk	3	digoxin	5.1 ng/mL In Blood (unspecified) @ Unknown
		warfarin	2	2						
2001h	83 y M	amlodipine	1	1	A/C	Ingst	Int-S	1		
2002h	84 y F	amlodipine	1	1	A/C	Ingst	Int-S	2		
		lisinopril	2	2						
		atorvastatin	3	3						
2003h	86 y F	diltiazem (ER)	1	1	A/C	Ingst	Int-S	2		
2004h	87 y F	amlodipine	1	1	A/C	Ingst	Int-S	2		
		benazepril	2	2						
		acyclovir	3	3						
		clopidogrel	4	4						
		levothyroxine	5	5						
		simvastatin	6	6						
		omeprazole	7	7						
2005ha	87 y M	atenolol	1	1	A	Ingst	Int-M	1		
		losartan	2	2						
		insulin	3	3						
2006h	87 y M	metoprolol	1	1	A/C	Ingst	Unt-G	1		
		carbamazepine	2	2						
		lisinopril	3	3						
		salicylate	4	4						
		lovastatin	5	5						
2007h	87 y F	digoxin	1	1	C	Ingst	Unt-T	1	digoxin	8.08 ng/mL In Serum @ Unknown
		acetaminophen	2	2						
2008h	88 y F	diltiazem	1	1	A/C	Ingst	Int-S	1		
		salicylate	2	2						
2009	88 y M	beta blocker, N.O.S.	1	1	A	Ingst + Par	Int-S	2		
		insulin	2	2						
2010a	89 y F	amlodipine	1	1	U	Ingst	Int-S	1		
		baclofen	2	2						
		levetiracetam	3	3						
		antiplatelet drug, N.O.S.	4	4						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time								
2011	89 y F	homeopathic agent, N.O.S.	5	5	C	Ingst	AR-D	2	digoxin	1.6 ng/mL In Blood (unspecified) @ Unknown								
		zolpidem	6	6														
		digoxin	1	1														
		diltiazem	2	2														
		furosemide	3	3														
		apixaban	4	4														
2012h	89 y M	metolazone	5	5	A/C	Ingst + Par	AR-D	2										
		potassium	6	6														
		metoprolol	1	1														
		diltiazem	2	2														
		2013h	90 y M	nifedipine (ER)							1	1	A/C	Ingst	Unt-T	3		
				viral disease (COVID-19)							2	2						
2014	93 y F	carvedilol	1	1	A	Ingst	Unk	3										
2015h	95 y F	digoxin	1	1	A/C	Ingst	Unk	3										
2016h	98 y F	metoprolol	1	1	A/C	Ingst	AR-D	3										
2017h	102 y M	amlodipine	1	1	A	Ingst	Unt-T	1										
		carvedilol	2	2														
		tamsulosin	3	3														
		salicylate	4	4														
		finasteride	5	5														
		isosorbide mononitrate (ER)	6	6														
		losartan	7	7														
		polyethylene glycol	8	8														
		vitamins (multiple)	9	9														
		senna alkaloids	10	10														
2018h	60+ y F	amlodipine	1	1	A/C	Ingst	Int-S	2										
See Also case 13, 64, 66, 647, 671, 794, 1059, 1117, 1157, 1164, 1217, 1282, 1305, 1325, 1393, 1394, 1425, 1480, 1488, 1533, 1534, 1536, 1538, 1554, 1558, 1562, 1566, 1568, 1594, 1598, 1600, 1603, 1605, 1628, 1632, 1636, 1643, 1645, 1646, 1653, 1654, 1657, 1658, 1659, 1674, 1675, 1678, 1680, 1699, 1700, 1713, 1716, 1746, 2024, 2028, 2032, 2037, 2038, 2059, 2065, 2074, 2076, 2077, 2078, 2114, 2125, 2131, 2142, 2147, 2154, 2158, 2185, 2187, 2254, 2320, 2375, 2463, 2531, 2569, 2610																		
Cold and Cough Preparations																		
2019ph	3 y F	benzonatate	1	1	A	Ingst	Unt-G	2										
2019ph	3 y F	topiramate	2	2														
		pseudoephedrine	3	3														
		guaifenesin (ER)	4	4														
		cetirizine	5	5														
		naproxen	6	6														
		2020ph	15 y F	benzonatate	1	1	A	Ingst	Int-S	2								
2021p	18 y F	non-narcotic antitussive, N.O.S.	1	1	A	Ingst	Int-S	2										
2022	25 y M	phenylephrine	1	1	A	Ingst	Int-A	2										
		dextromethorphan	2	2														
		diphenhydramine	3	3														
		acetaminophen/dextromethorphan/phenylephrine	4	4														
2023pi	34 y M	dextromethorphan/guaifenesin	1	1	U	Ingst	Int-S	2	dextromethorphan	5959 ng/mL In Blood (unspecified) @ Autopsy								
2024a	35 y F	amlodipine	1	1	A	Ingst	Int-S	2										
		expectorants, N.O.S.	4	1														
		hydroxyzine	2	2														
		phenergan	5	2														
		lisinopril	6	3														
		melatonin	7	4														
2025ph	40 y F	acetaminophen/hydrocodone	3	5	A	Ingst	Int-M	3										
2025ph	40 y F	cough and cold preparation, N.O.S.	1	1	A	Ingst	Int-M	3	acetaminophen (apap)	147 mcg/mL In Blood (unspecified) @ Unknown								
		acetaminophen	2	2														
2026	42 y M	dextromethorphan	1	1	U	Ingst	Int-U	2										
2027p	51 y M	ethanol (beverage)	2	2	A	Ingst	Int-S	3										
		acetaminophen/chlorpheniramine/dextromethorphan	1	1														
2028a	54 y M	diphenhydramine	2	2	A	Ingst	Int-S	2										
		acetaminophen/antihistamine/dextromethorphan	1	1														
		acetaminophen	2	2														
2028a	54 y M	acetaminophen	2	2	A	Ingst	Int-S	2	doxylamine	0.033 mg/L In Blood (unspecified) @ Autopsy								
		acetaminophen	2	2					acetaminophen (apap)	367 mcg/mL In Blood (unspecified) @ Unknown								

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2029ha	59 y F	acetaminophen	2	2					acetaminophen (apap)	397 mg/L In Blood (unspecified) @ Autopsy
		angiotensin converting enzyme inhibitor, N.O.S.	3	3						
		ibuprofen	4	4						
		gemfibrozil	5	5						
		doxylamine	1	1	A	Ingst	Int-S	1	doxylamine	10000 ng/mL In Blood (unspecified) @ Autopsy
		duloxetine (ER)	2	2					duloxetine	1000 ng/mL In Blood (unspecified) @ Autopsy
		cyclobenzaprine	3	3					cyclobenzaprine	110 ng/mL In Blood (unspecified) @ Autopsy
2030h	67 y F	prochlorperazine	4	3					prochlorperazine	54 ng/mL In Blood (unspecified) @ Autopsy
		hydroxychloroquine	7	4						
		lorazepam	5	4					lorazepam	5 ng/mL In Blood (unspecified) @ Autopsy
		alprazolam	8	5						
		corticosteroids	6	6						
		acetaminophen/antihistamine/dextromethorphan	1	1	U	Ingst	Unk	2		
		acetaminophen/oxycodeone	2	2						
2031	69 y F	acetaminophen/decongestant/dextromethorphan	1	1	A	Ingst	Int-M	2		
		viral disease (COVID-19-Confirmed)	2	2						
2032h	69 y M	acetaminophen/decongestant/dextromethorphan	1	1	C	Ingst	Int-S	3		
		acetaminophen/drugs, N.O.S.	2	2						
		tizanidine	3	3						
		gabapentin	4	4						
		losartan	5	5						
[2033h]	16 m F	benzonatate	1	1	A	Ingst	Unt-G	2		
See Also case 55, 90, 309, 310, 373, 613, 616, 683, 884, 893, 952, 1079, 1334, 1360, 1564, 1573, 1578, 1610, 1688, 1718, 1724, 1737, 1829, 2110, 2111, 2116, 2157, 2205										
Dietary Supplements/Herbals/Homeopathic										
2034ph	21 y F	dietary supplement, botanical, N.O.S.	1	1	A	Ingst	AR-O	2		
		ethanol (beverage)	2	2						
See Also case 82, 149, 303, 671, 1139, 1400, 1821, 1882, 1905, 2010, 2024, 2065, 2093, 2195, 2324, 2605										
Diuretics										
2035h	65 y F	hydrochlorothiazide	3	1	A	Ingst	Int-S	2		
		quetiapine	2	2						
		bupropion (ER)	1	3						
See Also case 671, 1438, 1554, 1557, 1568, 1595, 1674, 1699, 1755, 1759, 1762, 1791, 1868, 1890, 1897, 1898, 1904, 1935, 1937, 1978, 1982, 1998, 2011, 2077, 2177										
Electrolytes and Minerals										
2036	39 y M				A	Derm	Unt-O	1		
2037ha	50 y F	calcium	1	1	U	Ingst+Unk	Int-S	1		
		iron	1	1				iron	1326 mcg/dL In Blood (unspecified) @ Unknown	
2038h	67 y M	amlodipine	2	2	A/C	Ingst	Int-S	1		
		potassium	1	1				potassium	9 mEq/L In Blood (unspecified) @ Unknown	
2039h	79 y M	propranolol	2	2						
		acetaminophen	3	3						
		pregabalin	4	4						
		montelukast	5	5						
		potassium	1	1	A/C	Ingst	Int-S	2	potassium	6.3 mEq/L In Serum @ Unknown
[2040h]	23 m M	iron	1	1	A	Ingst	Unt-G	1	iron	2000 mcg/dL In Blood (unspecified) @ 3 h (pe)
		iron	1	1				iron	2000 mcg/dL In Blood (unspecified) @ 9.5 h (pe)	
		iron	1	1				iron	2000 mcg/dL In Whole Blood @ 3 h (pe)	
		iron	1	1				iron	2000 mcg/dL In Whole Blood @ 9.5 h (pe)	
		iron	1	1				iron	23300 mcg/dL In Blood (unspecified) @ 6.5 h (pe)	
		iron	1	1				iron	23300 mcg/dL In Whole Blood @ 6.5 h (pe)	
		iron	1	1				iron	282 mcg/dL In Blood (unspecified) @ 21 h (pe)	
		iron	1	1				iron	282 mcg/dL In Whole Blood @ 21 h (pe)	

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		iron	1	1					iron	881 mcg/dL In Blood (unspecified) @ 15.5h (pe)
		iron	1	1					iron	881 mcg/dL In Whole Blood @ 15.5h (pe)
See Also case 303, 814, 1400, 1438, 1797, 1809, 1906, 1950, 1982, 2011										
Gastrointestinal Preparations										
2041h	75 y M	bismuth subsalicylate	1	1	C	Ingst	Unk	2	salicylate	67.3 mg/dL In Blood (unspecified) @ Unknown
		acetaminophen/caffeine/ acetylsalicylate	2	2						
See Also case 123, 335, 671, 1175, 1400, 1438, 1558, 1600, 1636, 1654, 1657, 1688, 1759, 1784, 1802, 1833, 1838, 1846, 1882, 1886, 1931, 1943, 1971, 1982, 2004, 2017, 2099, 2114, 2383										
Hormones and Hormone Antagonists										
2042h	28 y F	metformin	1	1	U	Ingst	Unk	3	metformin	32 mcg/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	281 mg/dL In Blood (unspecified) @ Unknown
2043h	29 y F	metformin	1	1	A	Ingst	Int-S	2		
		ibuprofen	2	2						
		acetaminophen	3	3					acetaminophen (apap)	22 mcg/mL In Blood (unspecified) @ Unknown
2044h	29 y F	empagliflozin	4	4	A	Ingst	Int-S	2		
		metformin (ER)	1	1						
		bupirone	2	2						
2045h	30 y M	androgen, N.O.S.	2	1	C	Ingst	Int-A	2		
		dinitrophenol	1	1						
2046ha	31 y F	metformin (ER)	1	1	A	Ingst	Int-S	1		
		acetaminophen	2	2					acetaminophen (apap)	383 mcg/mL In Blood (unspecified) @ Unknown
2047ha	34 y F	metformin	1	1	A	Ingst	Int-S	1		
		cocaine	2	2					benzoylecognine	570 ng/mL In Whole Blood @ Autopsy
2048	42 y F	insulin	1	1	A	Ingst	Int-S	2		
		trazodone	2	2						
		venlafaxine	3	3						
		risperidone	4	4						
2049h	43 y F	metformin	1	1	A/C	Ingst	Int-S	2		
2050h	45 y M	metformin	1	1	C	Ingst	AR-D	2		
		ethanol (beverage)	2	2						
2051	45 y F	metformin	1	1	A/C	Ingst	Int-S	2		
2052ha	46 y F	metformin	1	1	A	Ingst	Unk	2		
		quetiapine	2	2						
		gabapentin	3	3						
2053h	46 y F	metformin	1	1	A/C	Ingst	Int-S	2		
		acetaminophen	2	2					acetaminophen (apap)	18 mcg/mL In Blood (unspecified) @ Unknown
2054i	46 y F	ibuprofen	3	3	U	Unk	Int-S	1		
		metformin	1	1						
		acetaminophen	2	2						
2055ha	47 y F	insulin	1	1	A	Par	Int-S	1		
2056ha	47 y F	metformin	1	1	A/C	Ingst	Int-S	1		
		quetiapine	2	2					quetiapine	2000 ng/mL In Blood (unspecified) @ Unknown
		temazepam	7	3					oxazepam	227 ng/mL In Blood (unspecified) @ Unknown
		temazepam	7	3					temazepam	6582 ng/mL In Blood (unspecified) @ Unknown
		mirtazapine	3	4					mirtazapine	1920 ng/mL In Blood (unspecified) @ Unknown
		diphenhydramine	4	5						
		olanzapine	5	6						
		vilazodone	6	7						
2057ai	48 y F				U	Unk	Int-S	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2058h	51 y M	insulin	1	1	C	Ingst	AR-D	3		
2059h	51 y M	metformin (ER)	1	1	U	Ingst	Int-S	2		
		metformin	1	1						
		sildenafil	2	2						
		baclofen	3	3						
		ethanol (beverage)	4	4						
		gabapentin	5	5						
2060a	54 y M	metformin drug, N.O.S.	1	1	A	Ingst	Int-S	2		
2061h	55 y M	metformin	1	1	A/C	Ingst	Unk	2		
		ethanol (beverage)	2	2					ethanol	160 mg/dL In Blood (unspecified) @ Unknown
2062	56 y F	metformin	1	1	A/C	Unk	Unk	2		
		acetaminophen	2	2						
		viral disease (COVID-19-Confirmed)	3	3						
2063h	56 y F	metformin	1	1	A	Ingst	Int-S	2		
		escitalopram	2	2						
2064h	56 y M	insulin	1	1	A/C	Par	Int-S	1		
		cocaine	2	2						
2065h	57 y F	metformin	1	1	A/C	Ingst	Int-S	1		
		venlafaxine	2	2						
		diphenhydramine	3	3						
		losartan	4	4						
		levothyroxine	5	5						
		melatonin	6	6						
2066	58 y F	metformin	1	1	C	Ingst	Int-M	2		
		acetaminophen	2	2						
2067a	59 y M	metformin	1	1	A	Ingst	Int-S	2		
2068p	60 y M	insulin (glargine) (ER)	1	1	A/C	Ingst + Par	Int-S	2		
		acetaminophen/diphenhydramine	2	2						
		fluoxetine	3	3						
2069	61 y M	metformin	1	1	A	Ingst	AR-D	3		
2070h	61 y F	metformin (ER)	1	1	C	Ingst	AR-D	2		
2071h	64 y F	metformin	1	1	C	Ingst	Unk	1	metformin	51 mcg/mL In Blood (unspecified) @ Unknown
		nirmatrelvir/ritonavir	2	2						
		viral disease (COVID-19-Confirmed)	3	3						
2072	64 y M	metformin	1	1	A	Ingst	Unk	2		
2073h	65 y M	metformin	1	1	U	Ingst	Int-S	2		
2074h	65 y M	metformin	1	1	A/C	Ingst	Int-S	2		
		metoprolol	2	2						
		fluoxetine	3	3						
2075h	66 y F	metformin	1	1	U	Ingst	AR-D	2		
2076h	66 y F	metformin (ER)	1	1	A/C	Ingst	Int-S	2		
		alprazolam	2	2						
		levetiracetam	3	3						
		lisinopril	4	4						
		quetiapine	5	5						
		paroxetine	6	6						
		olanzapine	7	7						
		lovastatin	8	8						
2077ha	67 y M	metformin	1	1	U	Ingst	Int-S	2		
		angiotensin converting enzyme inhibitor, N.O.S.	2	2						
		cetirizine	3	3						
		diuretic, N.O.S.	4	4						
2078h	69 y M	metformin	1	1	A/C	Ingst	Unk	3		
		gemfibrozil	2	2						
		atorvastatin	3	3						
		metoprolol	4	4						
2079	71 y M	metformin	1	1	A	Ingst	Int-S	2		
		dapagliflozin	2	2						
2080h	72 y F	metformin (ER)	1	1	C	Ingst	AR-D	3		
2081h	72 y F	metformin	1	1	C	Ingst	AR-D	3		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2082ha	73 y F	metformin (ER)	1	1	A/C	Ingst	Int-S	1	metformin	110 mcg/mL In Blood (unspecified) @ Unknown
2083h	75 y M	metformin	1	1	A/C	Ingst	Unk	2	acetaminophen (apap)	7.1 mcg/mL In Serum @ Unknown
		warfarin	2	2						
		acetaminophen	3	3						
2084h	76 y M	metformin	1	1	C	Ingst	AR-D	2		
2085h	76 y M	metformin	1	1	C	Ingst	AR-D	3		
2086h	77 y M	metformin	1	1	C	Ingst+Inhal	AR-D	3		
		viral disease (COVID-19-Confirmed)	2	2						
2087h	78 y M	metformin	1	1	C	Ingst	Int-S	3		
2088h	78 y M	metformin	1	1	A/C	Ingst	Int-S	2		
		ethanol (beverage)	2	2						
2089h	81 y M	glimepiride	1	1	A	Ingst	Unt-G	2		
2090ph	83 y M	insulin (degludec) (ER)	1	1	A/C	Par	Unk	2		
2091ai	84 y M	insulin	1	1	U	Unk	Int-S	1		
2092	88 y F	metformin (ER)	1	1	U	Ingst	Unk	2		
[2093ha]	22 m F	glipizide	1	1	A	Ingst	Unk	1	glipizide	40 ng/mL In Blood (unspecified) @ 2 d (pe)
		melatonin	2	2						
See Also case 57, 1179, 1533, 1534, 1540, 1542, 1560, 1590, 1598, 1628, 1629, 1636, 1646, 1674, 1703, 1741, 1752, 1773, 1778, 1796, 1809, 1815, 1863, 1864, 1873, 1886, 1889, 1930, 1939, 1975, 1982, 1986, 1999, 2004, 2005, 2009, 2029, 2135, 2190, 2324										
Miscellaneous Drugs										
2094h	58 y M	anagrelide	1	1	C	Ingst	AR-D	2		
2095ai	67 y M	donepezil	1	1	U	Unk	Int-A	1		
2096h	81 y F	rasburicase	1	1	A	Par	AR-D	3		
See Also case 617, 671, 1436, 1449, 1666, 1680, 1701, 1759, 1829, 1834, 1838, 1905, 1918, 1950, 1968, 1978, 1999, 2017, 2177, 2320, 2531										
Muscle Relaxants										
2097ph	27 y F	cyclobenzaprine	1	1	A	Ingst	Int-S	2		
		ethanol (beverage)	2	2						
2098ph	42 y F	carisoprodol	1	1	A	Unk	Int-S	2		
2099h	43 y F	carisoprodol	1	1	A/C	Ingst	Int-S	3		
		tizanidine	1	1						
		acetaminophen/hydrocodone	3	2						
		acetaminophen/hydrocodone	2	3						
		ethanol (beverage)	5	4					ethanol	112 mg/dL In Serum @ Unknown
		amphetamine/dextroamphetamine	6	5						
		cyclobenzaprine	4	6						
		ondansetron	7	7						
2100h	45 y F	carisoprodol	1	1	A	Ingst+Unk	Int-S	2		
		ethanol (beverage)	2	2					ethanol	200 mg/dL In Blood (unspecified) @ Unknown
2101h	49 y F	baclofen	1	1	A/C	Ingst	Int-S	3		
2102ph	50 y F	baclofen	2	1	A/C	Ingst	Int-S	1	baclofen	2.2 mcg/mL In Blood (unspecified) @ 1 d (pe)
		amitriptyline	1	2						
		methotrexate	3	3						
		acetaminophen	4	4					acetaminophen (apap)	25 mcg/mL In Blood (unspecified) @ Unknown
2103hi	50 y F	carisoprodol	2	1	U	Unk	Int-S	3		
		gabapentin	3	2						
		amphetamine	1	3						
		marijuana	4	4						
2104h	52 y M	baclofen	1	1	A	Ingst	Int-M	2		
2105ai	54 y F	baclofen	1	1	U	Unk	Int-A	1		
		diphenhydramine	2	2						
		amitriptyline	3	3						
2106	60 y M	cyclobenzaprine	1	1	A	Ingst	Int-S	3		
2107ph	62 y F	baclofen	1	1	A	Ingst	Int-S	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		acetaminophen/hydrocodone	2	2					acetaminophen (apap)	166 mg/mL In Blood (unspecified) @ Unknown
2108h	64 y F	gabapentin	3	3						
2109	64 y F	baclofen	1	1	A/C	Ingst	Unk	3		
2110ph	65 y F	baclofen	1	1	A/C	Ingst	Int-A	2		
		carisoprodol	1	1	U	Ingst	Int-S	2		
		lorazepam	2	2						
		acetaminophen/chlorpheniramine/dextromethorphan	3	3						
2111	68 y F	tizanidine	1	1	A/C	Ingst	Int-S	2		
		acetaminophen	2	2						
		acetaminophen/antihistamine/dextromethorphan	3	3						
2112	69 y M	tizanidine	1	1	A/C	Ingst	Int-S	2		
2113h	70 y F	baclofen	1	1	A/C	Ingst	Unk	2		
2114h	70 y F	baclofen	1	1	A/C	Ingst	Int-S	2		
		baclofen	1	1						
		flecainide	2	2						
		metoprolol	3	3						
		oxybutynin	4	4						
		carbamazepine	5	5						
2115h	71 y M	baclofen	1	1	U	Ingst	Int-U	3		
		quetiapine (ER)	2	2						
		acetaminophen/hydrocodone	3	3						
		lorazepam	4	4						
		gabapentin	5	5						
2116a	71 y F	baclofen	1	1	U	Ingst	Int-U	1	baclofen	3.7 mcg/mL In Blood (unspecified) @ Unknown
		dextromethorphan	2	2					dextrorphan / levorphanol	12 ng/mL In Blood (unspecified) @ Unknown
		dextromethorphan	2	2					dextro / levo methorphan	24 ng/mL In Blood (unspecified) @ Unknown
2117a	72 y F	cyclobenzaprine	1	1	A	Ingst	Int-S	2		
2118	73 y F	baclofen	1	1	A/C	Ingst	Int-S	2		
2119h	75 y M	baclofen	1	1	U	Ingst	Int-S	2		
		baclofen drug, N.O.S.	2	2						
2120ha	80 y F	baclofen	1	1	A/C	Ingst	Int-S	1	baclofen	4.6 mcg/mL In Blood (unspecified) @ Unknown
2121h	86 y F	viral disease (COVID-19-Confirmed)	2	2	U	Ingst	Int-S	2		
		baclofen	1	1						
		alprazolam	2	2						
See Also case 154, 491, 504, 578, 628, 671, 737, 923, 1117, 1157, 1208, 1293, 1295, 1343, 1595, 1598, 1628, 1637, 1653, 1656, 1664, 1672, 1785, 1792, 1827, 1842, 1858, 1913, 1985, 2010, 2029, 2032, 2059, 2299, 2386, 2561										
Sedative/Hypnotics/Antipsychotics										
2122pa	15 y M	aripiprazole	1	1	A/C	Ingst	Int-S	1	aripiprazole	400 ng/mL In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					fluoxetine	2.6 mg/L In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					fluoxetine	6.5 mg/L In Blood (unspecified) @ Autopsy
2123ai	17 y M	chlorpromazine	1	1	C	Ingst	AR-D	3	chlorpromazine	0.7 mg/L In Blood (unspecified) @ Autopsy
		chlorpromazine	1	1					chlorpromazine	0.8 mg/L In Blood (unspecified) @ Autopsy
		benztropine	2	2					benztropine mesylate	0.05 mg/L In Blood (unspecified) @ Autopsy
2124ai	20 y F	midazolam	1	1	U	Unk	Int-S	1		
2125ph	22 y F	alprazolam	1	1	A/C	Ingst	Int-S	2		
		clonidine	2	2						
		oxycodone	3	3						
		ethanol (beverage)	4	4					ethanol	39 mg/dL In Blood (unspecified) @ Unknown
2126ai	24 y F	diazepam	1	1	U	Unk	Unk	1		
		lorazepam	2	2						
		chlordiazepoxide	3	3						
2127a	26 y F				U	Ingst	Int-S	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2128ai	26 y M	quetiapine	1	1	U	Unk	Int-S	1	quetiapine	4200 ng/mL In Blood (unspecified) @ Unknown
		lamotrigine	2	2					lamotrigine	
2129ph	27 y F	pentobarbital	1	1	A	Ingst	Int-S	2		
2130p	27 y F	meclizine	2	2						
		etizolam	3	3	U	Ingst	Int-S	2		
2131ha	28 y F	alprazolam (ER)	1	1						
		zolpidem	1	1	A/C	Ingst	Int-S	1	zolpidem	630 ng/mL In Serum @ Unknown
2132	29 y F	clonazepam	2	2						
		zolpidem	3	1	A/C	Ingst	Int-S	2	quetiapine	550 ng/mL In Serum @ Unknown
2133p	29 y M	quetiapine	1	1						
		prazosin	2	3	A	Ingst	Int-S	2		
2134	29 y F	quetiapine	1	1						
		gabapentin	2	2	A/C	Ingst	Int-S	2		
2135h	33 y F	lisdexamfetamine (ER)	3	3						
		ethanol (beverage)	4	4	A/C	Ingst+Par	Int-U	3		
2136ph	34 y M	buspirone	1	1						
		alprazolam	1	1	U	Ingst	Int-U	2		
2137p	35 y F	insulin	2	2						
		quetiapine	1	1	A	Ingst	Int-S	2		
2138	35 y M	trazodone	2	2						
		naltrexone	3	3	U	Ingst	Int-S	2		
2139ph	35 y M	lamotrigine	4	4						
		temazepam	5	5	A	Ingst	Int-S	2		
2140a	36 y M	ethanol (beverage)	6	6						
		ethanol			A	Unk	Unk	3	ethanol	18 mg/dL In Blood (unspecified) @ Unknown
2141h	38 y M	benzodiazepine, N.O.S.	1	1						
		flubromazolam	1	1	U	Ingst	Int-S	2		
2142ph	38 y F	clonazolam	2	2						
		pentobarbital	1	1	A	Ingst	Int-S	2		
2143h	39 y M	phenytoin	2	2						
		ethanol (non-beverage)	3	3	U	Unk	Unk	3	fentanyl	0.028 mg/L In Blood (unspecified) @ Unknown
2144ph	40 y F	pentobarbital	1	1						
		fentanyl (prescription)	2	2	U	Ingst	Int-S	1	clonazepam	270 ng/mL In Blood (unspecified) @ Unknown
2145ai	41 y M	drug, N.O.S.	2	2						
		clonazepam	1	1	A/C	Ingst	Int-S	3		
2146ai	41 y M	primidone	3	3						
		valproic acid	4	4	U	Unk	Int-A	1		
2147p	41 y M	sumatriptan	5	5						
		alprazolam	1	1	A	Ingst	Int-S	2		
acetaminophen	2	2								
2148ai	41 y M	clonidine	3	3	U	Ingst	Int-S	2		
		fluoxetine	4	4						
2149ai	41 y M	mirtazapine	5	5	U	Unk	Int-S	1		
		diphenhydramine	6	6						
2150ai	41 y M	heroin	7	7	U	Unk	Int-S	1		
		cocaine	8	8						
2151ai	41 y M	fentanyl (non-prescription)	9	9	U	Unk	Int-S	1		
		alprazolam	1	1						
2152ai	41 y M	aripiprazole	1	1	U	Unk	Int-S	1		
		quetiapine	1	1						
2153ai	41 y M	benzodiazepine	1	1	U	Unk	Int-A	1		
		alprazolam	1	1						
2154ai	41 y M	ethanol (beverage)	2	2	A	Ingst	Int-S	2		
		clonazepam	1	1						
2155ai	41 y M	prazosin	2	2	A	Ingst	Int-S	2		
		ethanol (beverage)	3	3						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2148h	42 y M	olanzapine	1	1	A/C	Ingst	Int-S	3		
2149h	46 y M	quetiapine methadone	1 2	1 2		Ingst	Int-U	2		
2150pha	47 y F	zolpidem zolpidem hydrocodone gabapentin diphenhydramine	1 1 2 3 4	1 1 2 3 4	A	Ingst	Int-U	1	zolpidem zolpidem hydrocodone gabapentin diphenhydramine	0.044 mg/L In Serum @ 15 m (pe) 0.06 mg/L In Blood (unspecified) @ 15 m (pe) 0.088 mg/L In Serum @ 15 m (pe) 10 mg/L In Serum @ 15 m (pe) 0.14 mg/L In Blood (unspecified) @ 15 m (pe)
2151h	48 y F	alprazolam	1	1	A	Ingst	Int-S	3		
2152ai	48 y M	alprazolam ethanol (beverage)	1 2	1 2	U	Unk	Int-A	1		
2153hi	48 y M	clozapine	1	1	A	Ingst	Int-S	2		
2154ph	49 y F	quetiapine beta blocker, N.O.S.	1 2	1 2	A	Ingst	Int-S	2		
2155ha	49 y M	quetiapine methamphetamine amphetamine, N.O.S.	1 2 3	1 2 3	A	Ingst+ Unk	Int-S	1	quetiapine methamphetamine amphetamine	3800 ng/mL In Serum @ Unknown 2300 ng/mL In Serum @ Unknown 150 ng/mL In Serum @ Unknown
2156h	49 y F	quetiapine diazepam venlafaxine	1 2 3	1 2 3	A/C	Ingst	Int-S	2		
2157pa	50 y F	benzodiazepine, N.O.S. ethanol (beverage) diphenhydramine dextromethorphan dextromethorphan	1 2 3 4 4	1 2 3 4 4	A/C	Ingst	Unk	1	alprazolam ethanol diphenhydramine dextrorphan / levorphanol dextro / levo methorphan	150 ng/mL In Blood (unspecified) @ Autopsy 93 mg/dL In Blood (unspecified) @ Autopsy 5800 ng/mL In Blood (unspecified) @ Autopsy 150 ng/mL In Blood (unspecified) @ Autopsy 190 ng/mL In Blood (unspecified) @ Autopsy
2158ph	50 y F	atypical antipsychotic, N.O.S. beta blocker, N.O.S. alprazolam	1 2 3	1 2 3	A/C	Ingst	Int-U	2		
2159	50 y F	quetiapine	1	1	A	Ingst	Int-S	2		
2160pa	51 y F	aripiprazole clonazepam fluoxetine fluticasone oxcarbazepine trazodone lamotrogine cholecalciferol temazepam lorazepam alprazolam codeine	3 6 7 12 5 2 4 11 8 9 10 10 1	1 2 3 4 5 6 7 8 9 10 11 12	A/C	Ingst	Int-S	2	temazepam lorazepam alprazolam codeine	24 ng/mL In Blood (unspecified) @ Unknown 9 ng/mL In Blood (unspecified) @ Unknown 13 ng/mL In Blood (unspecified) @ Unknown 3100 ng/mL In Blood (unspecified) @ Unknown
2161ai	51 y F	alprazolam ethanol (beverage) amphetamine	1 2 3	1 2 3	U	Unk	Int-A	1		
2162pha	52 y M	clonazepam zolpidem ethanol (beverage)	1 2 3	1 2 3	A	Ingst	Int-S	1	7-aminoclonazepam ethanol	16 ng/mL In Vitreous @ Autopsy 280 mg/dL In Blood (unspecified) @ Unknown
2163h	52 y F	alprazolam	1	1	A/C	Ingst	Int-S	1		
2164h	53 y F				A/C	Ingst	Int-S	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2165ai	53 y F	quetiapine	1	1	U	Unk	Unk	1	quetiapine	8400 ng/mL In Blood (unspecified) @ Unknown
		buspirone	2	2					buspirone	320 ng/mL In Blood (unspecified) @ Unknown
2166pa	54 y F	quetiapine	1	1	A/C	Ingst	Int-U	1		
		lorazepam	2	2						
		ethanol (beverage)	3	3						
		etizolam	1	1						
		etizolam	1	1						
2167phi	54 y F	fluoxetine	2	2	U	Par	Int-S	1	alpha-hydroxyetizolam	100 ng/mL In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					etizolam	140 ng/mL In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					fluoxetine	1300 ng/mL In Blood (unspecified) @ Autopsy
		fluoxetine	2	2					norfluoxetine	1600 ng/mL In Blood (unspecified) @ Autopsy
		fentanyl analog (despropionyl fentanyl)	3	3					para-fluorobutyl fentanyl (p-fibf)	3.3 ng/mL In Blood (unspecified) @ Autopsy
2168	54 y F	pentobarbital	1	1	A/C	Ingst	Int-S	2		
		phenytoin	2	2						
2169ph	54 y M	quetiapine	1	1	A/C	Ingst	Int-S	2		
2170i	56 y M	quetiapine	1	1	A/C	Unk	Unk	2		
2171h	56 y M	diazepam	1	1	A/C	Ingst	Int-S	2		
2172ai	56 y M	quetiapine	1	1	U	Unk	Int-S	1		
		eszopiclone	1	1						
		ethanol (beverage)	2	2						
2173ai	60 y F	alprazolam	1	1	U	Unk	Int-S	1		
		clonazepam	2	2						
		doxepin	3	3						
2174	61 y M	quetiapine	1	1	A	Ingst	Int-M	2		
2175h	62 y M	alprazolam	1	1	A/C	Ingst	Unk	3		
2176ha	64 y F	clonazepam	1	1	U	Ingst	Int-S	2		
2177h	64 y F	quetiapine	7	1	A/C	Ingst	Int-S	2		
		escitalopram	3	2						
		zaleplon	9	3						
		hydrochlorothiazide	4	4						
		hydroxychloroquine	1	5						
		ropinirole	8	6						
		buspirone	2	7						
		zolpidem	6	7						
		nonsteroidal antiinflammatory drug, N.O.S.	5	9						
		2178ph	64 y M	temazepam						
2179ph	64 y M	benzodiazepine, N.O.S.	1	1	U	Ingst + Unk	Int-S	2		
		heroin	2	2						
		amphetamine, N.O.S.	3	3						
		marijuana, N.O.S.	4	4						
2180p	65 y F	zolpidem	1	1	A/C	Ingst	Int-S	2		
		clonazepam	2	2						
		gabapentin	3	3						
2181pha	66 y F	quetiapine	1	1	A/C	Ingst	Unk	1	quetiapine	8900 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	2	2					temazepam	210 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	2	2					oxazepam	24 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	2	2					nordiazepam	310 ng/mL In Blood (unspecified) @ Autopsy
		diazepam	2	2					diazepam	3700 ng/mL In Blood (unspecified) @ Autopsy
		lamotrigine	3	3					lamotrigine	10 mcg/mL In Blood (unspecified) @ Autopsy
		paliperidone	4	4					9-hydroxyrisperidone	19 ng/mL In Blood (unspecified) @ Autopsy
2182ph	66 y F	quetiapine	1	1	A	Ingst	Int-S	2		
2183h	66 y F	diazepam	1	1	A	Ingst	Int-S	1	nordiazepam	1111 ng/mL In Blood (unspecified) @ Unknown
		diazepam	1	1					diazepam	1445 ng/mL In Plasma @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2184	66 y M	lorazepam	1	1	A/C	Ingst + Aspir	Int-S	3		
		zaleplon	2	2						
2185ha	67 y F	zolpidem	1	1	A	Ingst	Int-S	2	zolpidem	63 ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	250 mg/dL In Blood (unspecified) @ Unknown
		calcium antagonist, N.O.S.	3	3						
2186ph	68 y M	risperidone	1	1	U	Ingst	Unk	2		
2187h	69 y M				A	Ingst	Int-S	2		
		alprazolam	5	1						
		bupropion	1	2						
		escitalopram	3	3						
		olanzapine	4	4						
		carvedilol	2	5						
2188h	69 y F	aripiprazole	1	1	U	Ingst	Int-S	2		
2189	70 y F				C	Ingst	Int-S	2		
		alprazolam	1	1						
		oxycodone (ER)	2	2						
2190h	72 y F				A/C	Ingst	Int-S	2		
		quetiapine	1	1						
		glimepiride	2	2						
		antiplatelet drug, N.O.S.	3	3						
		alprazolam	4	4						
		acetaminophen	5	5					acetaminophen (apap)	135 mcg/mL In Serum @ Unknown
2191ha	74 y F	alprazolam	1	1	A/C	Ingst	Int-S	1	alprazolam	275 ng/mL In Blood (unspecified) @ Unknown
		buspirone	2	2					buspirone	25 ng/mL In Blood (unspecified) @ Unknown
2192h	76 y F	eszopiclone	1	1	A/C	Ingst	Int-S	3		
2193	77 y M				U	Ingst	Int-S	2		
		temazepam	1	1						
		tramadol	2	2						
2194	78 y F				A/C	Ingst	Int-S	2		
		alprazolam	1	1						
		fluoxetine	2	2						
2195h	79 y F				A	Ingst	Int-S	2		
		alprazolam	1	1						
		tramadol	2	2						
		melatonin	3	3						
2196ai	80 y M				U	Unk	Int-S	1		
		alprazolam	1	1						
		citalopram	2	2						
2197h	80 y M				A/C	Ingst	Int-S	3		
		zolpidem	1	1						
		oxycodone	2	2						
		clonazepam	3	3						
		ethanol (beverage)	4	4					ethanol	185 mg/dL In Blood (unspecified) @ Unknown
2198h	81 y F				U	Ingst	Int-S	2		
		zolpidem	1	1						
		tramadol	2	2						
2199h	82 y M				A	Ingst	Int-S	3		
		doxylamine	1	1						
		viral disease (COVID-19-Confirmed)	2	2						
2200h	83 y M				A	Unk	Int-S	3		
		phenobarbital	1	1						
2201ai	83 y M				U	Unk	Int-S	1		
		zolpidem	1	1						
2202ha	84 y M				A	Ingst	Int-S	1		
		quetiapine	1	1					quetiapine	1600 ng/mL In Blood (unspecified) @ Unknown
		alprazolam	2	2					alprazolam	19 ng/mL In Blood (unspecified) @ Unknown
		citalopram	3	3						
2203ha	91 y M				U	Ingst	Int-S	1		
		temazepam	1	1					temazepam	750 ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	78 mg/dL In Blood (unspecified) @ Unknown
		trazodone	3	3						
		doxepin	4	4						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
See Also case 14, 19, 22, 53, 59, 66, 82, 84, 154, 172, 183, 302, 320, 337, 387, 397, 414, 421, 427, 435, 451, 456, 473, 476, 479, 486, 490, 504, 512, 529, 544, 565, 578, 582, 584, 597, 617, 627, 631, 645, 647, 655, 656, 686, 722, 728, 737, 742, 771, 773, 778, 783, 792, 793, 794, 828, 830, 835, 861, 871, 889, 896, 913, 922, 923, 938, 942, 944, 958, 962, 987, 988, 990, 1012, 1018, 1037, 1057, 1059, 1085, 1140, 1150, 1151, 1157, 1161, 1170, 1173, 1186, 1210, 1267, 1274, 1275, 1281, 1292, 1293, 1305, 1308, 1314, 1315, 1318, 1320, 1325, 1336, 1346, 1358, 1362, 1373, 1404, 1417, 1421, 1436, 1438, 1450, 1455, 1472, 1473, 1480, 1483, 1485, 1496, 1509, 1536, 1540, 1542, 1554, 1557, 1558, 1562, 1566, 1568, 1584, 1587, 1588, 1590, 1593, 1594, 1600, 1606, 1614, 1620, 1629, 1641, 1643, 1646, 1647, 1651, 1653, 1657, 1658, 1664, 1666, 1669, 1672, 1673, 1676, 1679, 1680, 1683, 1693, 1695, 1716, 1730, 1743, 1759, 1765, 1768, 1770, 1772, 1778, 1785, 1792, 1793, 1799, 1801, 1807, 1808, 1809, 1811, 1816, 1817, 1818, 1833, 1840, 1841, 1844, 1854, 1856, 1868, 1870, 1877, 1878, 1881, 1883, 1886, 1903, 1905, 1909, 1919, 1931, 1935, 1938, 1939, 1940, 1943, 1944, 1945, 1950, 1951, 1954, 1959, 1966, 1972, 1987, 2010, 2029, 2035, 2044, 2048, 2052, 2056, 2076, 2110, 2115, 2121, 2215, 2244, 2245, 2249, 2253, 2323, 2383, 2406, 2420, 2443, 2531, 2546, 2569, 2571, 2591										
Stimulants and Street Drugs										
2204h	2 y M				A	Ingst	Unt-G	2		
[2205ha]	3 y M	cannabidiol	1	1						
		methamphetamine	2	1	A	Ingst	Oth-M	1	methamphetamine	10000 ng/mL In Urine (quantitative only) @ 12 h (pe)
		amphetamine	2	1					amphetamine	5600 ng/mL In Urine (quantitative only) @ 12 h (pe)
2206ph	13 y M	dextromethorphan/guaifenesin	1	2						
		amphetamine	2	1	A	Ingst	Unk	1		
		ethanol (beverage)	1	2						
2207pa	16 y M				A	Ingst	Int-A	2		
		marijuana, N.O.S.	1	1						
		ethanol (beverage)	2	2					ethanol	101 mg/dL In Blood (unspecified) @ Unknown
2208p	16 y M	cocaine	3	3	U	Ingst+Inhal	Int-A	2		
		cocaine	1	1						
		acetaminophen/oxycodone	2	2						
2209h	16 y F				A	Unk	Int-A	2		
		cocaine	1	1						
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	2	2						
2210ha	17 y M				A	Oth	Unk	1		
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	1	1					mda (3,4-methylenedioxyamphetamine)	2200 ng/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	55 mg/dL In Blood (unspecified) @ Unknown
2211ph	17 y M				A	Ingst	Int-A	2		
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	1	1						
		lysergic acid diethylamide (LSD)	2	2						
2212pha	17 y M				A	Unk	Int-A	1		
		methamphetamine	1	1					methamphetamine	9274 ng/mL In Blood (unspecified) @ Autopsy
		amphetamine	2	2					amphetamine	205 ng/mL In Blood (unspecified) @ Autopsy
2213h	18 y M				A	Ingst+Inhal	Int-A	2		
		cocaine	1	1						
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	2	2						
2214ph	18 y M				U	Ingst+Unk	Int-S	2		
		stimulant/street drug, N.O.S.	1	1						
		cetirizine	2	2						
		loratadine	3	3						
		ibuprofen	4	4						
2215ha	19 y F				U	Ingst+Unk	Int-A	1		
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	1	1					mdma (3,4-methylenedioxyamphetamine)	130 ng/mL In Blood (unspecified) @ Autopsy
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	1	1					mda (3,4-methylenedioxyamphetamine)	7.6 ng/mL In Blood (unspecified) @ Unknown
		fluoxetine	2	2						
		hydroxyzine	3	3					hydroxyzine	1600 ng/mL In Blood (unspecified) @ Autopsy
		acetaminophen/diphenhydramine	4	4					acetaminophen (apap)	93 mcg/mL In Blood (unspecified) @ Unknown
		benzodiazepine, N.O.S.	5	5					alprazolam	65 ng/mL In Blood (unspecified) @ Autopsy
		marijuana, N.O.S.	6	6						
2216	20 y M				A	Ingst	Int-A	2		
		methamphetamine	1	1						
2217h	20 y M				A	Ingst	Int-A	2		
		methamphetamine	1	1						
		nitrites (amyl-butyl)	2	2						
2218ph	21 y M				U	Ingst	Int-S	2		
		cocaine	1	1						
		hypochlorite	2	2						
2219h	21 y M				U	Par	Int-A	2		
		methamphetamine	1	1						
2220pha	21 y M				A	Ingst	Int-M	1		
		cocaine	1	1					benzoylcognine	2500 mcg/L In Blood (unspecified) @ Autopsy

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2221h	21 y M	cocaine	1	1					cocaine	35 mcg/L In Blood (unspecified) @ Autopsy
2222ha	22 y M	methamphetamine substance (non-drug), N.O.S.	1	1	A	Unk	Int-A	2		
		cocaine	2	2	U	Ingst+ Unk	Int-A	1		
		cocaine	1	1					benzoyllecognine	110 ng/mL In Blood (unspecified) @ Autopsy
		cocaine	1	1					cocaethylene	22 ng/mL In Blood (unspecified) @ Autopsy
		cocaine	1	1					cocaine	80 ng/mL In Blood (unspecified) @ Autopsy
		ethanol (beverage)	2	1					ethanol	272 mg/dL In Blood (unspecified) @ Unknown
2223ha	22 y M	amphetamine	1	1	C	Unk	Int-U	2		
		amphetamine	1	1					methamphetamine	4200 ng/mL In Blood (unspecified) @ Unknown
		amphetamine	1	1					amphetamine	72 ng/mL In Blood (unspecified) @ Unknown
2224	22 y F	heroin	2	2	A	Ingst	Int-A	2		
2225ai	23 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2226ai	23 y M	cocaine	1	1	U	Unk	Int-A	2		
2227pha	24 y M	methamphetamine	1	1	A	Ingst	Int-S	3		
		marijuana, N.O.S.	1	1					delta-9-thc	9.2 ng/mL In Blood (unspecified) @ Unknown
		chemical, N.O.S.	2	2						
2228ai	24 y M	cocaine	1	1	U	Unk	Int-A	1		
2229ha	24 y M	methamphetamine	2	2	U	Ingst+ Unk	Int-A	1		
		cocaine	1	1					benzoyllecognine	5600 ng/mL In Blood (unspecified) @ Autopsy
		cocaine	1	1					cocaine	76 ng/mL In Blood (unspecified) @ Autopsy
		ethanol (beverage)	2	2					ethanol	109 mg/dL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2					ethanol	85 mg/dL In Blood (unspecified) @ Autopsy
2230h	24 y M	cocaine	1	1	A	Ingst	Int-M	2		
2231ha	25 y F	methamphetamine	1	1	A	Par	Int-A	1		
		fentanyl (non-prescription)	2	2						
2232ai	25 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2233pha	25 y M	cocaine	1	1	U	Unk	Unk	1		
2234ph	25 y F	cocaine	1	1	A	Unk	Int-A	2		
		amphetamine	2	2						
		ethanol (beverage)	3	3					ethanol	63 mg/dL In Whole Blood @ Unknown
2235ai	26 y M	cocaine	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	2	2						
		ethanol (beverage)	3	3						
2236ph	26 y F	cocaine	1	1	A	Unk	Int-S	2		
		drug, N.O.S.	2	2						
2237ha	26 y F	methamphetamine	1	1	A	Inhal	Int-A	3		
		methamphetamine	1	1					lorazepam	120 ng/mL In Blood (unspecified) @ Autopsy
		methamphetamine	1	1					midazolam	22 ng/mL In Blood (unspecified) @ Autopsy
		methamphetamine	1	1					morphine (free)	26 ng/mL In Blood (unspecified) @ Autopsy
		methamphetamine	1	1					amphetamine	47 ng/mL In Blood (unspecified) @ Autopsy
		methamphetamine	1	1					methamphetamine	900 ng/mL In Blood (unspecified) @ Autopsy
2238ha	26 y M	amphetamines (hallucinogenic), methylenedi-oxyethylamphetamine (MDA)	1	1	A	Ingst	Int-A	1		
		amphetamines (hallucinogenic), methylenedi-oxyethylamphetamine (MDA)	1	1					mdma (3,4-methylenedi-oxyethylamphetamine)	1900 ng/mL In Blood (unspecified) @ Unknown
		cocaine	2	2					mda (3,4-methylenedi-oxyamphetamine)	33 ng/mL In Blood (unspecified) @ Unknown
									benzoyllecognine	120 ng/mL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		ethanol (beverage)	3	3					ethanol	81 mg/dL In Blood (unspecified) @ Unknown
2239ai	26 y M				U	Unk	Int-A	2		
		amphetamine	1	1						
		marijuana (edible)	2	2						
2240pha	26 y M				U	Ingst+ Unk	Int-M	1		
		cocaine	1	1					benzoyllecognine	3000 mcg/L In Blood (unspecified) @ Unknown
		fentanyl (non-prescription)	2	2					norfentanyl	15 mcg/mL In Blood (unspecified) @ Unknown
		fentanyl (non-prescription)	2	2					fentanyl	4.1 mcg/mL In Blood (unspecified) @ Unknown
2241ai	26 y F				U	Unk	Int-A	1		
		cocaine	1	1						
2242ai	26 y M				U	Unk	Int-S	2		
		methamphetamine	1	1						
		marijuana (edible)	2	2						
2243pha	26 y M				A	Unk	Unk	1		
		methamphetamine	1	1						
		fentanyl (non-prescription)	2	2						
		hyperthermia	3	3						
2244pha	26 y F				U	Ingst	Unk	2		
		methamphetamine	1	1					amphetamine	480 ng/mL In Blood (unspecified) @ Unknown
		alprazolam	2	2					alprazolam	13.6 ng/mL In Blood (unspecified) @ Unknown
		lidocaine	3	3					lidocaine	1 mcg/mL In Blood (unspecified) @ Unknown
		lamotrigine	4	4					lamotrigine	0.7 mcg/mL In Blood (unspecified) @ Unknown
2245ha	27 y F				U	Unk	Unk	2		
		cocaine	2	1						
		drug, N.O.S.	1	1						
		narcotic, N.O.S.	3	3						
		marijuana	4	4						
		amphetamine	5	5						
		benzodiazepine	6	6						
2246ph	27 y M				A	Inhal	Oth-C	2		
		cocaine	2	1						
		fentanyl (non-prescription)	1	1						
2247ha	28 y F				A	Ingst	Int-A	2		
		methamphetamine	1	1					methamphetamine	54 ng/mL In Whole Blood @ Autopsy
		amitriptyline	2	2					amitriptyline	5200 ng/mL In Whole Blood @ Autopsy
		nortriptyline	3	3					nortriptyline	420 ng/mL In Whole Blood @ Autopsy
		marijuana	4	4					delta-9-thc	1.6 ng/mL In Whole Blood @ Autopsy
		mushroom (psilocybin-psilocin)	5	5						
		ethanol (beverage)	6	6						
2248p	28 y M				A	Unk	Int-A	2		
		cocaine	1	1						
2249ai	29 y M				U	Unk	Int-A	1		
		Mitragyna speciosa korthals	1	1						
		clonazepam	2	2						
		o-desmethytramadol	3	3						
2250ai	29 y M				U	Unk	Int-A	1		
		methamphetamine	1	1						
2251	29 y M				U	Unk	Int-U	1		
		cocaine	1	1						
2252ph	29 y M				A/C	Ingst	Int-M	1		
		cocaine	1	1						
2253pi	30 y F				A	Unk	Unk	1		
		cocaine	1	1					cocaine	0.7 mg/L In Blood (unspecified) @ Autopsy
		cocaine	2	2						
		citalopram	3	3					citalopram	1.6 mg/L In Blood (unspecified) @ Autopsy
		citalopram	3	3					citalopram	1.8 mg/L In Blood (unspecified) @ Autopsy
		alprazolam	4	4					alprazolam	0.06 mg/L In Blood (unspecified) @ Autopsy
		ethanol (beverage)	5	5					ethanol	0.08 % In Blood (unspecified) @ Autopsy
		ethanol (beverage)	5	5					ethanol	0.09 % In Blood (unspecified) @ Autopsy
2254i	30 y M				A	Ingst+ Inhal	Int-A	2		
		nitrites (amyl)	1	1						
		sildenafil	2	2						
		ethanol (beverage)	3	3						
2255ai	30 y M				U	Unk	Int-A	2		
		methamphetamine	1	1						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2256ph	30 y M	cocaine	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	2	2						
		fentanyl analogs (despropionyl)	4	4						
		oxycodone	3	4						
		oxycodone	3	4						
		fentanyl analogs (para-fluoro)	5	5					4-anpp (despropionyl fentanyl)	1 ng/mL In Urine (quantitative only) @ 5h (pe)
									oxycodone (free)	570 ng/mL In Urine (quantitative only) @ 5h (pe)
									oxymorphone	8 ng/mL In Urine (quantitative only) @ 5h (pe)
									para-fluorofentanyl	1 ng/mL In Urine (quantitative only) @ 5h (pe)
2257ai	30 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2258ph	30 y M	cocaine	1	1	U	Unk	Unk	2		
		ethanol (beverage)	2	2						
									ethanol	58 mg/dL In Blood (unspecified) @ Unknown
2259pa	30 y M	marijuana	3	3	A	Unk	Int-A	1		
		cocaine	1	1						
		ethanol (beverage)	2	2					ethanol	154 mg/dL In Plasma @ Unknown
2260h	31 y M	methamphetamine	1	1	A	Ingst	Int-U	2		
2261ph	31 y M	cocaine	1	1	U	Unk	Int-A	2		
2262h	31 y M				A/C	Ingst+Unk	Int-S	2		
		amphetamine/dextroamphetamine	1	1						
		cocaine	2	2						
		marijuana, N.O.S.	3	3						
		ethanol (beverage)	4	4						
2263ph	31 y M	amphetamine (hallucinogenic), cathinone	1	1	A	Ingst	Int-A	2		
2264ai	31 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		marijuana, N.O.S.	2	2						
2265h	31 y M	methamphetamine	1	1	A/C	Ingst+Unk	Int-U	2		
2266ai	31 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2267ai	31 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2268hi	32 y F				A/C	Ingst+Unk	Int-S	2		
		cocaine	1	1						
		ethanol (beverage)	2	2						
		ibuprofen	3	3						
2269ph	32 y M	stimulant/street drug, N.O.S	1	1	A	Unk	Unk	2		
2270ai	32 y M	methamphetamine	1	1	U	Unk	Int-A	3		
		marijuana (edible)	2	2						
2271h	33 y M	methamphetamine	1	1	A	Ingst	Int-A	2		
2272h	33 y M	cocaine	1	1	U	Unk	Int-A	2		
		ethanol (beverage)	2	2						
									ethanol	66 mg/dL In Blood (unspecified) @ Unknown
2273ai	34 y F	cocaine	1	1	U	Unk	Int-A	1		
2274pha	34 y M	methamphetamine	1	1	A	Ingst	Int-A	1		
		amphetamines (hallucinogenic), tryptamine	2	2						
2275i	34 y F	cocaine	1	1	U	Unk	Int-A	1		
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	2	2						
		ethanol (beverage)	3	3						
2276ai	34 y M	methamphetamine	1	1	U	Unk	Int-A	3		
2277ai	34 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		marijuana, N.O.S.	2	2						
2278ph	34 y F	cocaine	1	1	A	Ingst	Int-A	2		
2279h	34 y M	amphetamine	1	1	A	Ingst	Int-A	2		
2280ai	35 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2281ai	35 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2282ai	35 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		methamphetamine	1	1						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2283ai	35 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2284h	35 y M	methamphetamine	1	1	A/C	Unk	Int-A	2		
2285ai	35 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2286ai	35 y M	methamphetamine ethanol (beverage)	1 2	1 2	U	Unk	Int-A	2		
2287ph	35 y M	methamphetamine	1	1	U	Ingst	Int-A	2		
2288ai	36 y M	phentermine	1	1	U	Unk	Int-A	1		
2289pha	36 y M	methamphetamine	1	1	U	Ingst	Unk	1		
		methamphetamine	1	1					amphetamine	108 ng/mL In Blood (unspecified) @ Unknown
		methamphetamine	1	1					methamphetamine	5136 ng/mL In Blood (unspecified) @ Unknown
2290ai	36 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2291ai	36 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2292	36 y M	amphetamine amphetamine (hallucinogenic)	1 2	1 2	U	Ingst+ Unk	Unk	3		
2293ai	36 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2294h	36 y M	methamphetamine cocaine	1 2	1 2	A	Unk	Int-A	2		
2295ai	37 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2296ai	37 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2297p	37 y F	amphetamines (hallucinogenic), N.O.S.	1	1	A	Ingst	Int-S	2		
2298	37 y M	methamphetamine cocaine hydrocarbon	1 2 3	1 2 3	A	Ingst+ Unk	Int-U	3		
2299ai	37 y M	methamphetamine cyclobenzaprine ethanol (beverage)	1 2 3	1 2 3	U	Unk	Int-A	2		
2300i	37 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	2		
2301i	38 y M	methamphetamine marijuana (edible)	1 2	1 2	U	Unk	Int-A	1		
2302ai	38 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2303ai	38 y M	methamphetamine ketamine	1 2	1 2	U	Unk	Int-A	3		
2304ai	38 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2305ai	38 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2306ai	39 y F	methamphetamine	1	1	U	Unk	Int-A	3		
2307ph	39 y F	methamphetamine cocaine	1 1	1 1	A	Unk	Int-A	2		
2308h	39 y M	methamphetamine oxycodone	1 2	1 2	A	Ingst	Int-M	2		
2309ai	39 y F	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	2		
2310ai	39 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2311	39 y F	methamphetamine	1	1	C	Unk	Int-A	2		
2312h	39 y M	methamphetamine	1	1	C	Ingst	Int-A	3		
2313ai	40 y M	methamphetamine cocaine	1 2	1 2	U	Unk	Int-A	1		
2314ai	40 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2315h	40 y M	methamphetamine	1	1	A	Ingst	Int-S	2	methamphetamine	140 ng/mL In Blood (unspecified) @ Unknown

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
		methamphetamine	1	1					amphetamine	33 mg/mL In Blood (unspecified) @ Unknown
		methamphetamine	1	1					diphenhydramine	68 ng/mL In Blood (unspecified) @ Unknown
		2,4-dichlorophenoxyacetic acid (2,4-D)	4	2						
		amphetamine, N.O.S.	2	2						
		diphenhydramine	3	3						
2316ha	40 y M	methamphetamine	1	1	U	Unk	Unk	2	methamphetamine	0.62 mg/L In Serum @ Unknown
2317pha	40 y M				A	Ingst	Int-A	1		
2318ha	41 y M	cocaine	1	1	U	Unk	Int-A	2		
		cocaine	1	1					benzoyllecognine	2600 ng/mL In Serum @ Unknown
		methamphetamine	2	2					amphetamine	160 ng/mL In Serum @ Unknown
		methamphetamine	2	2					methamphetamine	3700 ng/mL In Serum @ Unknown
2319ai	41 y M	rodenticide (anticoagulant)	3	3	U	Unk	Int-A	1		
		methamphetamine	1	1						
		gamma-hydroxybutyric acid	2	2						
2320ha	41 y M	allopurinol	2	1	A	Ingst	Int-S	3		
		amphetamine	1	1					methamphetamine	803.2 ng/mL In Blood (unspecified) @ Unknown
		amphetamine	1	1					amphetamine	86.3 ng/mL In Blood (unspecified) @ Unknown
		indomethacin	3	2						
		lisinopril	4	3						
2321ha	41 y M	amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	1	1	U	Unk	Int-A	2		
2322ph	41 y M	marijuana	2	2	A	Unk	Int-S	2		
2323ph	41 y M	methamphetamine	1	1	A	Unk	Int-A	2		
		stimulant/street drug, N.O.S.	1	1						
		amphetamine, N.O.S.	2	2						
		benzodiazepine, N.O.S.	3	3						
		marijuana, N.O.S.	4	4						
		narcotic, N.O.S.	5	5						
2324ph	42 y M	amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	1	1	A	Ingst	Int-A	3		
		dietary supplement, botanical, N.O.S.	2	2						
		dietary supplement/homeopathic agent, N.O.S.	3	3						
		marijuana	4	4						
		plant (epimedium)	5	5						
		androgen, N.O.S.	6	6						
2325ai	42 y F	methamphetamine	1	1	U	Unk	Int-A	1		
		marijuana (edible)	2	2						
2326ai	42 y F	methamphetamine	1	1	U	Unk	Int-A	2		
		methadone	2	2						
		marijuana, N.O.S.	3	3						
2327pa	42 y M				A	Ingst	Int-M	2		
		cocaine	1	1						
2328ai	42 y M				U	Unk	Int-A	2		
		methamphetamine	1	1						
2329ha	42 y M	methamphetamine	1	1	A	Ingst	Int-M	1		
		methamphetamine	1	1					methamphetamine	15000 ng/mL In Blood (unspecified) @ Autopsy
2330ai	43 y M				U	Unk	Int-A	1		
		methamphetamine	1	1						
2331ai	43 y M				U	Unk	Int-A	1		
		methamphetamine	1	1						
		gabapentin	2	2						
		sertraline	3	3						
2332ai	43 y M				U	Unk	Int-A	1		
		methamphetamine	1	1						
2333pha	43 y M	methamphetamine	2	1	A	Inhal+Unk	Unk	1		
		methamphetamine	2	1					methamphetamine	500 ng/mL In Serum @ Unknown
		amphetamine, N.O.S.	3	2					amphetamine	52 ng/mL In Serum @ Unknown
		pyrethroids, N.O.S.	1	3						
2334ha	44 y M	methamphetamine	1	1	U	Ingst	Int-A	1		
		methamphetamine	1	1					methamphetamine	1100 ng/mL In Blood (unspecified) @ Autopsy

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2335ai	44 y M	viral disease (COVID-19)	2	2	U	Unk	Int-A	1		
2336ai	44 y F	methamphetamine	1	1	C	Ingst+Unk	Int-A	2		
2337h	44 y F	methamphetamine ethanol (beverage)	1 2	1 2	U	Unk	Int-A	3		
2338ai	44 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2339ai	44 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2340ai	44 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	1		
2341p	44 y M	methamphetamine cocaine	1 1	1 1	A	Unk	Unk	2		
2342ai	45 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2343ai	45 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2344ai	45 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2345ai	46 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2346ai	46 y F	methamphetamine cocaine fluoxetine lamotrigine	1 1 2 3	1 1 2 3	U	Unk	Int-A	1		
2347ai	46 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2348p	46 y M	amphetamine/dextroamphetamine drug, N.O.S.	1 2	1 2	A	Ingst	Int-S	3		
2349ai	46 y F	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	1		
2350ha	46 y M	methamphetamine methamphetamine	1 1	1 1	A	Ingst	Int-M	1	amphetamine methamphetamine	0.22 mg/L In Blood (unspecified) @ Autopsy 20 mg/L In Blood (unspecified) @ Autopsy
2351i	46 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	2		
2352ph	46 y M	methamphetamine	1	1	U	Unk	Int-S	2		
2353i	47 y M	methamphetamine cocaine narcotic, N.O.S.	1 2 2	1 1 2	A/C	Inhal	Int-A	2		
2354h	47 y M	methamphetamine cocaine phencyclidine	1 2 3	1 2 3	U	Unk	Unk	2		
2355ai	47 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2356ai	47 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2357h	47 y M	methamphetamine cocaine fentanyl (prescription) amphetamines (hallucinogenic), methylenedi- oxyethylamphetamine (MDA)	1 2 2 3	1 1 2 3	A/C	Unk	Int-A	3		
2358ai	47 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	1		
2359ai	47 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2360ai	47 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2361i	48 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2362ai	48 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2363ai	48 y M	methamphetamine ethanol (beverage)	1 2	1 2	U	Unk	Int-A	1 3		
2364ai	49 y M	methamphetamine	1	1	U	Unk	Int-A	3		
2365ai	49 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2366ai	49 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2367pha	49 y M	Mitragyna speciosa korthals methamphetamine carbon monoxide	1 1 2	1 1 2	A	Inhal	Int-A	2	methamphetamine carboxyhemoglobin	1400 ng/mL In Unknown @ Autopsy 30.7 % In Unknown @ Autopsy
2368ai	49 y M				C	Unk	Int-A	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2369ai	49 y M	cocaine	1	1	U	Unk	Int-A	1		
2370ai	49 y M	cocaine	1	1	A	Unk	Int-A	1		
2371h	49 y M	methamphetamine ethanol (beverage)	1 2	1 2	A	Par	Int-S	2		
2372ai	49 y M	methylphenidate	1	1	U	Unk	Int-A	1		
2373ai	50 y F	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	3		
2374ai	50 y F	methamphetamine	1	1	U	Unk	Int-A	3		
2375ai	50 y M	amphetamine ethanol (beverage) gabapentin	1 2 3	1 2 3	U	Unk	Int-A	1		
2376ai	50 y F	methamphetamine tadalafil	1 2	1 2	U	Unk	Int-A	1		
2377ai	50 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	1		
2378ai	50 y F	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	1		
2379ph	50 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	A/C	Unk	Int-A	1		
2380ai	51 y M	cocaine fentanyl analogs (acrylfentanyl) fentanyl analogs (valeryl fentanyl) fentanyl analogs (para-fluoro) fentanyl analogs (despropionyl)	1 2 3 4 5	1 2 3 4 5	U	Unk	Int-A	1		
2381ai	51 y M	methamphetamine	1	1	U	Unk	Int-A	2		
2382ai	51 y M	methamphetamine ethanol (beverage)	1 2	1 2	U	Unk	Int-A	1		
2383ha	51 y F	methamphetamine	1	1	U	Ingst	Int-S	1		
		amphetamine	1	1					amphetamine	678 ng/mL In Blood (unspecified) @ Autopsy
		tramadol	2	2					tramadol	757 ng/mL In Blood (unspecified) @ Autopsy
		desipramine	3	3					desipramine	56.1 ng/mL In Blood (unspecified) @ Autopsy
		gabapentin	4	4					gabapentin	11.3 mcg/mL In Blood (unspecified) @ Autopsy
		clonazepam	5	5					7-aminoclonazepam	164 ng/mL In Blood (unspecified) @ Autopsy
		clonazepam	5	5					clonazepam	7.1 ng/mL In Blood (unspecified) @ Autopsy
		metoclopramide	6	6					metoclopramide	152 ng/mL In Blood (unspecified) @ Autopsy
		imipramine	7	7						
2384ai	51 y M	hydroxychloroquine	8	8	U	Unk	Int-A	1		
2385ai	51 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2386ai	51 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	1		
2387ai	51 y M	methamphetamine cyclobenzaprine tramadol	1 2 3	1 2 3	U	Unk	Int-A	1		
2388h	51 y M	methamphetamine	1	1	A	Inhal	Int-A	2		
2389ha	51 y M	THC homolog	1	1	A	Inhal	Unk	1		
2390ai	52 y M	cocaine	1	1	U	Unk	Int-A	1		
2391ai	52 y M	methamphetamine	1	1	U	Ingst + Unk	Int-A	2		
2392ai	52 y M	methamphetamine ethanol (beverage)	1 2	1 2	U	Unk	Int-A	1		
2393ai	52 y M	methamphetamine gabapentin	1 2	1 2	U	Unk	Int-A	1		
2394ai	52 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2395pa	52 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	A	Unk	Int-A	1		
		cocaine	1	1						
		fentanyl (non-prescription)	2	2						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2396ai	53 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2397ai	53 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2398ai	53 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2399ai	53 y M	methamphetamine marijuana (edible)	1 2	1 2	U	Unk	Int-A	1		
2400ai	53 y M	methamphetamine ethanol (beverage)	1 2	1 2	U	Unk	Int-A	1		
2401ai	53 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	1		
2402ha	54 y M	cocaine drug, N.O.S.	2 1	1 2	U	Unk	Int-S	3	benzoyllecognine	420 ng/mL In Serum @ Unknown
2403ai	54 y M	methamphetamine amitriptyline	1 2	1 2	U	Unk	Int-A	1		
2404ai	54 y M	methamphetamine duloxetine (ER)	1 2	1 2	U	Unk	Int-A	1		
2405ai	54 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2406ai	54 y M	methamphetamine olanzapine	1 2	1 2	U	Unk	Int-A	1		
2407ai	54 y M	methamphetamine citalopram	1 2	1 2	U	Unk	Int-A	1		
2408pa	54 y M	methamphetamine methamphetamine cocaine	2 2 1	1 1 2	A	Ingst	Int-A	1	methamphetamine amphetamine	250 ng/mL In Blood (unspecified) @ Autopsy 60 ng/mL In Blood (unspecified) @ Autopsy
2409ai	55 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2410ai	55 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2411ai	55 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2412phai	55 y M	methamphetamine amphetamine drug, N.O.S.	1 2 3	1 2 3	U	Unk	Int-S	2		
2413ai	55 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2414ai	55 y M	methamphetamine phencyclidine	1 2	1 2	U	Unk	Int-A	1		
2415ai	55 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2416ai	55 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2417ai	55 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	2		
2418ai	55 y M	methamphetamine hyperthermia	1 2	1 2	U	Unk	Int-A	1		
2419ai	56 y M	methamphetamine	1	1	U	Unk	Int-A	2		
2420ai	56 y M	methamphetamine lorazepam marijuana, N.O.S.	1 2 3	1 2 3	U	Unk	Int-A	1		
2421ai	56 y M	methamphetamine cocaine	1 2	1 2	U	Unk	Int-A	1		
2422ai	56 y M	cocaine ethanol (beverage)	1 2	1 2	U	Unk	Int-S	1		
2423ai	56 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2424ai	56 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2425ai	56 y M	methamphetamine	1	1	U	Unk	Int-A	2		
2426h	56 y M	cocaine	1	1	U	Ingst + Aspir	Int-M	1		
2427ai	57 y M	methamphetamine ethanol (beverage)	1 2	1 2	U	Unk	Int-A	1		
2428ai	57 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2429ai	57 y M	methamphetamine	1	1	U	Unk	Int-A	1		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2430ai	57 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		diphenhydramine	2	2						
2431ai	57 y F	methamphetamine	1	1	U	Unk	Int-A	1		
		oxycodone	2	2						
		ethanol (beverage)	3	3						
2432ai	58 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2433ai	58 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		fentanyl (non-prescription)	2	2						
2434ai	58 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2435ai	58 y M	methamphetamine	1	1	U	Unk	Int-A	3		
2436ai	58 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2437hi	58 y M	methamphetamine	1	1	A	Ingst	Int-S	1		
		diphenhydramine	2	2						
2438ai	58 y M	methamphetamine	1	1	U	Unk	Int-A	3		
2439ai	58 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2440ai	58 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2441h	58 y M	methamphetamine	1	1	A	Ingst	Int-M	2		
		cocaine	1	1						
2442ai	59 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2443ai	59 y F	methamphetamine	1	1	U	Unk	Int-A	1		
		diazepam	2	2						
2444ai	59 y F	methamphetamine	1	1	U	Unk	Int-A	1		
		mirtazapine	2	2						
		gabapentin	3	3						
2445ai	59 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		amphetamines (hallucinogenic), methylenedioxyethylamphetamine (MDA)	2	2						
2446ai	59 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2447ai	59 y M	methamphetamine	1	1	U	Unk	Int-A	3		
2448ai	59 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2449ai	60 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		ethanol (beverage)	2	2						
2450ai	60 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		cocaine	2	2						
2451ai	60 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2452ai	60 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		marijuana, N.O.S.	2	2						
2453ai	60 y M	methamphetamine	1	1	U	Unk	Int-A	1		
		marijuana, N.O.S.	2	2						
2454ai	60 y F	cocaine	1	1	U	Unk	Int-A	2		
2455ai	60 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2456ai	60 y F	methamphetamine	1	1	U	Unk	Int-A	3		
		gabapentin	2	2						
2457ai	61 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2458ai	61 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2459pai	61 y M	methamphetamine	1	1	U	Unk	Int-A	3		
2460ai	61 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2461i	61 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2462ai	61 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2463ai	61 y M	methamphetamine	1	1	U	Unk	Int-S	1		
		loxapine	2	2						
		amlodipine	3	3						
2464p	61 y F	cocaine	1	1	A	Unk	Int-A	2		
2465ai	62 y M	methamphetamine	1	1	U	Unk	Int-A	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2466ai	62 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2467ai	62 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2468ai	62 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2469ai	62 y M	methamphetamine ethanol (beverage)	1 2	1 2	U	Unk	Int-A	2		
2470ai	62 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2471ai	62 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2472ai	63 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2473ai	63 y F	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	1		
2474ai	63 y M	methamphetamine (hallucinogenic), methylenedi- oxyethylamphetamine (MDA)	1 2	1 2	U	Unk	Int-A	1		
2475ai	63 y M	methamphetamine	1	1	U	Unk	Int-A	2		
2476ai	64 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2477ai	64 y M	amphetamine methamphetamine trazodone	1 2 3	1 2 3	U	Unk	Int-A	3		
2478ph	64 y F	methamphetamine caffeine	1 1	1 1	U	Ingst	Unk	2		
2479ai	64 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2480ai	64 y F	methamphetamine	1	1	U	Unk	Int-A	2		
2481ai	64 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2482ai	65 y F	methamphetamine	1	1	U	Unk	Int-A	1		
2483ai	65 y F	methamphetamine	1	1	U	Unk	Int-A	2		
2484ai	65 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2485ai	65 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2486ai	65 y M	methamphetamine	1	1	U	Unk	Int-A	2		
2487ai	65 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2488ai	65 y M	methamphetamine	1	1	U	Unk	Int-A	3		
2489ph	65 y M	methamphetamine cocaine ethanol (beverage)	1 1 2	1 1 2	A/C	Unk	Int-U	2	ethanol	216 mg/dL In Serum @ 1 h (pe)
2490ai	66 y F	phentermine	1	1	U	Unk	Unk	2		
2491ai	66 y F	methamphetamine	1	1	U	Unk	Int-A	3		
2492ai	67 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2493ai	68 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2494ai	69 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2495ai	69 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2496ai	70 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2497i	71 y M	methamphetamine marijuana, N.O.S.	1 2	1 2	U	Unk	Int-A	1		
2498ai	72 y M	methamphetamine	1	1	U	Unk	Int-A	3		
2499ai	72 y F	methamphetamine marijuana (edible)	1 2	1 2	U	Unk	Int-A	2		
2500ai	79 y M	methamphetamine	1	1	U	Unk	Int-A	1		
2501phi	14 d U	methamphetamine cocaine	1 1	1 1	C	Ingst	Unk	2		
2502	20+ y F	stimulant/street drug, N.O.S.	1	1	A	Unk	Unk	2		
2503i	Unknown adult (≥20 yrs) M	cocaine/heroin	1	1	A/C	Inhal	Int-A	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2504pi	Unknown age U				A	Inhal	Int-A	2		
		methamphetamine	1	1						
		fentanyl (non-prescription)	2	2						
2505i	Unknown age U				A	Inhal	Int-A	2		
		methamphetamine	1	1						
		fentanyl (non-prescription)	2	2						
See Also case 6, 8, 15, 59, 80, 155, 159, 241, 281, 289, 302, 303, 316, 335, 337, 338, 376, 395, 397, 399, 404, 405, 408, 411, 413, 415, 416, 421, 425, 427, 439, 442, 444, 445, 446, 448, 449, 450, 453, 458, 461, 463, 469, 475, 476, 477, 480, 482, 486, 487, 490, 495, 496, 502, 504, 508, 511, 513, 516, 517, 518, 519, 533, 535, 540, 541, 542, 543, 550, 551, 563, 565, 568, 576, 577, 578, 579, 582, 585, 586, 588, 589, 590, 591, 593, 594, 596, 599, 600, 601, 602, 603, 604, 606, 611, 617, 622, 623, 624, 625, 626, 627, 628, 629, 631, 632, 634, 636, 637, 638, 639, 641, 642, 643, 646, 647, 652, 655, 657, 659, 661, 662, 677, 679, 681, 683, 684, 685, 688, 689, 690, 692, 693, 695, 697, 703, 704, 710, 711, 716, 721, 723, 729, 730, 731, 732, 733, 736, 741, 742, 745, 754, 756, 757, 758, 761, 763, 764, 767, 772, 775, 776, 777, 779, 790, 795, 803, 804, 806, 807, 809, 810, 811, 812, 813, 817, 820, 829, 830, 832, 834, 836, 838, 839, 850, 852, 857, 859, 862, 863, 865, 867, 868, 872, 874, 875, 876, 877, 881, 884, 888, 891, 892, 897, 902, 903, 904, 905, 908, 912, 914, 924, 925, 930, 934, 935, 936, 938, 939, 942, 944, 948, 949, 951, 954, 956, 961, 963, 965, 972, 975, 977, 980, 981, 982, 984, 990, 991, 995, 999, 1003, 1004, 1011, 1015, 1017, 1018, 1020, 1028, 1030, 1032, 1033, 1035, 1036, 1043, 1045, 1048, 1049, 1050, 1051, 1053, 1054, 1060, 1066, 1067, 1069, 1070, 1073, 1076, 1077, 1078, 1082, 1084, 1086, 1088, 1090, 1091, 1095, 1096, 1100, 1101, 1103, 1104, 1105, 1106, 1107, 1108, 1111, 1113, 1116, 1121, 1123, 1128, 1129, 1132, 1134, 1135, 1141, 1148, 1151, 1153, 1155, 1169, 1180, 1181, 1182, 1190, 1194, 1196, 1197, 1201, 1202, 1205, 1207, 1209, 1210, 1221, 1222, 1223, 1228, 1229, 1230, 1240, 1243, 1246, 1247, 1251, 1253, 1254, 1268, 1271, 1276, 1277, 1279, 1288, 1291, 1294, 1297, 1301, 1302, 1309, 1312, 1316, 1324, 1329, 1331, 1332, 1333, 1334, 1338, 1342, 1347, 1348, 1350, 1351, 1356, 1359, 1361, 1369, 1385, 1386, 1404, 1417, 1430, 1510, 1512, 1525, 1560, 1563, 1583, 1587, 1600, 1610, 1625, 1638, 1641, 1649, 1660, 1666, 1711, 1712, 1716, 1722, 1729, 1758, 1766, 1776, 1779, 1799, 1802, 1805, 1817, 1850, 1869, 1900, 1909, 1912, 1940, 2047, 2064, 2099, 2103, 2132, 2142, 2155, 2161, 2179, 2516, 2528, 2533, 2546, 2562, 2563, 2593										
Topical Preparations										
[2506ha]	4 y F	camphor	1	1	A	Ingst	Unt-G	3		
Unknown Drug										
2507pha	15 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2508pha	16 y F	drug, N.O.S.	2	1	U	Unk	Unk	1	methemoglobin	8.5 % In Blood (unspecified) @ Autopsy
		nitrates (sodium)	1	1						
2509p	17 y F	drug, N.O.S.	1	1	U	Ingst	Int-S	2		
		fentanyl (non-prescription)	2	2						
2510ph	21 y M	drug, N.O.S.	1	1	U	Unk	Unk	2		
2511i	21 y M	drug, N.O.S.	1	1	A/C	Unk	Int-A	2		
2512i	21 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2513ph	22 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2514i	23 y M	drug, N.O.S.	1	1	A	Par	Int-A	2		
2515h	23 y M	drug, N.O.S.	1	1	U	Unk	Int-A	3		
2516h	24 y M	drug, N.O.S.	1	1	U	Unk	Int-S	2		
		drug, N.O.S.	1	1						
		cocaine	2	2						
		marijuana	3	3						
2517pha	24 y F	drug, N.O.S.	2	1	A	Ingst	Int-S	1		
		fentanyl (non-prescription)	1	2						
2518ph	25 y M	drug, N.O.S.	1	1	U	Unk	Unk	2		
2519i	25 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2		
2520i	25 y M	drug, N.O.S.	1	1	A	Unk	Unk	2		
2521i	27 y F	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2522ph	27 y M	drug, N.O.S.	1	1	A	Par	Int-A	2		
2523ph	28 y M	drug, N.O.S.	1	1	A	Unk	Int-M	2		
2524ph	29 y M	drug, N.O.S.	1	1	U	Ingst	Unk	2	ethanol	21 mg/mL In Blood (unspecified) @ Unknown
		ethanol (beverage)	2	2						
2525ph	29 y F	drug, N.O.S.	1	1	U	Unk	Unk	2		
		fentanyl (non-prescription)	2	2						
2526i	30 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2527i	30 y M	drug, N.O.S.	1	1	A	Par	Int-A	2		
2528	30 y M	drug, N.O.S.	1	1	A	Unk	Unk	3		
		drug, N.O.S.	1	1						
		methamphetamine	2	2						
2529i	32 y F	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2530ph	32 y F	drug, N.O.S.	1	1	A	Ingst	Int-S	2		
2531ph	32 y M	drug, N.O.S.	1	1	A	Ingst	Int-S	2		
		drug, N.O.S.	1	1						
		lithium	2	2						
		drug, N.O.S.	3	3						
		antihypertensive, N.O.S.	4	4						
		zolpidem	5	5						
2532i	33 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2533i	34 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2534ai	34 y F	marijuana	2	2	U	Unk	Int-A	3		
		drug, N.O.S.	1	1	U	Unk	Int-A	2		
2535ph	35 y M	drug, N.O.S.	1	1	U	Unk	Unk	2		
2536i	35 y M	drug, N.O.S.	1	1	A/C	Unk	Int-A	2		
2537i	35 y M	drug, N.O.S.	1	1	U	Inhal	Int-A	2		
2538i	35 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2539i	35 y F	drug, N.O.S.	1	1	A	Ingst+Inhal	Int-A	2		
2540p	35 y U	drug, N.O.S. ethanol (beverage)	1 2	1 2	A	Unk	Int-A	2		
2541i	36 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2		
2542i	36 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2543i	36 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2544i	36 y F	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2545sai	37 y F	drug, N.O.S.	1	1	U	Unk	Int-A	1		
2546pha	37 y F	drug, N.O.S. fentanyl (prescription) methamphetamine clonazepam	1 2 3 4	1 2 3 4	U	Unk	Int-U	2		
2547h	37 y M	drug, N.O.S. ethanol (beverage)	2 1	1 1	A	Ingst	Unk	2		
2548i	38 y M	drug, N.O.S.	1	1	A	Par	Int-A	2		
2549ph	38 y F	drug, N.O.S.	1	1	A	Ingst	Unk	2		
2550i	38 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2551i	38 y M	drug, N.O.S.	1	1	A	Par	Int-A	2		
2552i	40 y F	drug, N.O.S.	1	1	U	Unk	Unk	2		
2553i	40 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2		
2554a	40 y M	drug, N.O.S.	1	1	A/C	Ingst	Int-U	3		
2555i	41 y F	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2556h	41 y M	drug, N.O.S.	1	1	A/C	Par	Int-A	2		
2557i	42 y M	drug, N.O.S.	1	1	A	Par	Int-A	2		
2558i	43 y F	drug, N.O.S.	1	1	U	Unk	Unk	2		
2559i	43 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2560i	43 y M	drug, N.O.S.	1	1	A	Unk	Int-U	2		
2561ph	44 y F	drug, N.O.S. tizanidine	1 2	1 2	A	Ingst	Int-S	2		
2562	44 y M	drug, N.O.S. cocaine fentanyl (prescription) marijuana	1 2 3 4	1 2 3 4	A	Ingst+ Par+Unk	Int-A	2		
2563ph	45 y F	drug, N.O.S. cocaine	1 2	1 2	U	Unk	Unk	2		
2564i	45 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2565i	45 y M	drug, N.O.S.	1	1	A	Par	Int-A	2		
2566i	45 y F	drug, N.O.S.	1	1	U	Unk	Unk	2		
2567ai	46 y F	drug, N.O.S.	1	1	U	Unk	Int-A	2		
2568ai	46 y M	drug, N.O.S.	1	1	U	Unk	Int-A	3		
2569	47 y F	drug, N.O.S. salicylate zolpidem ethanol (beverage) beta blocker, N.O.S.	1 2 3 4 5	1 2 3 4 5	U	Ingst	Int-S	2		
2570ai	47 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2		
2571h	47 y M	drug, N.O.S.	1	1	U	Ingst+Unk	Int-S	2		

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time																																																																																																																																																																																																																																																																																																																																																																																																				
2572h	48 y M	drug, N.O.S.	1	1	U	Ingst	Int-S	2																																																																																																																																																																																																																																																																																																																																																																																																						
		quetiapine	2	2							2573i	49 y F	drug, N.O.S.	1	1	U	Unk	Unk	2			2574ai	49 y M	drug, N.O.S.	1	1	U	Unk	Int-A	1			2575i	49 y F	drug, N.O.S.	1	1	A	Unk	Int-A	2			2576i	50 y F	drug, N.O.S.	1	1	U	Unk	Int-U	2			2577ph	50 y M	drug, N.O.S.	1	1	A	Unk	Unk	2			2578	51 y F	drug, N.O.S.	1	1	U	Unk	Unk	2			2579i	51 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2			2580i	51 y F	drug, N.O.S.	1	1	A	Unk	Unk	2			2581i	52 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2			2582p	52 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2			2583ph	55 y F	drug, N.O.S.	1	1	U	Ingst	Unk	3			2584i	55 y F	drug, N.O.S.	1	1	U	Unk	Int-A	2			2585i	55 y F	drug, N.O.S.	1	1	A	Unk	Int-A	2			2586p	56 y F	drug, N.O.S.	1	1	A	Ingst	Unk	3			2587i	56 y F	drug, N.O.S.	1	1	A	Unk	Int-U				fentanyl (prescription)	2	2	2588i	56 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2			2589ai	57 y M	drug, N.O.S.	1	1	U	Unk	Int-A	3			2590i	57 y M	drug, N.O.S.	1	1	U	Inhal	Unk	2			2591ha	58 y F	drug, N.O.S.	1	1	U	Unk	Unk				clonazepam	2	2	buprenorphine/naloxone (sublingual tablet)	3	3	buprenorphine	1.3 ng/mL In Unknown @ Autopsy	2592h	58 y F	drug, N.O.S.	1	1	U	Unk	Int-A	2			2593hi	58 y M	drug, N.O.S.	1	1	A	Ingst + Unk	Int-S	2			2594hi	58 y M	drug, N.O.S.	1	1	A	Par	Int-A	3			cocaine	2	2	2595pa	58 y F	drug, N.O.S.	1	1	A	Unk	Unk	1			drug, N.O.S.	1	1	benzoylceognine	0 mg/mL In Whole Blood @ Autopsy	drug, N.O.S.	1	1	ethanol	0.07 % (wt/Vol) In Whole Blood @ Autopsy	drug, N.O.S.	1	1	ethanol	0.09 % (wt/Vol) In Whole Blood @ Autopsy	drug, N.O.S.	1	1	cocaine	0.1 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	trazodone	0.3 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	amphetamine	0.8 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	methadone	14 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	methadone	2.6 mg/L In Whole Blood @ Autopsy	2596h	58 y M	drug, N.O.S.	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	325 mcg/mL In Blood (unspecified) @ Unknown			drug, N.O.S.	1	1					acetaminophen (apap)	377 mcg/mL In Blood (unspecified) @ Unknown	2597ai	59 y F	acetaminophen	2	2	U	Unk	Int-A	3			2598h	60 y M	drug, N.O.S.	1	1	A/C	Ingst	Int-S	2			acetaminophen/hydrocodone	3	1	2	2	acetaminophen (apap)	16.6 mcg/mL In Blood (unspecified) @ Unknown	2599i	61 y M	gabapentin	1	3	U	Unk	Unk	2			2600h	61 y M	drug, N.O.S.	1	1	A	Unk	Int-U	2			drug, N.O.S.	1	1	valproic acid	15.6 mcg/mL In Serum @ Unknown	2601i	61 y M	
2573i	49 y F	drug, N.O.S.	1	1	U	Unk	Unk	2																																																																																																																																																																																																																																																																																																																																																																																																						
2574ai	49 y M	drug, N.O.S.	1	1	U	Unk	Int-A	1																																																																																																																																																																																																																																																																																																																																																																																																						
2575i	49 y F	drug, N.O.S.	1	1	A	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																						
2576i	50 y F	drug, N.O.S.	1	1	U	Unk	Int-U	2																																																																																																																																																																																																																																																																																																																																																																																																						
2577ph	50 y M	drug, N.O.S.	1	1	A	Unk	Unk	2																																																																																																																																																																																																																																																																																																																																																																																																						
2578	51 y F	drug, N.O.S.	1	1	U	Unk	Unk	2																																																																																																																																																																																																																																																																																																																																																																																																						
2579i	51 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																						
2580i	51 y F	drug, N.O.S.	1	1	A	Unk	Unk	2																																																																																																																																																																																																																																																																																																																																																																																																						
2581i	52 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																						
2582p	52 y M	drug, N.O.S.	1	1	A	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																						
2583ph	55 y F	drug, N.O.S.	1	1	U	Ingst	Unk	3																																																																																																																																																																																																																																																																																																																																																																																																						
2584i	55 y F	drug, N.O.S.	1	1	U	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																						
2585i	55 y F	drug, N.O.S.	1	1	A	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																						
2586p	56 y F	drug, N.O.S.	1	1	A	Ingst	Unk	3																																																																																																																																																																																																																																																																																																																																																																																																						
2587i	56 y F	drug, N.O.S.	1	1	A	Unk	Int-U																																																																																																																																																																																																																																																																																																																																																																																																							
		fentanyl (prescription)	2	2							2588i	56 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2			2589ai	57 y M	drug, N.O.S.	1	1	U	Unk	Int-A	3			2590i	57 y M	drug, N.O.S.	1	1	U	Inhal	Unk	2			2591ha	58 y F	drug, N.O.S.	1	1	U	Unk	Unk				clonazepam	2	2	buprenorphine/naloxone (sublingual tablet)	3	3	buprenorphine	1.3 ng/mL In Unknown @ Autopsy	2592h	58 y F	drug, N.O.S.	1	1	U	Unk	Int-A	2			2593hi	58 y M	drug, N.O.S.	1	1	A	Ingst + Unk	Int-S	2			2594hi	58 y M	drug, N.O.S.	1	1	A	Par	Int-A	3			cocaine	2	2	2595pa	58 y F	drug, N.O.S.	1	1	A	Unk	Unk	1			drug, N.O.S.	1	1	benzoylceognine	0 mg/mL In Whole Blood @ Autopsy	drug, N.O.S.	1	1	ethanol	0.07 % (wt/Vol) In Whole Blood @ Autopsy	drug, N.O.S.	1	1	ethanol	0.09 % (wt/Vol) In Whole Blood @ Autopsy	drug, N.O.S.	1	1	cocaine	0.1 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	trazodone	0.3 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	amphetamine	0.8 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	methadone	14 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	methadone	2.6 mg/L In Whole Blood @ Autopsy	2596h	58 y M	drug, N.O.S.	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	325 mcg/mL In Blood (unspecified) @ Unknown			drug, N.O.S.	1	1					acetaminophen (apap)	377 mcg/mL In Blood (unspecified) @ Unknown	2597ai	59 y F	acetaminophen	2	2	U	Unk	Int-A	3			2598h	60 y M	drug, N.O.S.	1	1	A/C	Ingst	Int-S	2			acetaminophen/hydrocodone	3	1	2	2	acetaminophen (apap)	16.6 mcg/mL In Blood (unspecified) @ Unknown	2599i	61 y M	gabapentin	1	3	U	Unk	Unk	2			2600h	61 y M	drug, N.O.S.	1	1	A	Unk	Int-U	2			drug, N.O.S.	1	1	valproic acid	15.6 mcg/mL In Serum @ Unknown	2601i	61 y M				A	Unk	Unk	2																																																																																																																																																																		
2588i	56 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																						
2589ai	57 y M	drug, N.O.S.	1	1	U	Unk	Int-A	3																																																																																																																																																																																																																																																																																																																																																																																																						
2590i	57 y M	drug, N.O.S.	1	1	U	Inhal	Unk	2																																																																																																																																																																																																																																																																																																																																																																																																						
2591ha	58 y F	drug, N.O.S.	1	1	U	Unk	Unk																																																																																																																																																																																																																																																																																																																																																																																																							
		clonazepam	2	2																																																																																																																																																																																																																																																																																																																																																																																																										
		buprenorphine/naloxone (sublingual tablet)	3	3							buprenorphine	1.3 ng/mL In Unknown @ Autopsy																																																																																																																																																																																																																																																																																																																																																																																																		
2592h	58 y F	drug, N.O.S.	1	1	U	Unk	Int-A	2																																																																																																																																																																																																																																																																																																																																																																																																						
2593hi	58 y M	drug, N.O.S.	1	1	A	Ingst + Unk	Int-S	2																																																																																																																																																																																																																																																																																																																																																																																																						
2594hi	58 y M	drug, N.O.S.	1	1	A	Par	Int-A	3																																																																																																																																																																																																																																																																																																																																																																																																						
		cocaine	2	2							2595pa	58 y F	drug, N.O.S.	1	1	A	Unk	Unk	1			drug, N.O.S.	1	1	benzoylceognine	0 mg/mL In Whole Blood @ Autopsy	drug, N.O.S.	1	1	ethanol	0.07 % (wt/Vol) In Whole Blood @ Autopsy	drug, N.O.S.	1	1	ethanol	0.09 % (wt/Vol) In Whole Blood @ Autopsy	drug, N.O.S.	1	1	cocaine	0.1 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	trazodone	0.3 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	amphetamine	0.8 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	methadone	14 mg/L In Whole Blood @ Autopsy	drug, N.O.S.	1	1	methadone	2.6 mg/L In Whole Blood @ Autopsy	2596h	58 y M	drug, N.O.S.	1	1	A	Ingst	Int-S	1	acetaminophen (apap)	325 mcg/mL In Blood (unspecified) @ Unknown			drug, N.O.S.	1	1					acetaminophen (apap)	377 mcg/mL In Blood (unspecified) @ Unknown	2597ai	59 y F	acetaminophen	2	2	U	Unk	Int-A	3			2598h	60 y M	drug, N.O.S.	1	1	A/C	Ingst	Int-S	2			acetaminophen/hydrocodone	3	1	2	2	acetaminophen (apap)	16.6 mcg/mL In Blood (unspecified) @ Unknown	2599i	61 y M	gabapentin	1	3	U	Unk	Unk	2			2600h	61 y M	drug, N.O.S.	1	1	A	Unk	Int-U	2			drug, N.O.S.	1	1	valproic acid	15.6 mcg/mL In Serum @ Unknown	2601i	61 y M				A	Unk	Unk	2																																																																																																																																																																																																																																																										
2595pa	58 y F	drug, N.O.S.	1	1	A	Unk	Unk	1																																																																																																																																																																																																																																																																																																																																																																																																						
		drug, N.O.S.	1	1					benzoylceognine	0 mg/mL In Whole Blood @ Autopsy																																																																																																																																																																																																																																																																																																																																																																																																				
		drug, N.O.S.	1	1					ethanol	0.07 % (wt/Vol) In Whole Blood @ Autopsy																																																																																																																																																																																																																																																																																																																																																																																																				
		drug, N.O.S.	1	1					ethanol	0.09 % (wt/Vol) In Whole Blood @ Autopsy																																																																																																																																																																																																																																																																																																																																																																																																				
		drug, N.O.S.	1	1					cocaine	0.1 mg/L In Whole Blood @ Autopsy																																																																																																																																																																																																																																																																																																																																																																																																				
		drug, N.O.S.	1	1					trazodone	0.3 mg/L In Whole Blood @ Autopsy																																																																																																																																																																																																																																																																																																																																																																																																				
		drug, N.O.S.	1	1					amphetamine	0.8 mg/L In Whole Blood @ Autopsy																																																																																																																																																																																																																																																																																																																																																																																																				
		drug, N.O.S.	1	1					methadone	14 mg/L In Whole Blood @ Autopsy																																																																																																																																																																																																																																																																																																																																																																																																				
		drug, N.O.S.	1	1					methadone	2.6 mg/L In Whole Blood @ Autopsy																																																																																																																																																																																																																																																																																																																																																																																																				
		2596h	58 y M	drug, N.O.S.					1	1	A	Ingst	Int-S	1	acetaminophen (apap)	325 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																																																																																																														
		drug, N.O.S.	1	1					acetaminophen (apap)	377 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																																																																																																																				
2597ai	59 y F	acetaminophen	2	2	U	Unk	Int-A	3																																																																																																																																																																																																																																																																																																																																																																																																						
2598h	60 y M	drug, N.O.S.	1	1	A/C	Ingst	Int-S	2																																																																																																																																																																																																																																																																																																																																																																																																						
		acetaminophen/hydrocodone	3	1							2	2	acetaminophen (apap)	16.6 mcg/mL In Blood (unspecified) @ Unknown																																																																																																																																																																																																																																																																																																																																																																																																
2599i	61 y M	gabapentin	1	3	U	Unk	Unk	2																																																																																																																																																																																																																																																																																																																																																																																																						
2600h	61 y M	drug, N.O.S.	1	1	A	Unk	Int-U	2																																																																																																																																																																																																																																																																																																																																																																																																						
		drug, N.O.S.	1	1							valproic acid	15.6 mcg/mL In Serum @ Unknown																																																																																																																																																																																																																																																																																																																																																																																																		
2601i	61 y M				A	Unk	Unk	2																																																																																																																																																																																																																																																																																																																																																																																																						

(continued)

Table 21. Listing of Fatal Nonpharmaceutical and Pharmaceutical Exposures – Continued.

Annual Report ID	Age	Substances	Substance Rank	Cause Rank	Chronicity	Route	Reason	RCF	Analyte	Blood Concentration @ Time
2602i	63 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2		
2603h	64 y F	drug, N.O.S.	1	1	U	Ingst	Int-S	2		
2604i	65 y M	drug, N.O.S.	1	1	A	Par	Int-A	2		
2605	66 y F	drug, N.O.S.	1	1	U	Ingst+Unk	Int-S	3		
		drug, N.O.S.	1	1						
		acetaminophen/acetysalicylate	2	2						
		diphenhydramine	3	3						
		ethanol (beverage)	4	4						
		dietary supplement/homeopathic agent, N.O.S.	5	5						
2606ai	67 y M	drug, N.O.S.	1	1	U	Ingst+Unk	Int-A	3		
		ethanol (beverage)	2	2						
2607ai	67 y M	drug, N.O.S.	1	1	U	Unk	Int-A	2		
2608i	68 y F	drug, N.O.S.	1	1	U	Unk	Unk	2		
2609ai	70 y M	drug, N.O.S.	1	1	U	Unk	Int-A	1		
2610h	71 y F	drug, N.O.S.	1	1	U	Ingst	Int-S	3		
		nifedipine	2	2						
		metoprolol	3	3						
2611i	75 y F	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2612i	77 y M	drug, N.O.S.	1	1	A	Unk	Int-U	2		
2613i	82 y F	drug, N.O.S.	1	1	A	Unk	Int-U	2		
2614ai	86 y F	drug, N.O.S.	1	1	U	Unk	Int-S	1		
2615h	86 y F	drug, N.O.S.	1	1	A	Ingst	Int-S	3		
2616ph	89 y M	drug, N.O.S.	1	1	A	Ingst	Int-S	3		
2617i	30+ y M	drug, N.O.S.	1	1	U	Par	Int-A	2		
2618i	Unknown adult (≥20 yrs) F	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2619i	Unknown adult (≥20 yrs) M	drug, N.O.S.	1	1	A	Unk	Int-A	2		
2620h	Unknown adult (≥20 yrs) M	drug, N.O.S.	1	1	U	Unk	Unk	2		
		drug, N.O.S.	1	1					methemoglobin	42.3 % In Unknown @ Unknown
2621phi	Unknown age M	drug, N.O.S.	1	1	A	Unk	Unk	2		
See Also case 4, 52, 87, 93, 145, 266, 289, 315, 335, 370, 391, 417, 433, 499, 573, 670, 718, 848, 1210, 1306, 1427, 1470, 1550, 1552, 1681, 1698, 1711, 1714, 1782, 1798, 1853, 2060, 2119, 2141, 2236, 2245, 2348, 2402, 2412										
Veterinary Drugs										
2622ph	12 m M	xylazine	1	1	U	Ingst	Unt-G	2		
		fentanyl (non-prescription)	2	2						

See Also case 377, 382, 579, 641, 709, 846

Listing of 2,622 (1,491 Direct + 1,131 Indirect) fatalities classified as Relative Contribution to Fatality category 1-Undoubtedly responsible, 2-Probably responsible, or 3-Contributory).

Annual Report ID: Bracketed [case number]=Narrative provided for this case in Appendix C i=Indirect case; identified through other sources (news feeds, medical examiner data, or other) about which no inquiry to the PC was made, p=prehospital cardiac and/or respiratory arrest, h=hospital records reviewed, a=autopsy report reviewed.

Age Gender: y years, m months, d days, F female, M male, F-Pregnant pregnant, U unknown

Substance: EC enteric coated, ER extended release, TD transdermal

Cause Rank: Designates and orders the substance(s) deemed to have made the greatest contribution to the death. Cause rank permits 2 or more substances to be judged indistinguishable in terms of contribution to the death. Additional agents implicated in the death are listed below the primary agent(s) in the order of their contribution to the fatality.

Chronicity: C=chronic exposure, A=acute exposure, A/C=acute on chronic, U=unknown

Route: Aspir=Aspiration (with ingestion), B-S=Bite/sting, Derm=Dermal, Ingst=Ingestion, Inhal=Inhalation/nasal, Oc=Ocular, Ot=Otic, Oth=Other, Par=Parenteral, Rec=Rectal, Unk=Unknown, Vag=Vaginal

Reason: AR-D=Adverse reaction – Drug, AR-F=AR – Food, AR-O=AR – Other, Int-A=Intentional – Abuse, Int-M=Int – Misuse, Int-S=Int – Suspected Suicide, Int-U=Int – Unknown, Oth-C=Other – Contamination/tampering, Oth-M=Oth – Malicious, Oth-W=Oth – Withdrawal, Unk=Unknown reason, Unt-B=Unintentional – Bite/sting, Unt-E=Unt – Environmental, Unt-F=Unt – Food poisoning, Unt-G=Unt – General, Unt-M=Unt – Misuse, Unt-O=Unt – Occupational, Unt-T=Unt – Therapeutic error, Unt-U =Unt – Unknown

RCF (Relative Contribution to Fatality): 1=Undoubtedly responsible, 2=Probably responsible, 3=Contributory. Provided by the RPC for Indirect cases and the America's Poison Centers Fatality Review Team for the direct (non-Indirect) cases.

Appendix B

Table 22(A) & Table 22(B), Demographic profile of SINGLE SUBSTANCE Nonpharmaceuticals exposure cases by generic category Nonpharmaceuticals (Table 22(A))

Nonpharmaceuticals	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility			Outcome		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death	
																			Unint
Nonpharmaceuticals Adhesives/Glues																			
Miscellaneous Adhesives/Glues																			
Cyanoacrylates (Superglues, etc)	4,457	4,397	1,638	310	316	1,663	49	412	9	4,221	96	13	52	1,321	482	895	195	0	0
Epoxy	886	849	263	39	41	388	13	100	5	812	13	7	15	250	127	206	47	2	0
Non-Toxic Adhesives/Glues (White Glue, Paper Glue, etc)	462	423	238	104	28	45	0	6	2	384	27	2	3	24	46	18	4	0	0
Toluene/Xylene (Adhesives Only)	166	155	70	5	6	54	3	17	0	142	4	1	7	24	35	27	2	0	0
Unknown Types of Adhesive, Glue, Cement or Paste	3,541	3,321	1,282	329	177	1,114	40	359	20	3,091	119	26	65	486	478	447	79	3	0
Category Total:	9,512	9,145	3,491	787	568	3,264	105	894	36	8,650	259	49	142	2,105	1,168	1,593	327	5	0
Alcohols																			
Miscellaneous Alcohols																			
Ethanol (Beverages)	52,883	7,964	2,764	294	896	3,478	101	421	10	3,558	3,632	363	176	3,231	1,062	1,162	1,308	356	56
Ethanol (Non-Beverage, Non-Rubbing)	1,795	1,346	739	83	58	384	11	68	3	1,188	93	14	13	188	224	109	42	21	1
Higher Alcohols (Butanol, Amyl Alcohol, Propanols, etc)	90	68	24	3	2	35	1	3	0	60	6	1	0	25	11	19	8	2	0
Isopropanol (Excluding Rubbing Alcohols and Cleaning Agents)	3,972	3,328	1,119	127	198	1,605	31	246	2	2,510	710	30	31	938	514	590	278	69	1
Methanol (Excluding Automotive Products and Cleaning Agents)	706	576	94	15	27	368	5	67	0	489	49	9	2	227	129	105	39	14	5
Other Types of Alcohol	122	103	40	7	9	35	0	10	2	79	14	1	4	32	16	14	5	3	0
Unknown Types of Alcohol	777	216	30	6	19	139	3	19	0	79	101	10	4	127	24	20	41	27	2
Rubbing Alcohols																			
Rubbing Alcohols: Ethanol with Methyl Salicylate	3	3	1	1	0	1	0	0	0	3	0	0	0	1	0	1	0	0	0
Rubbing Alcohols: Ethanol without Methyl Salicylate	162	153	80	9	6	49	0	9	0	134	13	1	0	19	35	11	5	0	0
Rubbing Alcohols: Isopropanol with Methyl Salicylate	122	108	66	2	3	36	0	1	0	98	8	0	1	23	30	14	3	1	0
Rubbing Alcohols: Isopropanol without Methyl Salicylate	7,387	6,447	2,779	212	350	2,636	53	411	6	5,164	1,132	61	25	1,552	1,017	1,093	386	51	1
Rubbing Alcohols: Unknown	323	256	72	12	15	136	1	18	2	176	72	2	4	88	27	26	24	6	0
Category Total:	68,342	20,568	7,808	771	1,583	8,902	206	1,273	25	13,538	5,830	492	260	6,451	3,089	3,164	2,139	550	66
Arts/Crafts/Office Supplies																			
Miscellaneous Arts/Crafts/Office Supplies																			
Artist Paints (Non-Water Color)	3,012	2,877	2,051	265	120	355	10	66	10	2,772	73	7	14	106	416	147	9	1	0

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

Generic Category	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility				Outcome		
			Age							Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age											
Artist Paints (Water Color)	1,053	1,021	797	127	33	45	1	14	4	971	37	3	2	15	113	21	2	0	0	
Chalks	583	563	486	34	13	20	4	6	6	540	15	1	1	20	83	32	0	0	0	
Clays	1,793	1,725	1,421	169	45	68	12	9	9	1,688	16	3	5	83	172	98	9	0	0	
Crayons	1,341	1,275	942	217	36	64	5	6	6	1,215	49	0	3	47	124	39	3	0	0	
Glazes	95	88	29	7	16	29	1	1	1	78	5	2	3	14	14	15	3	0	0	
Office Supplies:	51	47	28	5	5	6	0	0	0	44	3	0	0	0	8	3	0	0	0	
Miscellaneous Other Types of Arts/Crafts/Writing Products	5,945	5,617	3,923	677	203	600	26	171	26	5,387	153	27	29	264	796	275	25	0	0	
Pencils	975	939	343	442	78	39	16	17	16	808	103	11	2	49	102	45	1	0	0	
Pens or Inks	7,175	6,946	4,219	1,719	513	323	49	101	22	6,435	400	32	47	246	893	261	19	1	0	
Typewriter Correction Fluids	235	231	116	43	24	35	3	9	3	205	23	2	0	18	47	20	1	0	0	
Unknown Types of Arts/Crafts/Writing Products	94	92	63	20	3	4	0	2	0	87	4	1	0	8	24	3	1	0	0	
Category Total:	22,352	21,421	14,418	3,725	1,089	1,588	130	410	61	20,230	881	89	106	870	2,792	959	73	2	0	
Automotive/Aircraft/Boat Products																				
Automotive Products: Brake Fluids	707	659	140	9	46	391	1	66	6	616	30	7	2	245	140	175	28	2	1	
Automotive Products: Ethylene Glycol (Including Antifreeze)	6,597	6,079	424	126	483	4,280	3	686	77	5,248	626	121	20	2,015	1,088	901	352	90	8	
Automotive Products: Glycol and Methanol Mixtures	106	102	31	7	4	45	1	11	3	93	6	1	2	34	24	19	4	0	0	
Automotive Products: Hydrocarbons (Transmission Fluids, Power Steering Fluids, etc)	1,586	1,475	367	45	113	776	3	145	26	1,369	56	22	13	410	224	438	79	3	0	
Automotive Products: Methanol (Dry Gas, Windshield Washing Solutions, etc)	1,553	1,488	155	43	142	916	6	205	21	1,339	99	27	8	375	325	249	39	14	3	
Automotive Products: Other Glycols	192	183	49	5	9	97	0	19	4	168	10	5	0	52	37	39	7	2	0	
Miscellaneous Automotive/Aircraft/Boat Products																				
Automotive/Aircraft/Boat Products: Non-Toxic Products: Other	16	14	7	0	2	4	0	1	0	14	0	0	0	5	1	4	0	0	0	
Automotive/Aircraft/Boat Products: Other	1,064	1,008	304	25	57	516	2	97	7	969	17	3	15	321	164	266	66	3	0	
Automotive/Aircraft/Boat Products: Unknown	139	123	28	3	10	70	2	9	1	105	5	9	2	56	19	34	11	1	0	
Category Total:	11,960	11,131	1,505	263	866	7,095	18	1,239	145	9,921	849	195	62	3,513	2,022	2,125	586	115	12	
Batteries																				
Disc Batteries: Alkaline (MNO2)	344	340	227	42	7	52	1	9	2	328	5	5	1	263	207	35	15	0	0	
Disc Batteries: Lithium	810	777	132	69	90	363	11	93	19	715	32	9	15	267	206	146	41	10	2	
Disc Batteries: Mercuric Oxide	3	3	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0	0	
Disc Batteries: Nickel Cadmium	3	3	1	0	1	1	0	0	0	2	1	0	0	2	1	1	0	0	0	
Disc Batteries: Other	20	20	13	1	1	4	0	1	0	19	1	0	0	8	7	2	0	0	0	
Disc Batteries: Silver Oxide	30	29	23	2	1	3	0	0	0	28	0	0	0	22	19	1	1	0	0	
Disc Batteries: Unknown	1,967	1,919	1,255	254	70	274	18	44	4	1,813	84	4	3	1,471	772	157	56	18	1	
Disc Batteries: Zinc-Air	287	273	73	12	6	173	3	6	0	264	8	0	0	229	189	16	1	1	0	

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

No. of Case Mentions	No. of Single Exposures	Age					Reason					Treated in Health Care Facility				Outcome		
		≤5	6-12	13-19	≥20	Unknown			Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death	
						Child	Adult	Age										
Miscellaneous Batteries																		
1,051	1,012	85	35	63	661	5	152	11	975	12	6	18	253	138	262	56	2	0
Automotive/Aircraft/Boat Batteries																		
196	189	44	13	19	80	4	23	6	171	13	1	3	40	34	31	2	0	0
Other Types of Battery																		
5,729	5,564	3,280	537	288	1,106	17	300	36	5,005	456	34	24	1,282	1,694	541	67	5	0
Penlight/Flashlight/Dry Cell Batteries																		
119	113	48	7	13	31	0	14	0	102	7	3	0	23	20	11	2	0	0
Unknown Types of Battery																		
10,559	10,242	5,181	972	559	2,751	59	642	78	9,425	619	62	64	3,860	3,287	1,203	241	36	3
Bites and Envenomations																		
Aquatic																		
574	568	13	42	60	404	0	41	8	558	2	0	7	249	4	188	82	1	0
Fish Stings																		
344	340	50	87	37	139	6	18	3	340	0	0	0	92	4	118	31	2	0
Jellyfish and Other																		
Coelenterate Stings																		
508	488	279	48	15	124	2	16	4	462	12	7	7	82	81	63	15	1	0
Other or Unknown Marine Animal Bites and/or Envenomations																		
Exotic Snakes																		
Exotic Snake: Unknown If Poisonous																		
2	2	0	1	0	1	0	0	0	2	0	0	0	1	0	0	1	0	0
Exotic Snakes: Non-Poisonous																		
23	23	1	0	3	18	0	1	0	23	0	0	0	20	2	11	5	1	0
Exotic Snakes: Poisonous																		
33	30	0	1	5	19	0	5	0	30	0	0	0	25	2	4	9	4	1
Insects																		
416	375	117	21	11	177	2	45	2	363	1	9	1	53	15	87	19	1	0
Ant or Fire Ant Bites																		
1,922	1,833	328	185	74	989	5	237	15	1,831	0	2	2	332	17	619	147	4	0
Bee, Wasp, or Hornet Stings																		
906	902	234	128	51	416	2	63	8	882	8	3	7	144	31	242	38	1	0
Caterpillars																		
268	266	81	21	14	126	0	23	1	262	0	3	1	43	13	80	22	0	0
Centipede or Millipede Bites																		
61	54	19	6	1	23	1	3	1	54	0	0	0	11	0	17	4	0	0
Mosquito Bites																		
2,772	2,666	663	199	110	1,362	17	272	43	2,568	6	61	15	545	89	652	157	2	0
Other Insect Bites and/or Stings																		
7,463	7,444	893	731	490	4,922	4	333	71	7,439	3	1	0	1,121	67	4,373	560	27	0
Scorpion Stings																		
422	398	102	29	20	176	4	62	5	394	0	2	2	80	10	56	6	1	0
Tick Bites																		
Mammals																		
843	832	93	81	54	480	5	99	20	827	2	1	0	470	156	76	7	0	0
Bat Bites																		
804	793	56	84	56	482	1	102	12	788	1	0	0	526	19	298	25	0	0
Cat Bites																		
2,781	2,769	450	621	284	1,236	9	135	34	2,769	0	0	0	2,174	26	1,328	125	2	0
Dog Bites																		
12	12	0	0	0	10	0	2	2	12	0	0	0	8	1	4	0	0	0
Fox Bites																		
15	15	1	1	1	11	0	0	1	15	0	0	0	6	0	2	1	0	0
Human Bites																		
669	649	78	67	42	354	8	68	32	638	0	8	0	363	44	157	10	1	0
Other Mammal Bites																		
138	137	9	9	14	88	4	11	2	132	3	0	1	86	16	31	4	0	0
Raccoon Bites																		
828	802	181	107	70	329	11	92	12	766	5	23	6	288	46	184	14	0	0
Rodent or Lagomorph Bites (Squirrels, Rats, Mice, Gerbils, Hamsters, Rabbits, etc)																		
8	8	1	0	1	3	0	2	1	8	0	0	0	4	0	2	0	0	0
Skunk Bites																		
Miscellaneous Bites and Envenomations																		
291	288	42	30	19	159	3	26	9	278	7	0	1	96	23	83	24	1	0
Other or Unknown Animal Bites																		
305	301	94	59	32	100	3	11	2	289	7	1	3	75	36	76	15	1	0
Other or Unknown Reptile Bites																		
1,681	1,628	536	125	68	681	14	182	22	1,605	8	9	3	278	59	261	80	2	0
Unknown Types of Insect or Spider Bite and/or Envenomation																		
Miscellaneous Snake Bites and Envenomations																		
540	533	44	74	71	319	0	23	2	530	1	1	1	360	23	270	37	2	0
Unknown or Known Non-Poisonous Snake Bites																		

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility				Outcome			
			Age							Reason				Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death			
Alkalis (Excluding Cleaning Agents, Bleaches, Batteries, and Detergents)	4,097	3,383	498	126	262	2,185	5	278	29	2,905	192	32	205	1,856	274	1,036	669	58	0		
Ammonia (Excluding Cleaning Agents)	2,026	1,339	161	49	131	816	3	159	20	1,204	84	29	11	470	135	403	122	9	0		
Borates or Boric Acid (Excluding Topicals and Pesticides)	5,421	5,168	1,152	310	429	2,679	13	546	39	4,892	143	43	66	578	800	375	34	2	2		
Chlorates (Excluding Matches and Fireworks)	50	41	5	0	4	26	0	6	0	36	1	3	1	23	7	11	5	1	0		
Cyanides (Excluding Rodenticides)	262	167	3	2	2	129	1	25	5	120	11	22	2	92	30	27	10	5	3		
Dioxins	10	9	0	1	1	7	0	0	0	5	0	1	3	3	4	0	0	0	0		
Ethylene Glycol (Excluding Automotive, Aircraft, or Boat Products)	670	566	90	31	39	361	1	40	4	397	113	12	3	261	92	59	48	50	13		
Formaldehyde or Formalin	598	541	36	17	49	340	4	82	13	490	20	13	15	224	69	172	19	1	0		
Ketones	284	248	47	6	16	145	0	30	4	236	5	3	3	120	35	95	19	1	0		
Methylene Chloride (Excluding Paint Strippers)	177	151	18	12	11	89	1	18	2	150	0	1	0	59	17	43	15	0	0		
Nitrates and Nitrites (Excluding Medications and Substances of Abuse)	1,212	1,069	207	248	122	426	3	54	9	723	311	14	5	373	193	157	50	25	31		
Other Chemicals	18,757	14,842	5,420	1,156	689	5,916	66	1,440	155	13,555	601	164	413	2,838	2,049	2,591	549	50	11		
Other Chemicals-Unknown if Toxic	4	4	0	2	0	1	0	1	0	4	0	0	0	1	0	1	0	0	0		
Other Glycols (Excluding Automotive, Aircraft, or Boat Products)	617	484	151	28	33	217	1	48	6	423	24	11	23	144	64	87	27	7	0		
Phenol or Cresosotes (Excluding Disinfectants)	201	183	11	5	15	137	0	12	3	174	3	1	3	104	14	53	28	2	0		
Strychnine (Excluding Rodenticides)	25	15	6	0	0	9	0	0	0	7	3	2	3	6	4	0	0	2	0		
Toluene Disocyanate	667	640	107	20	24	336	2	126	25	613	11	1	12	156	222	136	28	1	0		
Unknown Chemicals	6,976	6,521	1,103	371	334	3,296	25	1,178	214	4,924	209	859	240	1,928	785	1,345	444	40	8		
Category Total:	51,299	43,195	10,433	2,723	2,690	21,667	154	4,879	649	38,138	1,997	1,310	1,105	11,972	5,627	8,778	2,760	304	76		
Cleaning Substances (Household)																					
Automatic Dishwasher Detergents																					
Automatic Dishwasher Detergents: Granules (Unit Dose)	1,112	1,103	1,028	8	5	48	2	10	2	1,086	1	2	1	62	210	172	11	0	0		
Automatic Dishwasher Detergents: Granules (Various Containers)	1,350	1,328	1,054	18	15	193	4	40	4	1,307	6	9	1	94	194	197	22	0	0		
Automatic Dishwasher Detergents: Granules with Liquids (Unit Dose)	7,448	7,381	6,725	59	61	429	11	87	9	7,326	16	20	6	505	1,378	1,229	62	0	0		
Automatic Dishwasher Detergents: Liquids (Unit Dose)	438	434	338	16	8	60	0	12	0	430	0	1	1	67	63	77	13	0	0		
Automatic Dishwasher Detergents: Liquids (Various Containers)	746	709	434	14	26	189	2	39	5	686	8	11	3	110	100	125	31	2	1		

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome		
			Age							Reason					Treated in Health Care Facility				Outcome		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death			
Automatic Dishwasher Detergents: Tablets	2,224	2,197	1,899	42	24	186	5	35	6	8	10	6	190	407	462	31	1	0			
Automatic Dishwasher Rinse Agents	654	633	418	5	13	159	2	35	1	6	4	1	66	80	122	11	0	0			
Other or Unknown Types of Automatic Dishwasher Detergent	2,549	2,509	2,072	44	29	297	1	59	7	17	17	6	215	373	414	34	3	0			
Bleaches																					
Bleaches: Borates	539	417	122	20	29	185	8	51	2	8	5	1	95	61	82	23	1	0			
Bleaches: Hypochlorite (Liquid and Dry)	35,097	27,175	8,552	1,035	2,016	12,603	337	2,565	67	23,976	2,185	492	7,212	3,603	7,232	1,039	45	1			
Bleaches: Non-Hypochlorite	238	199	66	10	11	91	1	19	1	154	24	1	48	24	47	5	2	0			
Bleaches: Other or Unknown (Household)	1,538	1,145	311	37	86	541	0	161	0	978	98	38	375	124	241	46	3	0			
Cleaners																					
Anionic or Nonionic Cleaners	1,970	1,732	1,103	52	43	428	7	97	2	1,650	44	15	167	319	185	16	2	0			
Other or Unknown Types of Household Cleanser	2,611	2,235	1,157	93	94	713	17	157	4	2,057	108	44	420	313	355	48	2	0			
Disinfectants																					
Disinfectants: Hypochlorite (Non-Bleach Products)	3,139	2,591	987	116	128	1,107	22	220	11	2,407	117	16	645	355	604	109	4	0			
Disinfectants: Other or Unknown	8,528	7,707	3,502	573	451	2,399	70	681	31	7,024	376	103	827	1,172	1,278	132	6	1			
Disinfectants: Phenol	330	310	144	10	15	114	2	25	2	275	25	6	60	63	47	11	0	0			
Disinfectants: Pine Oil	5,002	4,092	1,713	165	166	1,643	35	358	12	3,790	199	35	751	769	830	81	5	2			
Drain Cleaners																					
Drain Cleaners: Acids	274	225	15	4	12	157	0	36	0	219	3	0	76	17	67	25	2	0			
Drain Cleaners: Alkalis	2,178	1,840	222	38	68	1,232	21	258	1	1,707	80	9	616	176	497	224	28	6			
Drain Cleaners: Hydrochloric Acid	18	7	0	0	0	7	0	0	0	7	0	0	2	1	2	0	0	0			
Drain Cleaners: Other or Unknown	946	784	349	23	21	306	4	80	1	748	20	3	160	124	150	46	2	0			
Drain Cleaners: Sulfuric Acid	533	427	32	15	11	313	2	54	0	403	13	0	169	32	129	59	1	3			
Fabric Softeners/Antistatic Agents																					
Fabric Softener/Antistatic Agent: Other or Unknown	20	17	12	1	0	3	1	0	0	16	1	0	1	1	0	0	0	0			
Fabric Softeners/Antistatic Agents: Aerosol or Spray	62	61	42	1	3	9	0	5	1	57	2	1	3	7	12	1	0	0			
Fabric Softeners/Antistatic Agents: Dry or Powder (Unit Dose)	4	4	1	0	1	2	0	0	0	3	1	0	1	1	1	0	0	0			
Fabric Softeners/Antistatic Agents: Dry or Powder (Various Containers)	7	6	6	0	0	0	0	0	0	6	0	0	0	1	0	0	0	0			
Fabric Softeners/Antistatic Agents: Liquid (Unit Dose)	11	11	9	1	0	1	0	0	0	10	1	0	1	4	0	0	0	0			
Fabric Softeners/Antistatic Agents: Liquid (Various Containers)	734	642	388	17	33	173	28	28	1	585	38	9	95	104	77	6	0	0			
Fabric Softeners/Antistatic Agents: Solid or Sheet	368	361	299	12	5	33	11	11	1	348	4	6	8	51	11	2	0	0			
Glass Cleaners																					
Glass Cleaners: Ammonia Containing	522	452	306	16	26	76	4	22	2	406	27	3	46	113	60	3	0	0			
Glass Cleaners: Anionics or Nonionics	70	62	32	0	2	22	4	4	0	58	2	0	8	14	9	0	0	0			

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome		
			Age							Reason					Treated in Health Care Facility				Outcome		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death			
Glass Cleaners: Isopropanol	777	687	425	34	23	154	3	633	39	7	4	63	157	93	5	0	0				
Glass Cleaners: Other or Unknown Types of Household	2,560	2,162	1,331	115	147	443	15	1,942	178	28	8	289	412	277	21	3	0				
Hand Dishwashing	7,690	6,431	2,917	397	247	2,273	56	5,995	147	203	52	482	704	1,061	64	2	1				
Antionic or Nonionic Hand Dishwashing Detergents	1,320	1,124	503	52	44	420	5	1,053	21	43	3	75	103	169	6	0	0				
Other or Unknown Types of Household Hand Dishwashing Detergent	88	84	47	1	1	25	1	82	0	0	2	19	12	16	2	0	0				
Laundry Additives	46	39	29	0	1	9	0	38	0	0	1	4	6	4	0	0	0				
Enzyme and/or Microbiological Laundry Additives	810	762	621	20	25	79	16	736	16	5	2	56	135	56	8	0	0				
Laundry Bleuing and/or Brightening Agents (without Detergent)	1,494	1,402	1,031	58	58	198	48	1,308	54	16	6	128	231	196	10	1	0				
Laundry Detergent Boosters	47	43	27	2	0	11	0	37	1	3	2	2	10	7	0	0	0				
Other or Unknown Laundry Additives or Miscellaneous Products	380	350	208	14	12	89	26	336	8	1	3	60	41	77	7	0	0				
Water Softeners	2,512	2,304	1,419	86	92	541	11	2,198	65	18	15	300	334	383	35	2	1				
Water Softeners	247	245	200	15	5	20	5	238	4	0	0	86	47	84	12	0	0				
Laundry Detergents	11,590	11,444	9,570	599	258	778	37	11,131	219	17	26	3,670	1,746	4,317	514	18	0				
Laundry Detergents: Liquids (Unit Dose)	5,156	4,859	2,834	174	200	1,376	8	4,530	224	43	26	791	584	1,002	99	6	1				
Laundry Detergents: Liquids (Various Containers)	248	216	104	14	18	56	6	190	17	4	3	44	33	47	4	0	0				
Laundry Detergents: Other or Unknown Types of Household Laundry Detergent and/or Fabric Cleaner	255	238	142	7	9	52	1	225	7	1	1	32	44	34	4	0	0				
Laundry Prewash/Stain Removers	90	83	68	3	0	8	4	82	0	0	1	11	7	20	1	0	0				
Laundry Prewash/Stain Removers: Aerosol or Spray Solvent Based	384	352	191	12	9	112	0	334	9	1	2	41	54	71	7	1	0				
Laundry Prewash/Stain Removers: Aerosol or Spray Surfactant Based	6	6	4	1	0	1	0	6	0	0	0	0	0	0	0	0	0				
Laundry Prewash/Stain Removers: Dry Solvent Based	55	50	37	2	0	11	0	45	0	0	1	2	11	3	0	0	0				
Laundry Prewash/Stain Removers: Dry Surfactant Based	260	251	174	8	1	53	1	242	4	4	0	24	59	35	3	0	0				
Laundry Prewash/Stain Removers: Liquid Solvent Based																					

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome		
		≤5	6-12	13-19	≥20	Unknown		Child	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death			
						Adult	Age													
1,024	967	764	27	16	136	2	22	0	937	8	12	5	83	148	171	15	0	0		
1,445	1,294	916	43	30	249	1	52	3	1,261	16	4	11	136	203	240	12	0	0		
52	50	32	1	2	12	0	3	0	47	1	2	0	12	10	8	4	1	0		
29	27	23	0	1	1	0	2	0	25	1	0	0	3	5	0	0	0	0		
Miscellaneous Cleaners																				
2,075	1,783	593	54	73	845	2	205	11	1,650	43	59	23	296	263	386	43	3	0		
7,752	6,617	3,106	169	258	2,511	13	505	55	6,197	255	64	73	1,403	1,068	1,498	265	26	1		
4,705	4,144	2,263	200	153	1,207	9	285	27	3,894	115	69	40	473	556	667	66	2	0		
2,747	2,484	958	143	165	988	8	206	16	2,252	155	31	34	483	335	545	85	3	1		
265	241	163	9	13	42	0	13	1	228	5	4	4	18	42	34	0	0	1		
327	296	141	26	22	84	1	22	0	264	15	12	3	46	45	53	6	1	0		
548	518	194	70	38	168	4	40	4	450	53	6	5	82	89	94	16	3	0		
32	29	4	1	0	21	0	3	0	26	1	0	1	8	4	12	3	0	0		
4,847	4,313	2,216	221	186	1,306	21	332	31	3,995	147	82	62	654	756	802	85	8	1		
21	20	6	1	1	7	0	4	1	18	1	0	1	12	4	6	1	1	0		
647	420	90	18	21	237	1	43	10	380	19	10	7	101	69	90	22	1	0		
2,797	2,553	1,605	84	59	661	6	124	14	2,451	48	20	24	319	410	407	40	0	0		
40	38	5	0	4	29	0	0	0	37	1	0	0	31	0	17	11	0	0		
92	90	59	3	1	23	0	4	0	84	3	3	0	9	25	9	1	0	0		
14	14	4	0	1	5	0	0	4	9	0	5	0	5	0	7	1	1	0		

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome		
			Age							Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age												
Oven Cleaners: Alkalis	2,035	1,956	273	61	145	1,145	39	276	17	0	0	1,788	44	69	36	553	201	523	178	18	0
Oven Cleaners: Detergent Types	7	7	2	0	0	5	0	0	0	0	0	7	0	0	0	2	2	0	0	0	0
Oven Cleaners: Other or Unknown	354	335	43	14	20	208	2	48	0	0	0	301	7	14	5	81	31	78	24	0	0
Rust Removers	528	411	123	7	13	217	2	49	0	0	0	390	12	2	7	90	57	99	23	0	0
Rust Removers: Acids Other Than Hydrofluoric Acid																					
Rust Removers: Alkalis	3	3	0	1	0	1	0	1	0	0	0	3	0	0	0	1	0	0	1	0	0
Rust Removers: Anionics or Nonionics	2	2	1	0	0	1	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0
Rust Removers: Hydrofluoric Acid	108	102	9	2	1	83	6	6	0	1	100	2	0	0	0	45	19	25	14	0	0
Rust Removers: Other or Unknown	187	157	19	3	7	103	2	23	0	2	146	6	0	0	5	26	21	41	4	0	0
Spot Removers/Dry Cleaning Agents	115	107	73	4	4	18	1	7	0	1	100	4	1	2	6	21	12	1	0	0	0
Spot Removers/Dry Cleaning Agents: Anionics or Nonionics	33	33	21	1	1	8	0	2	0	0	30	2	0	1	2	7	8	1	0	0	0
Spot Removers/Dry Cleaning Agents: Glycols	7	7	2	1	0	0	0	4	0	0	7	0	0	0	0	0	1	2	0	0	0
Spot Removers/Dry Cleaning Agents: Isopropanol	8	7	2	0	0	3	0	2	0	0	6	0	0	0	0	3	0	1	2	1	0
Spot Removers/Dry Cleaning Agents: Other Halogenated Hydrocarbon Containing Products	801	755	487	13	27	175	2	45	2	6	739	6	1	5	89	170	106	15	1	0	0
Spot Removers/Dry Cleaning Agents: Other Hydrocarbon and/or Non-Halogenated Containing	161	153	95	3	7	39	0	9	0	0	147	2	1	3	32	32	30	3	0	0	0
Spot Removers/Dry Cleaning Agents: Other or Unknown	4	3	0	0	1	2	0	0	0	0	3	0	0	0	2	0	3	0	0	0	0
Spot Removers/Dry Cleaning Agents: Perchloroethylene																					
Toilet Bowl Cleaners	3,009	2,286	1,247	58	64	741	5	160	5	11	2,181	80	3	12	407	488	489	76	9	3	3
Toilet Bowl Cleaners: Acids	2,911	2,450	1,829	42	69	405	6	89	6	10	2,342	81	7	17	324	575	377	30	1	0	0
Toilet Bowl Cleaners: Alkalis	4,380	4,019	3,405	88	39	373	12	90	12	12	3,928	56	6	8	389	945	353	28	4	0	0
Toilet Bowl Cleaners: Other or Unknown																					
Wall/Floor/Tile Cleaners	1,108	878	471	34	31	275	0	62	0	5	819	34	5	16	138	149	163	25	1	0	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Acids	5,143	4,463	2,416	138	186	1,369	17	303	17	34	4,206	147	39	51	812	838	1,024	129	12	0	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Alkalis	8,541	7,255	3,722	289	276	2,480	20	423	20	45	6,198	275	686	41	1,558	1,363	1,437	144	6	1	1
Wall/Floor/Tile/All-Purpose Cleaning Agents: Anionics or Nonionics	2,262	1,987	1,209	85	69	504	7	108	7	5	1,843	95	22	19	273	310	441	34	0	0	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Cationics	116	104	72	2	7	16	0	7	0	0	97	6	1	0	10	18	15	0	0	0	0
Wall/Floor/Tile/All-Purpose Cleaning Agents: Ethanol																					

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility				Outcome			
		Age							Reason				Treated in Health Care Facility				Outcome			
		≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death			
756	621	354	22	26	183	2	29	5	572	33	11	2	96	107	82	9	2	1		
Wall/Floor/Tile/All-Purpose Cleaning Agents: Glycols																				
552	472	271	19	31	111	2	33	5	396	32	37	3	82	77	77	6	1	0		
Wall/Floor/Tile/All-Purpose Cleaning Agents: Isopropanol																				
1,707	1,529	960	40	46	390	4	82	7	1,407	34	67	13	212	282	273	34	0	0		
Wall/Floor/Tile/All-Purpose Cleaning Agents: Other or Unknown																				
181,572	157,928	85,468	6,056	6,666	47,815	442	10,395	1,086	146,694	6,324	2,609	1,382	28,681	24,730	33,371	4,350	248	26		
Cosmetics/Personal Care Products																				
Dental Care Products																				
1,884	1,862	169	26	32	1,399	1	225	10	1,783	31	12	24	112	297	136	10	0	0		
False Teeth Cleaning Agents																				
1,123	1,084	413	62	50	434	5	107	13	981	23	5	67	78	135	112	9	0	0		
Other Dental Care Products (Excluding Fluoride Supplements)																				
9,314	9,059	7,513	350	170	787	13	202	24	8,775	129	21	96	185	1,383	469	19	0	0		
Toothpastes (with Fluoride)																				
1,401	1,334	1,110	38	26	108	4	41	7	1,293	14	5	12	24	191	63	3	0	0		
Toothpastes (without Fluoride)																				
Hair Care Products																				
38	37	30	0	1	4	0	2	0	37	0	0	0	6	5	5	1	0	0		
Curl Activators																				
1,795	1,714	644	60	132	679	4	171	24	1,515	34	6	144	337	239	342	50	2	0		
Hair Coloring Agents (Excluding Peroxides)																				
686	669	526	18	16	86	4	19	0	641	11	4	9	90	134	84	9	1	0		
Hair Oils																				
94	92	58	1	7	19	0	7	0	85	3	0	4	49	21	23	10	0	0		
Hair Relaxers (with Other Alkalines)																				
24	22	16	0	0	5	0	1	0	19	0	0	2	4	2	4	0	0	0		
Hair Relaxers (with Other Non-Alkalines)																				
124	123	76	5	3	35	1	3	0	114	2	0	7	56	12	40	11	1	0		
Hair Relaxers (with Sodium Hydroxide)																				
1,913	1,787	1,341	71	66	251	5	46	7	1,702	50	6	17	135	278	156	14	0	0		
Hair Rinses, Conditioners, Relaxers																				
784	711	349	39	49	219	3	44	8	650	46	5	4	94	102	126	17	1	1		
Hair Sprays																				
2,333	2,234	1,478	88	119	446	4	83	16	2,085	39	13	92	335	309	398	53	1	0		
Other Hair Care Products (Excluding Peroxides)																				
77	72	18	7	9	29	0	6	3	55	0	0	16	16	6	18	5	0	0		
Permanent Wave Solutions																				
4,388	4,119	2,650	245	197	815	16	177	19	3,818	204	6	58	421	446	682	64	0	0		
Shampoos																				
23,549	22,471	13,976	2,562	1,191	4,060	43	565	74	19,239	2,629	402	38	2,855	4,441	2,113	510	77	1		
Hand Sanitizers: Ethanol Based																				
318	293	148	36	12	77	0	14	6	236	49	1	4	58	56	31	15	2	0		
Hand Sanitizers: Isopropanol Based																				
579	557	441	32	16	52	1	15	0	517	26	3	1	21	89	34	2	0	0		
Hand Sanitizers: Non-Alcohol Based																				
2,237	1,946	812	254	195	586	11	77	11	1,393	428	74	7	587	373	282	118	14	4		
Hand Sanitizers: Unknown																				
Miscellaneous Cosmetics/Personal Care Products																				
1,174	1,149	978	20	30	91	5	22	3	1,120	11	6	9	129	202	113	7	0	1		
Baby Oils																				
3,095	3,010	2,614	222	28	120	9	14	3	2,927	36	7	28	135	492	263	17	0	0		
Bath Oils and/or Bubble Baths																				
14,497	13,932	10,948	424	300	1,763	33	420	44	13,370	187	37	271	529	1,896	725	66	4	0		
Creams, Lotions, and Make-Up																				
6,437	6,271	5,067	262	334	494	14	91	9	5,907	236	45	48	286	806	525	31	1	0		
Deodorants																				
484	467	151	18	58	194	2	40	4	341	19	11	91	130	64	118	41	0	0		
Depilatories																				
33	29	17	2	1	8	0	1	0	27	1	0	1	3	4	4	0	0	0		
Douches																				
855	810	540	28	38	161	2	38	3	751	13	2	38	73	93	86	11	1	0		
Eye Products																				
369	364	309	21	9	19	1	5	0	348	9	0	0	8	83	19	2	0	0		
Lipsticks and Lip Balms (with Camphor)																				

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility			Outcome		
			Age							Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death	
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age										
Lipsticks and Lip Balms (without Camphor)	2,982	2,865	2,453	156	45	148	8	44	11	2,714	53	2	85	72	403	158	6	1	0
Perfumes, Colognes, and Aftershave	5,088	4,863	3,490	355	260	592	24	124	18	4,487	239	79	29	452	813	919	36	0	0
Peroxides	5,778	5,127	1,271	228	386	2,688	3	483	68	4,675	261	41	103	963	507	1,178	174	9	1
Powders Made of Material Other Than Talc	868	810	632	41	29	82	5	17	4	776	22	4	7	52	85	124	8	0	1
Powders Made of Talc	824	801	560	34	32	141	2	30	2	754	29	5	5	108	140	119	12	0	0
Soaps (Bar, Hand or Complexion)	10,549	9,923	5,825	702	455	2,375	37	488	41	9,245	403	93	124	824	1,024	1,435	108	6	0
Suntan and/or Sunscreen Products	4,677	4,584	3,767	252	90	376	11	82	6	4,463	40	18	54	157	581	321	16	1	0
Mouthwashes																			
Mouthwashes: Ethanol Containing	4,393	3,918	659	350	308	2,146	8	426	21	3,171	658	13	32	611	487	349	143	26	0
Mouthwashes: Fluoride Containing	4,057	3,981	2,266	929	106	549	10	110	11	3,874	69	1	30	77	535	120	6	0	0
Mouthwashes: Non Ethanol Containing	1,862	1,779	406	189	97	901	4	165	17	1,671	79	1	19	92	262	83	11	1	0
Mouthwashes: Unknown	155	127	14	15	7	62	0	26	3	103	17	2	2	22	15	15	5	0	0
Nail Products																			
Acrylic Nail Adhesives	1,638	1,623	526	230	207	561	4	81	14	1,561	42	9	8	711	166	490	105	3	0
Acrylic Nail Primers	204	198	149	3	10	26	0	10	0	192	4	1	0	59	42	41	11	0	0
Acrylic Nail Removers	21	20	1	3	5	1	1	0	0	0	0	0	1	3	3	4	0	0	0
Miscellaneous Nail Products	775	756	499	36	38	157	1	21	4	725	11	6	10	128	116	134	23	1	0
Nail Polish Removers (Acetone Containing)	1,671	1,599	1,045	67	99	308	3	70	7	1,513	56	9	3	203	292	245	15	2	0
Nail Polishes	3,433	3,318	2,734	171	68	255	10	68	12	3,214	67	11	13	242	510	385	13	0	0
Other Nail Polish Removers	539	518	362	24	27	79	3	19	4	493	14	2	7	59	104	70	4	1	0
Unknown Nail Polish Removers	2,314	2,175	1,357	105	150	447	8	97	11	2,024	117	19	7	313	417	361	19	4	0
Category Total:	131,433	125,203	80,417	8,779	5,506	24,839	323	4,797	542	115,403	6,411	987	1,630	11,904	18,661	13,522	1,810	160	9
Deodorizers																			
Air Freshener																			
Air Fresheners: Aerosols	1,934	1,867	1,210	110	62	362	11	100	12	1,760	51	25	19	151	288	274	20	2	0
Air Fresheners: Liquids	7,438	7,359	6,380	175	88	518	20	165	13	7,190	68	39	17	479	1,314	1,000	28	2	0
Air Fresheners: Solids	1,149	1,123	921	46	27	107	4	16	2	1,087	21	3	5	94	207	104	4	0	0
Air Fresheners: Unknown Form	1,007	973	736	46	21	114	10	43	3	936	14	8	5	86	138	127	6	0	0
Miscellaneous Deodorizers																			
Diaper Pail Deodorizers (Excluding Moth Repellants)	11	11	11	0	0	0	0	0	0	11	0	0	0	1	1	0	0	0	0
Other Types of Deodorizer (Not For Personal Use)	4,605	4,390	2,890	211	126	945	14	193	11	4,205	91	50	31	452	744	618	47	3	0
Toilet Bowl Deodorizers	214	207	156	9	5	26	2	9	0	204	1	2	0	18	44	25	0	0	0
Unknown Types of Deodorizer (Not for Personal Use)	57	54	32	3	4	9	0	5	1	49	5	0	0	8	9	6	1	0	0
Category Total:	16,415	15,984	12,336	600	333	2,081	61	531	42	15,442	251	127	77	1,289	2,745	2,154	106	7	0
Dyes																			
Miscellaneous Dyes																			
Dyes: Fabrics	403	388	282	33	9	41	1	19	3	366	6	8	6	20	54	17	2	0	0
Dyes: Foods (Including Easter Egg)	462	415	299	68	12	22	4	7	3	398	7	0	8	8	48	20	1	0	0
Dyes: Leathers	52	52	37	1	4	7	0	3	0	49	2	0	1	2	8	3	0	0	0

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age						Reason				Treated in Health Care Facility				Outcome		
			Age						Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult										Unknown Age	Facility
Dyes: Other	500	466	224	76	46	88	3	438	18	3	6	46	83	38	7	6	0		
Dyes: Unknown	69	61	41	8	2	8	0	58	1	0	1	4	21	2	1	0	0		
Category Total:	1,486	1,382	883	186	73	166	9	1,309	34	11	22	80	214	80	11	6	0		
Essential Oils																			
Miscellaneous Essential Oil																			
Cinnamon Oil	460	401	243	37	14	83	2	346	29	0	25	40	33	138	9	0	0		
Clove Oil	436	390	217	12	5	122	1	357	9	1	17	63	53	82	8	0	0		
Eucalyptus Oil	1,461	1,317	724	50	41	412	4	1,248	39	3	23	223	294	201	19	1	0		
Miscellaneous Essential Oils	14,186	13,478	9,696	466	286	2,369	48	12,965	213	68	191	902	2,359	1,883	109	10	0		
Pennyroyal Oil	34	34	8	1	3	21	0	26	5	1	2	7	9	4	1	0	0		
Tea Tree Oil	2,243	2,076	996	68	63	772	5	1,914	78	15	46	230	399	190	35	3	0		
Category Total:	18,820	17,696	11,884	634	412	3,779	60	16,856	373	88	304	1,465	3,147	2,498	181	15	0		
Fertilizers																			
Miscellaneous Fertilizers																			
Household Plant Foods (Generally for Indoor Plants)	1,500	1,441	712	103	38	483	4	1,404	18	13	3	66	246	64	1	0	0		
Other Types of Fertilizer	1,494	1,373	803	106	41	347	3	1,331	15	14	11	95	218	104	12	1	0		
Outdoor Fertilizers	1,547	1,467	877	95	30	377	1	1,419	14	11	15	116	288	122	20	1	0		
Plant Hormones	85	82	39	0	1	32	0	79	0	0	1	10	21	12	2	0	0		
Unknown Types of Fertilizer	137	118	68	9	4	26	1	112	1	3	1	15	14	10	2	0	0		
Category Total:	4,763	4,481	2,499	313	114	1,265	9	4,345	48	41	31	302	787	312	37	3	0		
Fire Extinguishers																			
Miscellaneous Fire Extinguisher																			
Miscellaneous Fire Extinguishers	1,809	1,696	136	161	207	890	42	1,528	59	69	19	503	279	471	103	2	0		
Category Total:	1,809	1,696	136	161	207	890	42	1,528	59	69	19	503	279	471	103	2	0		
Foreign Bodies/Toys/ Bodies/Toys/ Miscellaneous Foreign Bodies/Toys/ Miscellaneous																			
Ashes	253	236	174	3	7	39	1	230	0	6	0	15	34	27	2	0	0		
Bubble Blowing Solutions	2,332	2,293	1,971	195	33	60	4	2,233	44	6	2	134	186	417	8	0	0		
Charcoals	532	400	243	21	10	98	1	346	20	8	20	35	54	22	5	0	0		
Christmas ornaments	250	249	183	16	6	30	1	238	5	1	2	21	39	15	0	0	0		
Coins	1,993	1,951	1,486	382	17	30	4	1,885	34	0	0	672	429	192	21	4	0		
Destaccants	14,475	14,338	10,579	1,500	418	1,309	89	13,741	382	152	16	652	1,825	180	2	0	0		
Feces/Urine	5,653	4,877	3,695	163	86	633	17	4,705	36	94	23	198	574	178	6	1	0		
Glass	2,245	2,186	460	124	91	1,026	12	2,067	18	76	12	170	334	89	13	1	0		
Glow Products	8,339	8,317	5,631	2,127	201	201	74	8,136	134	3	11	284	858	1,544	20	1	0		
Incense (Punk)	251	247	167	6	11	43	0	236	3	1	6	14	34	18	5	0	0		
Other Types of Foreign Body, Toy, or Miscellaneous Substance	27,633	26,289	17,493	3,597	910	2,977	164	24,942	756	304	175	2,905	4,404	1,294	137	6	0		
Miscellaneous Substance	1,012	1,002	343	265	85	225	11	888	71	34	4	65	222	36	0	0	0		
Oxygen Absorbers	1,948	1,722	1,323	72	39	209	8	1,668	24	4	19	95	240	92	16	0	0		
Soil	11,291	11,148	8,958	1,651	184	212	55	10,876	189	24	27	889	1,888	616	32	5	0		
Toys	3,561	3,518	2,809	460	80	108	21	3,427	59	14	7	210	568	184	8	0	0		
Unknown Types of Foreign Body, Toy, or Miscellaneous Substance	1,075	1,063	138	81	52	494	11	1,032	16	12	1	74	180	13	5	0	0		
Thermometers																			
Thermometers: Mercury	483	474	134	58	16	159	6	462	6	5	1	21	75	14	1	0	0		
Thermometers: Other	86	86	16	4	5	33	2	86	0	0	0	4	7	1	0	0	0		
Thermometers: Unknown																			
Category Total:	83,412	80,376	55,803	10,725	2,251	7,886	495	77,198	1,797	744	326	6,458	11,951	4,932	281	18	0		

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age					Reason				Treated in Health Care Facility			Outcome				
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death	
																			Age
Fumes/Gases/Vapors																			
Miscellaneous Fumes/ Gases/Vapors																			
Carbon Dioxide	780	732	59	58	82	405	13	102	14	677	29	11	11	152	102	156	39	1	0
Carbon Monoxide	13,760	12,406	1,346	812	805	7,151	115	1,621	556	11,857	334	22	60	5,750	1,941	3,125	1,374	390	63
Chloramine Gas	2,999	2,814	80	38	170	1,959	10	512	45	2,719	64	5	17	443	330	715	180	10	1
Chlorine Gas	4,824	4,202	236	205	228	2,691	28	722	92	4,033	92	11	49	905	425	1,119	353	11	3
Chlorine Gas (When Household Acid is Mixed with Hypochlorite)	4,824	4,564	155	106	234	3,297	26	660	86	4,395	122	0	33	768	723	1,353	339	12	0
Hydrogen Sulfide (Sewer Gas)	888	779	60	27	27	525	6	120	14	762	2	3	6	323	87	244	79	14	3
Methane and Natural Gas	5,728	5,422	872	415	355	2,731	54	898	97	5,355	24	7	28	1,001	1,282	985	164	12	0
Other Types of Fume, Gas or Vapor	2,223	1,974	189	93	123	1,209	28	290	42	1,744	158	20	41	534	249	436	157	15	3
Polymer Fume Fever	10	9	0	0	1	3	0	5	0	8	0	0	1	4	0	2	1	0	0
Simple Asphyxiants	2,854	2,616	251	222	222	1,502	16	368	35	2,384	179	13	18	869	315	675	241	25	3
Unknown Types of Fume, Gas or Vapor	2,316	2,203	88	57	100	1,142	41	678	97	2,051	6	105	17	485	162	425	115	5	0
Category Total:	40,904	37,721	3,336	2,033	2,347	22,615	337	5,976	1,077	35,985	1,010	197	281	11,234	5,616	9,235	3,042	495	76
Heavy Metals																			
Miscellaneous Heavy Metals																			
Aluminum	778	717	387	42	25	199	2	57	5	675	12	12	10	65	105	35	15	1	0
Arsenic (Excluding Pesticides)	872	757	54	27	18	560	2	87	9	448	7	129	25	411	101	72	50	2	0
Barium, Soluble Salts	29	21	3	0	6	11	0	1	0	13	3	0	3	11	5	4	3	1	0
Cadmium	82	49	3	1	0	42	0	3	0	32	1	8	0	31	3	5	2	0	0
Copper	661	558	77	47	92	281	3	51	7	486	15	13	25	153	67	113	23	0	0
Fireplace Flame Colors	20	20	10	4	0	2	3	1	0	20	0	0	0	6	1	8	1	0	0
Gold	7	6	3	1	0	2	0	0	0	5	0	0	1	1	1	1	0	0	0
Lead	2,365	2,202	1,059	139	102	666	21	189	26	1,972	40	71	20	1,109	573	154	65	11	0
Manganese	54	40	9	1	5	20	0	4	1	22	1	2	5	16	4	5	5	1	0
Mercury (Other)	269	231	23	4	5	158	3	30	8	165	4	15	36	68	41	24	11	0	0
Mercury, Elemental (Excluding Thermometer)	874	818	48	40	40	493	2	159	36	712	19	22	42	212	143	40	19	5	0
Metal Fume Fever	259	222	5	2	23	177	0	14	1	210	3	2	6	97	6	76	23	1	0
Other Types of Heavy Metal	3,664	2,802	907	190	156	1,243	5	274	27	2,127	204	29	422	368	313	383	72	7	1
Selenium	2	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0
Thallium	103	87	3	2	1	64	0	15	2	24	0	35	2	62	10	6	11	0	0
Unknown Types of Heavy Metal	74	68	9	1	6	40	1	10	1	39	2	13	6	27	3	5	4	0	0
Category Total:	10,113	8,599	2,600	501	479	3,959	42	895	123	6,951	311	351	603	2,638	1,376	931	304	29	1
Hydrocarbons																			
Miscellaneous Hydrocarbons																			
Benzene	88	72	1	1	3	55	1	8	3	58	0	8	3	36	4	14	8	1	0
Carbon Tetrachloride	23	23	1	1	4	11	0	2	2	22	0	0	1	4	5	11	1	0	0
Diesel Fuels	930	881	112	14	72	564	5	98	16	821	40	7	2	286	85	292	61	3	1
Freon and Other Propellants	5,415	5,216	307	238	424	3,369	28	752	98	4,519	571	54	35	1,597	712	1,255	419	45	10
Gasolines	9,103	8,726	1,009	429	844	5,153	24	1,161	106	8,045	506	75	41	1,736	932	2,597	286	13	0
Kerosenes	534	487	184	22	13	193	2	65	8	468	5	6	5	173	71	135	37	2	0
Lamp Oils	911	894	23	22	22	223	1	32	3	852	26	8	3	294	184	208	72	9	0
Lighter Fluids and/or Naphtha	1,500	1,405	735	38	76	435	3	99	19	1,275	59	54	9	445	286	330	83	12	2

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility				Outcome		
		≤5	6-12	13-19	≥20	Unknown			Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death		
						Child	Adult	Age											
3,005	2,754	1,179	120	132	1,047	15	249	12	2,594	107	29	12	575	564	488	73	9	0	
27	27	12	3	1	10	0	0	1	26	0	0	1	3	4	6	0	0	0	
1,624	1,470	357	41	72	829	2	147	22	1,367	53	24	10	474	181	421	92	8	0	
169	145	16	1	11	93	0	21	3	130	11	1	3	46	15	43	12	2	0	
3,093	2,850	1,098	94	212	1,175	7	233	31	2,699	76	31	27	758	489	549	136	9	0	
503	407	40	11	17	297	1	34	7	387	10	3	4	177	49	133	37	3	0	
277	241	36	7	12	160	0	24	2	179	48	4	3	80	33	65	14	0	0	
466	414	122	21	24	204	2	39	2	373	31	3	3	114	84	101	31	5	0	
27,668	26,012	5,796	1,064	1,939	13,818	91	2,969	335	23,815	1,543	307	162	6,798	3,698	6,648	1,362	121	13	
Industrial Cleaners																			
Miscellaneous Industrial Cleaners																			
2,164	1,974	195	161	172	1,085	12	297	52	1,775	127	38	24	497	204	560	105	6	0	
1,438	1,314	278	50	107	738	2	126	13	1,175	58	55	20	482	156	446	92	2	0	
1,590	1,303	314	29	62	743	6	138	11	1,234	21	33	9	364	177	324	93	4	0	
2,530	2,346	313	70	182	1,530	4	219	28	2,177	87	53	13	1,116	210	870	304	19	2	
440	400	159	14	27	163	1	34	2	378	15	6	1	83	61	89	13	0	0	
1,481	1,367	276	75	125	768	1	113	9	1,200	130	18	12	416	165	396	72	7	1	
9,643	8,704	1,535	399	675	5,027	26	927	115	7,939	438	203	79	2,958	973	2,685	679	38	3	
Infectious and Toxin-Mediated Diseases																			
Algae Associated Exposures																			
555	540	120	116	44	186	13	43	18	511	8	10	11	69	103	112	14	1	0	
21	21	2	0	0	12	0	4	3	21	0	0	0	1	2	5	0	0	0	
11	8	4	0	0	3	0	1	0	7	0	1	0	3	0	0	1	0	0	
405	360	91	12	8	196	0	43	10	246	14	10	76	104	44	11	21	18	1	
106	97	3	3	3	77	0	10	1	74	1	0	21	43	3	26	25	1	1	
3	3	0	0	0	1	0	2	0	3	0	0	0	0	0	0	0	0	0	
96	90	9	5	9	50	0	15	2	71	0	0	19	21	3	20	6	0	0	
125	119	5	5	8	94	0	7	0	111	4	0	4	51	15	29	20	1	0	
30	28	1	1	2	20	0	4	0	23	1	0	3	8	3	4	1	0	0	
102	97	4	1	5	76	0	11	0	68	0	0	27	23	1	28	14	1	0	
298	298	49	64	21	137	0	24	3	273	18	2	4	39	53	40	3	0	0	
Infectious Diseases																			
620	549	89	40	24	296	3	90	7	476	6	18	44	126	30	54	29	6	1	
263	243	65	6	12	105	0	53	2	231	1	3	7	22	12	17	6	1	0	
73	72	13	6	1	37	0	15	0	64	0	6	2	7	3	14	0	0	0	
8	6	0	1	0	5	0	0	0	5	0	0	0	1	0	0	0	0	0	
2	2	0	0	0	1	0	0	1	2	0	0	0	0	0	0	0	0	0	

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility				Outcome			
		Age							Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death			
		≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age												
361	334	40	20	19	180	6	67	2	309	0	6	19	37	10	37	10	0	0		
11,832	11,211	1,826	732	825	5,981	66	1,595	186	10,290	34	147	705	945	678	1,806	369	4	0		
7,031	2,206	150	81	105	1,589	14	204	63	2,080	2	3	34	702	68	82	118	5	1		
21,942	16,284	2,471	1,093	1,086	9,046	102	2,188	298	14,865	89	206	976	2,202	1,028	2,285	637	38	4		
2,221	1,927	771	149	84	706	5	182	30	1,598	67	73	172	159	246	174	39	1	0		
587	577	141	47	20	257	6	90	16	558	0	7	10	3	18	16	6	0	0		
2,808	2,504	912	196	104	963	11	272	46	2,156	67	80	182	162	264	190	45	1	0		
3,456	3,366	597	822	630	930	71	243	73	2,711	124	382	45	596	129	1,414	137	2	0		
162	156	26	24	15	72	0	12	7	109	11	20	3	43	5	54	7	0	0		
25	22	1	7	0	14	0	0	0	17	0	2	1	11	1	12	2	0	0		
56	24	4	0	0	7	0	13	0	24	0	0	0	14	0	3	11	0	0		
155	148	46	20	18	54	0	8	2	120	2	20	3	44	8	67	8	0	0		
3,954	3,716	674	873	663	1,077	71	276	82	2,981	137	424	52	708	143	1,550	165	2	0		
93	87	43	6	10	19	1	6	2	75	4	3	1	32	20	14	5	0	0		
707	697	572	47	14	52	2	7	3	666	14	10	1	84	197	64	8	1	0		
187	187	147	10	3	20	1	5	1	180	6	0	1	13	31	4	0	1	0		
63	61	35	13	3	7	1	2	0	54	2	0	1	12	11	16	2	0	0		
5	5	4	1	0	0	0	0	0	5	0	0	0	0	2	1	0	0	0		
1,055	1,037	801	77	30	98	5	20	6	980	26	13	4	141	261	99	15	2	0		
2,578	2,514	358	588	530	755	79	179	25	1,398	539	55	486	302	61	919	119	3	0		
2,444	1,941	730	134	86	802	5	166	18	1,482	274	19	146	265	261	271	39	2	0		
16,354	14,968	6,474	1,138	682	4,795	98	1,575	206	11,655	273	1,037	1,913	1,140	1,457	1,351	228	10	0		
1,166	1,087	199	93	67	461	5	254	8	563	20	31	458	187	68	188	57	3	0		
22,542	20,510	7,761	1,953	1,365	6,813	187	2,174	257	15,098	1,106	1,142	3,003	1,894	1,847	2,729	443	18	0		
75	65	18	2	3	38	0	4	0	43	11	0	5	37	19	8	10	3	2		
4	4	1	0	0	3	0	0	0	3	1	0	0	1	1	0	0	0	0		
48	44	10	2	5	27	0	0	0	23	19	0	2	28	12	8	12	5	0		

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age						Reason				Treated in Health Care Facility				Outcome			
			Age						Reason				Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death		
Group 3 Mushrooms: Monomethylhydrazine (MMH)	35	32	4	2	0	23	0	2	1	27	1	0	4	16	6	14	4	0	0	
Group 4 Mushrooms: Muscarine and Histamine	27	24	4	2	0	16	1	1	20	2	0	2	6	3	10	1	0	0	0	
Group 5 Mushrooms: Coprine	15	14	7	1	2	4	0	0	11	1	0	2	4	5	2	0	0	0	0	
Group 6 Mushrooms: Hallucinogenics (Psilocybin and Psilocin)	1,440	996	94	41	312	487	0	44	18	190	760	9	21	749	66	246	342	37	0	
Group 7 Mushrooms: Gastrointestinal Irritants	294	287	101	13	24	139	0	9	1	213	52	1	19	105	49	77	29	0	0	
Mushrooms: Miscellaneous, Non-Toxic	268	229	77	12	14	100	2	23	1	160	22	0	47	62	38	51	13	0	0	
Mushrooms: Other Potentially Toxic	184	164	46	11	4	83	2	16	2	119	11	2	29	39	27	36	10	1	0	
Mushrooms: Unknown	4,135	3,924	2,203	385	266	919	9	99	43	3,122	603	10	154	1,244	1,213	604	243	23	2	
Category Total:	6,525	5,783	2,565	471	630	1,839	14	198	66	3,931	1,483	22	285	2,291	1,439	1,056	664	69	4	
Other/Unknown Nondrug Substances																				
Miscellaneous Other/Unknown Nondrug Substances																				
Other Non-Drug Substances Unlikely to be Drug Products	24,596	22,883	8,611	2,128	1,066	7,916	158	2,596	408	18,942	800	1,767	676	3,790	2,880	2,475	649	144	18	
Category Total:	6,812	6,491	1,109	286	213	3,737	37	890	219	4,695	161	945	173	1,460	526	855	232	69	4	
Paints and Stripping Agents	31,408	29,374	9,720	2,414	1,279	11,653	195	3,486	627	23,637	961	2,712	849	5,250	3,406	3,330	881	213	22	
Miscellaneous Paints and Stripping Agents																				
Other Types of Paint, Varnish or Lacquer	487	455	149	16	24	208	4	51	3	429	7	0	17	109	66	93	22	3	0	
Unknown Types of Paint, Varnish or Lacquer	3,287	3,056	1,699	162	81	808	24	249	33	2,932	48	10	49	447	422	294	52	4	0	
Category Total:	618	582	122	18	21	326	2	89	4	550	12	2	13	117	80	148	24	2	0	
Paints																				
Anti-Algae Paints	17	17	0	1	2	10	0	4	0	15	0	0	2	1	0	1	1	0	0	
Anti-Corrosion Paints	30	28	1	2	1	22	0	2	0	28	0	0	0	11	1	5	4	0	0	
Oil-Base Paints	1,730	1,620	370	99	88	830	5	202	26	1,507	52	7	45	300	180	365	69	3	0	
Water Base Paints (Acrylic, Latex, etc)	3,153	3,021	2,080	140	81	569	13	130	8	2,926	40	6	35	232	410	215	25	4	0	
Wood stains	597	561	199	12	21	240	5	81	3	517	6	4	31	65	84	119	10	0	0	
Stripping Agents																				
Methylene Chloride	257	242	28	3	10	173	1	24	3	231	4	0	5	114	15	71	45	4	0	
Other Types of Stripping Agent	352	329	94	9	6	185	0	34	1	319	1	1	6	108	30	95	33	2	0	
Unknown Types of Stripping Agent	69	57	6	0	3	43	0	5	0	55	1	0	0	29	4	19	9	2	0	
Category Total:	10,597	9,968	4,748	462	338	3,414	54	871	81	9,509	171	30	203	1,533	1,292	1,425	294	24	0	
Pesticides																				
Fumigants																				
Aluminum Phosphide	88	85	3	2	2	55	0	22	1	81	1	3	0	39	31	17	10	0	0	
Methyl Bromide	22	20	6	0	0	12	0	0	0	17	1	1	1	9	2	4	2	0	0	
Other Fumigants	49	49	3	2	2	40	0	2	0	45	0	1	3	24	1	24	2	0	0	
Sulfuryl Fluoride	194	159	27	12	4	92	0	22	0	144	0	6	6	23	12	27	3	0	0	
Unknown Fumigants	134	125	12	7	7	78	0	19	2	114	4	4	3	43	8	30	4	0	0	

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

Fungicides (Non-medical)	No. of Case Mentions	No. of Single Exposures	Age					Reason					Treated in Health Care Facility				Outcome				
			≤5	6-12	13-19	≥20	Unknown	Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Treated in Health Care Facility			Minor	Moderate	Major	Death
															None	None	None				
Carbamate Fungicides	51	42	9	1	0	20	0	12	0	42	0	0	0	0	10	6	10	1	0	0	
Copper Compound Fungicides	146	140	21	0	3	95	4	17	0	133	5	0	1	20	15	34	1	0	0		
Mercurial Fungicides	1	1	0	0	0	1	0	0	0	1	0	0	0	1	0	0	0	0	0		
Other Types of Non-Medical Fungicide	573	467	84	17	11	286	1	61	7	442	10	3	9	87	60	109	15	1	0		
Other/Unknown Type of Non-Medical Fungicide	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0		
Phthalimide Fungicides	21	15	7	2	0	5	0	1	0	14	0	0	1	1	0	0	0	0	0		
Unknown Types of Non-Medical Fungicide	27	20	3	0	0	13	0	4	0	16	2	1	0	4	5	4	0	0	0		
Wood Preservatives	89	84	16	1	3	54	1	7	2	80	0	1	3	18	8	18	6	0	0		
Herbicides (Including Algaecides, Defoliants, Desiccants, Plant Growth Regulators)																					
Carbamate Herbicides (Excluding Metam Sodium)	8	8	0	0	0	7	0	1	0	8	0	0	0	5	1	3	2	0	0		
Chlorophenoxy Herbicides	1,185	1,049	212	48	40	601	5	132	11	991	18	5	34	165	200	215	19	3	0		
Diquat	415	386	76	9	6	235	0	54	6	360	10	2	13	74	86	95	9	0	0		
Glyphosate	2,103	1,877	321	60	46	1,179	5	241	25	1,743	45	31	47	398	271	390	62	6	3		
Other Types of Herbicide	1,539	1,304	296	54	34	754	2	152	12	1,256	14	11	19	191	191	260	33	2	0		
Paraquat	104	92	4	3	3	72	0	3	3	81	1	7	3	37	19	20	7	3	1		
Paraquat and Diquat Combinations	1	1	0	0	0	1	0	0	0	1	0	0	0	0	1	0	0	0	0		
Triazine Herbicides	112	79	16	5	2	50	0	6	0	75	0	0	3	20	16	19	1	0	0		
Unknown Types of Herbicide	482	399	89	19	12	208	0	67	4	356	4	26	9	105	59	87	14	1	2		
Urea Herbicides	34	24	9	0	1	12	0	2	0	22	0	2	0	7	10	3	0	1	0		
Insect Growth Insecticides (Including Insect Growth Regulators, Molluscicides, Nematicides)																					
Carbamate Insecticides	1,099	1,038	331	42	20	480	3	147	15	965	32	16	21	159	214	150	39	7	0		
Carbamate Insecticides in Combination with Other Insecticides	284	276	45	11	16	142	1	57	4	259	7	4	3	23	38	45	7	0	0		
Chlorinated Hydrocarbon Insecticides Alone	88	79	27	2	2	39	0	9	0	71	2	4	0	16	11	12	6	0	0		
Chlorinated Hydrocarbon Insecticides in Combination with Other Insecticides	183	176	24	12	10	86	0	41	3	167	5	2	1	39	10	44	14	0	0		
Insect Growth Regulators	130	80	24	4	3	42	0	7	0	78	1	0	1	5	16	8	2	0	0		
Metaldehyde	19	18	5	1	0	11	0	1	0	16	0	2	0	2	5	3	0	0	0		
Nicotine (Excluding Tobacco Products)	121	115	84	1	5	20	0	4	1	108	4	0	3	11	21	19	1	0	0		
Organophosphate Insecticides Alone	1,664	1,529	453	45	46	777	5	160	43	1,404	69	20	25	463	305	264	71	18	6		
Organophosphate Insecticides in Combination with Carbamate Insecticides	31	30	9	4	3	8	0	6	0	29	0	0	1	5	9	3	3	0	0		

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility				Outcome			
			Age							Reason				Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Facility	None	Minor	Moderate	Major	Death	
Organophosphate Insecticides in Combination with Non-Carbamate Insecticides	360	339	73	10	10	193	3	45	5	311	11	7	9	62	47	75	9	1	0		
Other Types of Insecticide Pyrethroids	8,543	7,930	3,639	281	160	2,960	36	767	87	7,570	101	63	161	742	1,304	824	93	7	0		
Pyrethroids	3,742	3,533	873	198	141	1,816	11	447	47	3,263	94	37	119	679	385	963	174	6	2		
Rotenone	17,620	16,590	3,497	745	576	9,311	63	2,165	233	15,303	469	171	526	2,803	1,955	4,103	581	34	2		
Unknown Types of Insecticide	41	41	0	3	3	27	0	6	2	36	1	0	4	0	10	5	0	0	0		
Unknown Types of Insecticide	3,689	3,353	682	138	119	1,770	21	555	68	2,922	100	170	125	843	358	647	143	14	2		
Miscellaneous Pesticides																					
Arsenic Pesticides	15	15	2	0	0	11	0	2	0	15	0	0	0	6	3	2	1	0	0		
Borates and/or Boric Acid Pesticides (Excluding Other Uses)	9,268	9,163	8,213	150	54	545	16	165	20	9,047	51	24	22	484	1,417	198	21	2	0		
Metam Sodium	2	2	0	0	0	2	0	0	0	2	0	0	0	2	0	1	1	0	0		
Repellents																					
Animal Repellents	585	567	150	31	24	266	0	85	11	537	7	10	11	85	59	128	11	1	0		
Insect Repellents (Exclude Lacrimators)	1	1	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0	0	0		
Insect Repellents with DEET	2,621	2,582	1,280	310	113	687	9	164	19	2,351	61	34	123	236	323	664	49	3	0		
Insect Repellents without DEET	1,637	1,599	1,096	116	30	287	10	53	7	1,549	6	10	24	78	227	209	9	0	0		
Naphthalene Moth Repellents (Excluding Deodorizing Products)	1,454	1,415	590	66	17	481	9	224	28	1,342	32	17	16	225	284	142	30	3	0		
Other Types of Moth Repellent	18	18	8	1	0	8	0	1	0	18	0	0	0	2	2	1	1	0	0		
Paradichlorobenzene Moth Repellents (Excluding Deodorizing Products)	113	112	50	5	1	36	2	15	3	110	2	0	0	16	22	14	2	0	0		
Unknown Types of Insect Repellent	140	130	60	12	5	38	1	10	4	120	4	1	5	20	26	22	4	0	0		
Unknown Types of Moth Repellent	999	974	490	49	20	254	24	121	16	927	13	18	16	149	219	88	14	2	0		
Rodenticides																					
ANTU (1-naphthalenylthiourea)	10	8	0	2	3	2	1	0	0	7	0	0	1	1	5	1	0	0	0		
Bromethalin Rodenticides	1,681	1,624	1,093	56	24	313	1	102	35	1,519	55	27	11	448	497	57	11	1	2		
Cholecalciferol Rodenticides	556	538	395	24	4	89	0	23	3	518	12	4	3	128	140	24	6	0	0		
Cyanide Rodenticides	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Long-Acting Anticoagulant Rodenticides	3,117	3,002	2,172	102	40	527	7	132	22	2,864	78	23	18	802	781	82	16	4	0		
Other Types of Rodenticide	863	830	573	26	10	165	3	45	8	789	25	5	3	171	162	46	8	3	0		
PNU (n-3-pyridylmethyl-n1-p-nitrophenyl urea)	2	2	0	0	0	1	0	1	0	2	0	0	0	0	0	1	0	0	0		
Sodium Monofluoroacetate	2	2	1	0	0	0	0	0	1	1	0	0	0	2	1	0	0	0	0		
Strychnine Rodenticides	85	65	2	0	1	40	0	17	5	25	14	22	0	34	4	7	4	1	0		
Unknown Types of Rodenticide	2,365	2,161	1,191	90	49	582	16	188	45	1,845	125	138	16	653	435	110	26	3	0		
Warfarin Type Anticoagulant Rodenticides	62	60	42	0	2	10	0	6	0	57	0	1	2	16	17	3	0	0	0		
Zinc Phosphide Rodenticides	119	112	22	1	1	57	0	31	0	105	3	1	2	33	26	10	9	0	1		
Category Total:	70,710	66,536	28,410	2,780	1,688	25,954	260	6,633	811	62,275	1,499	934	1,428	10,724	10,340	10,344	1,557	127	21		
Photographic Products																					
Miscellaneous Photographic Products																					
Developers, Fixing Baths, Stop Baths	76	69	12	0	12	37	4	4	0	66	0	0	3	7	3	19	1	0	0		

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility				Outcome		
			Age							Unint	Int	Other	Adv Rxn	Treated in Health Care Facility			Minor	Moderate	Major	Death
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age					None	Facility	None				
Other Types of Photographic Product	352	336	229	24	11	50	2	325	6	3	1	21	77	19	7	0	0			
Photographic Coating Fluids	58	58	49	3	1	3	0	55	3	0	0	0	9	0	0	0	0			
Unknown Types of Photographic Product	3	3	2	0	0	1	0	3	0	0	0	1	0	1	0	0	0			
Category Total:	489	466	292	27	24	91	2	449	9	3	4	29	89	39	8	0	0			
Plants																				
Miscellaneous Plants																				
Plants: Amygdalin and/or Cyanogenic Glycosides	7,092	6,963	3,444	751	263	2,012	26	6,412	244	57	206	386	1,223	287	46	5	0			
Plants: Anticholinergics	720	688	385	57	34	178	1	603	49	11	17	109	120	70	34	5	0			
Plants: Cardiac Glycosides (Excluding Drugs)	2,049	2,007	1,047	276	68	497	2	1,829	111	10	45	288	464	142	41	6	1			
Plants: Colchicine	22	22	9	2	1	8	0	20	2	0	0	5	5	4	1	0	0			
Plants: Depressants	247	174	91	10	19	47	0	117	30	3	21	37	26	18	7	1	0			
Plants: Gastrointestinal Irritants (Excluding Oxalate Containing Plants)	6,765	6,523	4,104	713	175	1,232	35	6,015	320	9	136	649	1,024	694	93	4	0			
Plants: Hallucinogenics (Code as Street Drug Unless Plant Part Involved)	319	259	48	22	67	96	0	126	93	1	25	98	36	57	32	1	0			
Plants: Nicotine (Excluding Tobacco Products)	773	757	178	85	43	367	2	696	35	3	20	133	175	103	20	0	0			
Plants: Non-Toxic	3,648	3,337	1,996	513	95	525	13	2,960	149	12	194	209	383	226	29	2	0			
Plants: Other Toxic Types	5,279	5,002	3,035	615	161	947	12	4,446	342	22	166	570	902	407	114	15	5			
Plants: Oxalates	6,210	6,123	4,485	744	175	551	19	5,734	293	3	68	475	816	1,245	87	0	0			
Plants: Skin Irritants (Excluding Oxalate Containing Plants)	4,987	4,606	2,049	476	169	1,451	21	4,135	164	9	272	561	485	628	176	8	0			
Plants: Solanine (Excluding Plants)	2,623	2,554	1,444	181	64	691	7	2,288	71	9	178	156	453	203	23	0	0			
Plants: Stimulants	565	545	114	71	25	257	3	499	28	13	88	119	71	13	0	0	0			
Plants: Toxicalbumins	302	287	94	37	18	110	0	215	45	16	6	94	56	53	14	0	0			
Plants: Unknown Toxic Types or Unknown if Toxic	8,603	8,109	5,158	1,007	248	1,275	54	7,456	361	23	218	626	1,228	682	94	5	0			
Category Total:	50,204	47,956	27,681	5,560	1,625	10,244	195	43,551	2,337	190	1,585	4,484	7,515	4,890	824	52	6			
Polishes and Waxes																				
Miscellaneous Polishes and Waxes																				
Floor Waxes, Polishes, or Sealers	255	233	118	2	8	84	1	224	5	0	4	38	29	37	9	0	0			
Furniture Polishes	772	728	575	16	24	94	1	699	14	8	4	67	171	113	7	1	0			
Miscellaneous Polishes and Waxes (Excluding Mineral Seal Oils)	1,132	1,081	675	35	23	278	2	1,050	14	9	7	132	175	150	25	1	0			
Category Total:	2,159	2,042	1,368	53	55	456	4	1,973	33	17	15	237	375	300	41	2	0			
Radiation																				
Ionizing Radiation																				
Alpha Radiation	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0			
Beta Radiation	6	5	0	0	0	5	0	4	0	1	0	0	0	2	0	0	0			
Ionizing Radiation: Type Unknown	73	71	0	3	2	38	0	49	0	6	9	21	8	4	1	0	0			
Radon	100	89	9	13	0	49	0	88	0	1	0	20	6	2	1	0	0			
Specific Nonpharmaceutical Radionuclides	72	59	2	8	3	36	0	49	2	3	0	27	10	5	0	0	0			
X-ray Radiation	23	22	2	0	0	15	0	10	1	1	8	7	1	2	0	0	0			

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

No. of Case Mentions	No. of Single Exposures	Age						Reason				Treated in Health Care Facility				Outcome				
		Age						Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death				
		≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult										Unknown Age			
5	5	0	0	0	4	0	1	0	0	0	0	0	0	0	0	0	1	0	0	
Miscellaneous Radiation																				
Nonpharmaceutical Radiation: Type Unknown																				
4	4	2	0	0	2	0	0	4	0	0	0	0	0	0	0	0	0	1	0	0
Non-ionizing Radiation																				
Extremely Low-frequency Radiation																				
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	15	0	1	0	8	0	6	0	12	0	1	2	0	2	0	0	0	0	0	0
22	21	0	0	0	15	0	6	0	18	0	2	1	7	3	1	0	0	0	0	0
Non-ionizing Radiation: Type Unknown																				
9	8	0	0	1	5	0	2	0	6	0	0	1	5	1	2	0	0	0	0	0
19	15	0	2	0	13	0	0	13	1	0	1	0	10	0	7	1	1	1	0	0
13	12	1	1	3	4	0	3	0	8	0	3	1	5	0	1	0	0	0	0	0
365	327	16	28	9	195	0	69	10	266	4	19	23	108	29	29	5	1	0	1	0
Category Total: Sporting Equipment																				
Miscellaneous Sporting Equipment																				
39	38	28	2	2	4	2	0	0	34	3	0	1	3	7	2	0	0	1	0	0
11	11	6	3	0	2	0	0	0	10	1	0	0	0	2	1	0	0	0	0	0
Miscellaneous																				
2	2	0	1	0	1	0	0	0	1	1	0	0	0	1	0	0	0	0	0	0
Golf Balls (Including Liquid Center of Golf Balls)																				
1	1	0	0	0	1	0	0	0	1	0	0	0	1	0	1	0	0	0	0	0
29	27	6	0	2	14	0	5	0	26	0	0	1	6	8	5	1	0	0	0	0
409	396	220	36	22	100	0	16	2	345	14	21	8	106	114	40	9	0	0	0	0
Miscellaneous																				
7	6	5	0	0	0	0	1	0	5	0	1	0	0	1	1	0	0	0	0	0
Other Types of Sporting Equipment																				
498	481	265	42	26	122	2	22	2	422	19	22	10	116	133	50	10	1	0	1	0
Category Total: Swimming Pool/Aquarium																				
Miscellaneous Swimming Pool/Aquarium																				
502	453	117	31	20	212	2	65	6	434	8	1	8	73	71	102	21	0	0	0	0
888	811	567	49	34	129	1	30	1	790	12	5	3	70	155	49	8	1	0	0	0
Aquarium Products, Miscellaneous																				
73	69	29	6	1	30	0	3	0	63	1	0	4	9	14	16	2	0	0	0	0
Bromine Shock Treatments																				
2,889	2,730	505	336	150	1,368	13	336	22	2,624	42	15	39	667	161	916	267	11	0	0	0
2,393	2,226	528	276	141	1,047	24	193	17	2,125	33	5	56	514	192	746	147	4	1	0	1
Other Types of Swimming Pool or Aquarium Product																				
142	124	37	14	9	48	1	13	2	119	2	0	2	21	18	31	2	0	0	0	0
Swimming Pool and Aquarium Test Kits																				
6,887	6,413	1,783	712	355	2,834	41	640	48	6,155	98	26	112	1,354	611	1,860	447	16	1	0	1
Category Total: Tobacco/Nicotine/eCigarette Products																				
eCigarettes: Nicotine Containing																				
2,905	2,838	2,450	55	99	173	9	45	7	2,637	116	13	63	345	547	759	61	7	0	0	0
eCigarettes: Nicotine Device Flavor Unknown																				
1,168	1,150	1,026	32	26	54	2	10	0	1,082	37	2	18	113	235	332	16	1	0	0	0
eCigarettes: Nicotine Device With Added Flavors																				
1,393	1,356	1,169	25	47	88	4	19	4	1,257	56	1	38	167	263	333	27	0	1	0	1
eCigarettes: Nicotine Device Without Added Flavors																				

(continued)

Table 22A. Demographic profile of Single Substance Nonpharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility				Outcome		
			Age							Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age											
eCigarettes: Nicotine Liquid Flavor Unknown	840	811	633	13	39	104	2	18	2	732	41	8	28	134	176	200	20	1	0	
eCigarettes: Nicotine Liquid With Added Flavors Without Added Flavors	329	322	271	16	7	25	0	3	0	284	19	2	4	64	100	73	5	0	0	
eCigarettes: Nicotine Liquid Without Added Flavors	112	110	93	2	3	12	0	0	0	103	6	0	1	17	31	27	0	0	0	
Miscellaneous Tobacco Products																				
Chewing Tobacco	1,052	1,035	897	27	7	87	1	13	3	1,015	14	1	0	177	280	236	20	0	0	
Cigarettes	2,917	2,784	2,425	23	30	251	6	40	9	2,620	72	20	43	348	685	416	37	1	0	
Cigars	143	129	83	1	5	36	0	4	0	103	10	1	15	21	30	19	7	0	0	
Dissolvable Tobacco	12	12	7	1	2	2	0	0	0	10	1	0	0	4	1	4	1	0	0	
Filter Tips Only (i.e. Butts)	26	23	16	0	1	4	0	2	0	21	0	0	1	2	6	1	1	0	0	
Heat Not Burn Tobacco	2	2	1	0	1	0	0	0	0	2	0	0	0	0	1	0	0	0	0	
Other Types of Tobacco Product	1,287	1,229	866	25	34	257	2	38	7	1,110	67	2	46	247	335	234	31	6	0	
Snuff	305	297	241	8	7	38	0	3	0	282	7	3	0	53	64	68	5	0	0	
Unknown Types of Tobacco Product	2,075	1,956	1,496	49	50	276	4	70	11	1,748	111	16	59	388	384	365	56	3	0	
Category Total:	14,566	14,054	11,674	277	358	1,407	30	265	43	13,006	557	69	316	2,080	3,138	3,067	287	19	1	
Waterproofers/Sealants																				
Miscellaneous																				
Waterproofers/Sealants																				
Waterproofers/sealants: aerosols	159	152	57	12	8	58	1	16	0	145	3	1	1	25	22	20	7	0	0	
Waterproofers/sealants: liquids	96	91	30	2	2	44	2	11	0	84	2	0	5	10	18	18	0	1	0	
Waterproofers/sealants: solids	11	11	4	1	1	5	0	0	0	11	0	0	0	0	4	1	1	0	0	
Waterproofers/sealants: unknown form	36	32	10	0	0	18	0	4	0	32	0	0	0	10	5	9	4	0	0	
Category Total:	302	286	101	15	11	125	3	31	0	272	5	1	6	45	48	48	12	1	0	
Weapons of Mass Destruction																				
Miscellaneous Weapons of Mass Destruction																				
Anthrax	11	11	0	0	0	8	0	2	1	3	0	4	1	4	2	0	1	0	0	
Nerve Gases	5	4	0	0	0	2	0	2	0	2	0	1	1	1	1	0	0	0	0	
Other Biological Weapons	3	3	0	0	0	3	0	0	0	3	0	0	0	0	0	1	0	0	0	
Other Chemical Weapons	6	6	0	0	1	4	0	1	0	6	0	0	0	2	1	1	0	0	0	
Other Suspicious Powders	104	97	14	3	1	59	0	12	8	61	13	18	4	41	17	16	5	3	1	
Other Suspicious Substances (Non-Powder)	529	464	68	17	29	252	3	80	15	178	36	189	8	232	43	71	60	11	1	
Suspicious Powders in Envelope or Package	49	47	3	2	0	32	0	8	2	16	2	18	1	22	10	16	1	2	0	
Category Total:	707	632	85	22	31	360	3	105	26	269	51	230	15	302	74	105	67	16	2	
Nonpharmaceuticals Total:	991,544	870,695	414,855	61,618	40,672	278,892	3,680	62,676	8,502	795,400	37,881	14,261	15,864	153,012	126,202	141,650	30,174	3,077	355	

Pharmaceuticals (Table 22(B))

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category

	No. of Case Mentions	No. of Single Exposures	Age					Reason					Outcome						
			Age					Reason					Outcome						
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unit	Int	Other	Adv Rtn	Treated in Health Care Facility	None	Minor	Moderate	Major	Death
Analgesics																			
Acetaminophen Alone																			
Acetaminophen Alone, Adult	49,304	32,911	6,886	1,943	9,411	13,708	16	793	154	15,655	16,441	8	453	20,240	8,698	5,938	2,934	921	81
Acetaminophen Alone, Pediatric	19,626	17,791	1,487	154	104	104	19	11	5	17,470	192	3	76	2,267	3,649	279	59	10	1
Acetaminophen Alone, Unknown if Adult or Pediatric	25,852	16,008	4,233	4,073	6,296	6,296	15	334	83	8,034	7,404	6	227	9,712	3,853	2,890	1,604	547	85
Acetaminophen Combinations																			
Acetaminophen in Combination with Other Drugs, Adult Formulations	5,860	3,441	589	1,659	863	863	3	56	20	1,106	2,205	6	64	2,459	821	977	518	54	2
Acetaminophen in Combination with Other Drugs, Pediatric Formulations	441	373	328	43	0	2	0	0	0	364	4	0	5	23	75	12	1	0	0
Acetaminophen with Codeine	1,771	796	83	112	539	539	0	34	6	350	368	2	59	452	200	128	95	24	1
Acetaminophen with Diphenhydramine	5,476	3,180	465	104	623	1,896	0	80	12	1,052	2,052	1	36	2,210	600	774	692	131	3
Acetaminophen with Hydrocodone	8,319	3,537	321	347	2,585	2,585	1	170	21	1,661	1,618	11	176	2,029	839	699	447	165	15
Acetaminophen with Other Narcotics or Narcotic Analogs	114	55	10	2	37	37	0	4	0	21	28	0	5	35	10	8	12	5	0
Acetaminophen with Oxycodone	5,430	2,410	210	36	381	1,664	0	96	23	903	1,331	19	89	1,615	455	450	412	340	8
Acetaminophen with Propoxyphene	21	7	0	2	4	4	0	1	0	1	5	0	0	5	0	0	3	0	0
Acetylsalicylic Acid Alone																			
Acetylsalicylic Acid Alone, Low-dose	3,533	1,552	920	143	169	290	1	22	7	1,186	325	2	28	545	454	124	82	7	0
Acetylsalicylic Acid Alone, NOT Low-dose	2,879	1,659	443	103	385	683	1	39	5	780	817	0	32	1,015	343	286	314	35	2
Acetylsalicylic Acid Alone, Unknown Dose	7,751	3,384	973	194	706	1,420	2	66	23	1,530	1,644	6	62	2,144	711	546	662	111	16
Acetylsalicylic Acid Combinations																			
Acetylsalicylic Acid in Combination with Other Drugs, Adult Formulations	796	565	151	34	59	309	0	11	1	335	190	1	23	315	104	103	92	23	0
Acetylsalicylic Acid in Combination with Other Drugs, Pediatric Formulations	2	1	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0
Acetylsalicylic Acid with Carisoprodol	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Acetylsalicylic Acid with Codeine	14	11	1	0	1	8	0	1	0	4	6	0	0	5	2	0	2	1	0
Acetylsalicylic Acid with Other Narcotics or Narcotic Analogs	5	3	0	0	0	3	0	0	0	0	2	0	0	1	0	1	0	0	1
Acetylsalicylic Acid with Oxycodone	2	2	0	0	1	1	0	0	0	1	1	0	0	2	0	0	1	0	0
Miscellaneous Analgesics																			
Non-Aspirin Salicylates (Excluding Topicals and/or Gastrointestinal Drugs)	329	272	129	14	25	86	0	18	0	238	22	0	11	62	48	41	11	3	0
Other Analgesics	412	286	100	14	38	118	0	14	2	197	80	1	8	95	50	66	29	3	0
Phenazopyridine	1,349	1,139	825	20	33	232	1	24	4	1,009	48	0	75	296	318	97	52	12	0

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason				Treated in Health Care Facility				Outcome					
			Age							Reason				Treated in Health Care Facility				Outcome					
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death				
Salicylamide	3	2	1	0	0	0	0	0	2	17	41	0	0	0	0	0	1	14	0	0	0	0	
Unknown Analgesics	165	62	9	2	30	17	0	0	1	3	3	1	17	41	0	0	0	45	18	7	0	0	
Nonsteroidal Antinflammatory Drugs																							
Colchicine	437	289	45	12	4	219	0	0	8	1	205	38	1	42	142	37	37	142	61	37	7	4	
Cyclooxygenase-2 Inhibitors	941	424	96	12	24	249	0	0	38	5	368	37	1	15	53	87	13	53	13	5	0	0	
Ibuprofen	80,890	60,347	36,389	3,616	9,494	9,595	70	980	203	46,206	13,320	25	561	15,274	13,553	4,897	1,211	15,274	4,897	1,211	95	1	
Ibuprofen with Diphenhydramine	1,825	1,131	187	32	206	654	0	43	9	552	554	0	11	595	196	229	186	595	229	186	18	0	
Ibuprofen with Hydrocodone	10	6	0	0	1	5	0	0	0	0	0	0	0	0	1	1	0	1	0	1	0	0	
Indomethacin	224	111	20	5	15	59	0	11	0	70	30	0	11	43	26	21	5	43	21	5	0	0	
Ketoprofen	47	25	10	0	3	12	0	0	0	19	5	0	0	8	6	5	0	8	5	0	0	0	
Naproxen	9,733	5,338	1,407	207	1,347	2,131	2	204	40	3,065	2,103	2	129	2,258	1,385	879	175	2,258	879	175	10	0	
Other Types of Nonsteroidal Antinflammatory Drug	7,353	4,059	1,279	134	250	2,056	4	297	39	3,462	411	4	165	707	853	293	59	707	853	293	4	1	
Unknown Types of Nonsteroidal Antinflammatory Drug	15	10	2	3	3	1	0	1	0	4	6	0	0	8	4	2	0	8	2	2	0	0	
Other Acetaminophen and Acetylsalicylic Acid Combinations																							
Acetaminophen and Acetylsalicylic Acid with Other Ingredients	6,327	3,887	909	178	1,223	1,432	1	125	19	1,770	1,959	3	113	2,171	764	951	489	2,171	951	489	27	0	
Acetaminophen and Acetylsalicylic Acid without Other Ingredients	95	47	10	2	6	26	0	3	0	17	25	0	4	33	8	12	9	33	12	9	2	0	
Pharmaceutical and Illegal Opioid Preparations																							
Buprenorphine	4,040	2,368	863	58	76	1,206	2	135	28	1,357	672	94	181	1,752	345	597	507	1,752	345	597	106	1	
Butorphanol	54	21	2	1	0	16	0	2	0	15	6	0	0	10	3	4	1	10	3	4	3	0	
Codeine	757	455	91	64	36	241	0	20	3	335	91	1	22	128	97	50	26	128	97	50	7	0	
Difenoxin	10	1	0	0	0	1	0	0	0	0	1	0	0	1	0	1	0	1	0	1	0	0	
Dihydrocodeine	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Fentanyl (Prescription)	3,636	2,015	123	19	118	1,636	1	96	22	406	1,451	59	43	1,690	226	249	391	1,690	226	249	706	21	
Heroin	4,415	2,486	45	4	33	2,342	0	44	18	123	2,275	48	9	2,205	214	251	380	2,205	214	251	1,275	38	
Hydrocodone Alone or in Combination (Excluding Combination Products with Acetaminophen, Acetylsalicylic Acid or Ibuprofen)	1,420	514	71	19	40	320	1	52	11	298	164	5	39	247	124	84	39	247	124	84	21	3	
Hydrocodone	697	327	25	5	8	260	0	25	4	182	114	3	19	189	68	48	53	189	68	48	25	2	
Levorphanol	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Meperidine	18	4	0	1	0	3	0	0	0	1	2	0	1	2	1	1	0	2	1	1	0	0	
Methadone	1,731	864	103	26	20	664	0	47	4	371	342	51	58	733	113	121	222	733	113	121	175	7	
Morphine	1,545	711	84	12	34	533	0	38	10	427	231	3	34	403	154	106	110	403	154	106	60	5	
Nalbuphine	1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	
Non-Prescription Fentanyl	4,901	2,611	156	21	264	2,076	0	52	42	359	2,054	136	12	2,211	369	439	459	2,211	369	439	674	128	
Other or Unknown Narcotics	4,155	2,558	117	18	117	2,229	2	64	11	192	1,973	245	33	2,213	107	129	347	2,213	107	129	1,603	126	
Oxycodone Alone or in Combination (Excluding Combination Products with Acetaminophen or Acetylsalicylic Acid)	6,407	2,888	345	81	290	2,013	5	126	28	1,382	1,272	30	134	1,793	582	507	432	1,793	582	507	351	7	
Oxycodone	27	8	0	0	0	7	0	0	1	4	3	0	0	3	1	1	1	3	1	1	1	0	
Pentazocine	6	6	1	0	0	4	0	1	0	5	1	0	0	4	2	0	0	4	2	0	1	0	

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age					Reason					Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death	
Propoxyphene	8	3	0	0	1	2	0	0	0	3	0	0	0	3	1	1	0	0		
Remifentanyl	2	1	0	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0		
Synthetic Opioids, Analogs and Precursors (Excluding Pharmaceutical Preparations)	109	57	6	0	11	37	0	2	9	44	3	0	49	3	6	12	24	1		
Tapentadol	124	67	8	0	2	54	0	3	49	13	2	2	36	18	11	11	4	2		
Tramadol	5,915	2,426	256	66	204	1,795	2	88	1,113	1,112	11	132	1,579	526	558	387	112	5		
Serotonin 5-HT 1B,1D Receptor Agonists																				
Serotonin 5-HT 1B,1D Receptor Agonists: Other or Unknown	374	175	51	23	29	66	0	6	131	30	0	14	63	48	24	14	0	0		
Serotonin 5-HT 1B,1D Receptor Agonists: Sumatriptan	834	421	105	38	51	206	1	20	302	58	2	56	168	118	70	23	2	0		
Category Total:	288,543	186,109	75,495	10,135	32,121	63,016	151	4,309	882	114,723	65,224	796	82,347	41,286	24,058	13,624	7,705	567		
Anesthetics																				
Inhalation Anesthetics																				
Nitrous Oxide	283	211	13	19	25	139	2	11	46	145	4	14	152	22	48	61	10	0		
Other Types of Inhalation Anesthetic	101	87	1	3	4	63	0	11	73	9	1	2	42	6	33	8	0	0		
Unknown Types of Inhalation Anesthetic	1	1	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0		
Local and/or Topical Anesthetics																				
Dibucaine	14	13	5	0	0	6	0	2	0	0	0	1	0	5	1	0	0	0		
Lidocaine	2,558	2,289	573	103	128	1,281	2	180	1,806	109	4	342	554	389	318	146	38	4		
Other or Unknown Local and/or Topical Anesthetic	2,758	2,517	1,061	129	113	992	7	201	2,094	123	8	276	476	521	306	91	34	2		
Miscellaneous Anesthetics																				
Ketamine and Analogs	369	160	9	4	14	120	0	12	47	72	9	26	126	16	28	55	9	1		
Other Types of Anesthetic	35	23	2	1	1	18	0	1	16	3	2	2	6	3	2	1	0	1		
Unknown Types of Anesthetic	6	6	0	0	1	4	0	0	1	0	0	0	4	0	0	3	1	0		
Category Total:	6,125	5,307	1,664	259	286	2,624	11	418	4,096	461	28	668	1,360	962	736	365	92	8		
Anticholinergic Drugs																				
Miscellaneous Anticholinergic Drugs																				
Anticholinergic Drugs (Excluding Cough and Cold Preparations, and Plants)	3,849	1,889	189	53	115	1,347	0	175	1,458	220	10	177	459	273	225	142	17	1		
Category Total:	3,849	1,889	189	53	115	1,347	0	175	1,458	220	10	177	459	273	225	142	17	1		
Anticoagulants																				
Miscellaneous Anticoagulants																				
Glycoprotein IIa/IIIb Inhibitors	13	7	2	0	0	4	0	1	5	1	0	1	2	2	1	0	0	0		
Heparins	235	187	25	5	6	119	0	26	163	15	1	7	81	43	13	14	0	1		
Other Antiplatelets	2,853	911	150	15	12	644	1	84	849	38	1	19	133	200	21	6	0	0		
Other Types of Anticoagulant	7,324	3,444	485	27	28	2,636	1	252	3,177	201	4	52	570	642	93	50	11	3		
Unknown Types of Anticoagulant	17	9	0	1	0	3	0	5	6	0	0	3	2	0	1	0	1	0		
Warfarin (Excluding Rodenticides)	1,336	637	86	6	9	485	0	47	529	80	4	20	200	124	35	51	8	0		
Category Total:	11,778	5,195	748	54	55	3,891	2	415	4,729	335	10	102	988	1,011	163	122	19	5		
Anticonvulsants																				
Anticonvulsants: Carbamazepine and Analogs																				
Carbamazepine	2,042	936	71	23	67	748	0	20	389	360	2	136	687	127	250	251	50	0		
Oxcarbazepine	4,306	1,908	334	251	462	802	0	49	1,014	829	0	42	1,062	389	445	273	41	1		

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age						Reason				Treated in Health Care Facility				Outcome		
			Age						Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult										Unknown Age	Unint
Anticonvulsants: Gamma Aminobutyric Acid and Analogs																			
Gabapentin	20,780	6,955	1,027	126	511	4,925	3	307	56	3,226	3,378	45	175	3,866	1,609	1,359	756	164	6
Other Types of Gamma Aminobutyric Acid Anticonvulsant	2,738	1,023	137	13	47	762	2	55	7	542	405	7	48	534	207	211	135	32	0
Anticonvulsants: Hydantoins																			
Fosphenytoin	9	8	0	0	0	7	0	1	0	4	0	0	0	4	7	0	3	0	0
Phenytoin	1,270	846	24	3	12	792	1	11	3	294	121	0	360	700	91	241	293	24	2
Miscellaneous																			
Anticonvulsants																			
Felbamate	44	18	5	2	2	8	0	1	0	15	3	0	0	7	3	1	3	1	0
Lamotrigine	10,912	4,226	528	187	864	2,458	3	167	19	2,563	1,493	3	132	2,113	681	960	604	105	2
Levetiracetam	5,684	2,877	894	301	304	1,271	2	95	10	2,282	530	0	38	820	700	356	121	9	2
Other Types of Anticonvulsant (Excluding Barbiturates)	1,636	665	114	53	72	403	0	18	5	527	112	1	17	260	126	112	62	25	1
Primidone	409	132	17	1	6	103	0	5	0	97	19	1	12	56	19	32	20	1	0
Succinimides	191	131	55	43	17	14	0	2	0	119	10	0	2	27	31	15	2	0	0
Topiramate	3,908	1,492	323	118	329	653	0	60	9	856	579	0	47	775	371	308	159	19	0
Unknown Types of Anticonvulsant (Excluding Barbiturates)	13	7	0	3	1	3	0	0	0	6	1	0	0	3	2	1	2	0	0
Category Total:																			
Valproic Acid	6,723	2,597	186	112	350	1,875	2	60	12	1,017	1,096	1	367	1,749	517	547	510	83	2
Zonisamide	809	390	87	26	64	192	1	19	1	310	71	0	5	102	100	39	19	1	0
Antidepressants	61,474	24,211	3,802	1,262	3,108	15,016	14	870	139	13,261	9,007	60	1,385	12,768	4,973	4,880	3,213	555	16
Lithium Salts																			
Lithium	5,952	3,341	67	31	437	2,725	1	59	21	729	1,062	5	1,300	2,893	385	782	1,317	168	7
Miscellaneous																			
Antidepressants																			
Antidepressants: Type Unknown to Consumer	48	13	0	1	3	8	0	0	1	0	11	1	1	11	1	3	1	1	0
Bupropion	18,802	9,708	732	226	1,633	6,630	2	427	58	5,961	3,492	6	153	5,454	1,779	1,547	1,843	614	18
Other Types of Antidepressant	273	95	4	3	28	47	0	7	6	30	57	2	6	64	12	23	24	0	0
Trazodone	22,105	8,332	678	292	1,451	5,635	1	228	47	2,308	5,825	10	116	6,324	1,596	2,384	2,000	150	5
Monoamine Oxidase Inhibitors (MAOI)																			
Isocarboxazid	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Other Types of Monoamine Oxidase Inhibitor (MAOI)	58	24	1	0	0	19	0	4	0	21	3	0	0	9	7	1	3	0	0
Phenelzine	39	14	1	0	0	11	0	2	0	7	3	0	3	7	2	2	3	1	0
Selegiline	42	18	3	0	0	13	0	2	0	15	2	0	1	4	7	0	0	1	0
Tranylcypromine	28	16	1	0	0	15	0	0	0	6	7	0	2	12	6	4	2	1	0
Selective Serotonin Reuptake Inhibitors (SSRI)																			
Citalopram	5,117	2,082	394	128	513	961	0	78	8	1,073	947	4	41	1,097	485	372	291	43	0
Escitalopram	16,781	8,180	1,128	510	3,028	3,210	6	268	30	3,855	4,089	14	171	4,556	1,929	1,622	1,117	53	1
Fluoxetine	16,391	7,583	816	616	3,739	2,162	6	201	43	2,697	4,696	8	128	4,925	2,269	1,738	787	74	2
Fluvoxamine	642	220	22	10	52	125	0	8	3	139	64	0	17	75	38	30	21	2	0
Other Types of Selective Serotonin Reuptake Inhibitor (SSRI)	2,771	1,316	274	68	374	570	1	24	5	660	601	3	44	754	349	302	148	14	0

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age					Reason					Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unit	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death	
Paroxetine	2,201	847	186	30	171	421	36	3	463	354	1	21	423	192	174	83	9	0		
Sertraline	23,550	12,292	2,633	814	4,416	4,058	307	57	5,910	5,972	21	313	6,918	2,779	2,934	1,450	80	2		
Serotonin Norepinephrine Reuptake Inhibitors (SNRI)																				
Duloxetine	6,303	2,210	495	74	406	1,149	0	14	1,192	897	10	96	1,153	519	506	275	16	3		
Nefazodone	4	2	1	0	0	0	1	0	1	0	0	1	0	1	0	0	0	0		
Other Types of Serotonin Norepinephrine Reuptake Inhibitor (SNRI)	680	288	52	9	56	155	0	0	191	76	2	16	97	61	49	25	1	0		
Venlafaxine	6,689	2,603	393	97	511	1,495	2	91	1,367	1,117	12	91	1,472	547	516	415	77	5		
Tetracyclic Antidepressants																				
Mirtazapine	5,016	1,521	230	59	221	952	1	48	600	843	4	59	1,003	362	398	220	23	0		
Tricyclic Antidepressants (TCA)																				
Amitriptyline	4,147	1,916	211	69	346	1,235	0	44	708	1,070	3	56	1,419	267	331	514	281	10		
Amoxapine	10	6	0	2	0	3	0	0	1	1	0	1	4	0	3	0	0	0		
Clomipramine	301	160	18	1	17	115	0	7	96	60	0	1	88	28	27	24	2	0		
Desipramine	41	16	2	0	3	11	0	0	7	7	0	2	10	2	0	7	1	0		
Doxepin	1,436	495	24	12	31	407	1	16	155	310	0	18	361	76	92	121	60	1		
Imipramine	157	74	17	10	9	35	3	0	46	23	0	1	37	13	9	13	4	0		
Loxapine	82	25	3	1	1	20	0	0	11	12	0	1	18	10	5	4	1	0		
Nortriptyline	804	340	36	11	40	241	0	12	185	121	0	23	185	63	55	61	20	2		
Other Types of Tricyclic Antidepressant (TCA)	402	224	2	6	12	193	0	10	21	136	37	13	197	13	45	82	32	0		
Protriptyline	4	1	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0		
Tricyclic Antidepressants (TCA) Formulated with a Benzodiazepine	2	1	0	0	0	1	0	0	0	1	0	0	0	0	0	1	0	0		
Tricyclic Antidepressants (TCA) Formulated with a Phenothiazine	12	8	2	2	1	3	0	0	5	3	0	0	4	5	0	2	0	0		
Tricyclic Antidepressants (TCA): Type Unknown to Consumer	14	3	0	0	0	3	0	0	0	2	0	0	3	0	1	1	0	0		
Trimipramine	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Category Total:	140,907	63,974	8,426	3,082	17,499	32,628	28	1,972	28,464	31,864	143	2,696	39,577	13,803	13,955	10,855	1,729	56		
Antihistamines																				
Histamine H2 Antagonists																				
Cimetidine and Other Histamine-2 Blockers	8,287	6,181	4,659	273	158	910	8	156	5,854	227	2	78	448	1,335	178	9	0	0		
Less Sedating Antihistamines																				
Cetirizine	20,444	15,540	10,509	2,187	983	1,602	17	215	14,636	738	5	115	1,244	3,123	567	61	5	0		
Fexofenadine	3,060	2,118	704	294	236	767	1	107	1,946	129	0	29	190	391	88	15	1	0		
Levocetirizine	2,139	1,621	966	277	102	224	44	44	1,547	55	0	15	112	362	47	7	0	0		
Loratadine	15,690	12,262	7,209	2,202	786	1,742	9	294	11,528	609	3	81	1,006	2,284	401	66	0	0		
Other Less Sedating Antihistamines	101	72	40	4	1	25	0	2	71	1	0	0	11	25	4	1	0	0		
Miscellaneous Antihistamines																				
Other Antihistamines Alone (Excluding Cough and Cold Preparations)	2,641	1,684	860	244	239	303	2	28	1,313	326	1	30	411	276	145	95	12	1		
Sedating Antihistamines																				
Diphenhydramine Alone	39,180	26,248	10,594	1,774	5,912	7,410	29	415	14,583	10,890	27	445	12,849	4,522	4,341	4,849	686	17		
Hydroxyzine	19,587	7,411	832	347	2,318	3,674	3	179	1,943	5,266	7	132	5,403	1,839	2,152	1,170	66	2		
Obsolete: Diphenhydramine Alone (Prescription)	183	121	34	7	35	41	0	3	53	62	0	4	70	23	20	23	5	0		

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome		
			Age							Reason					Treated in Health Care Facility				Outcome		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death		
Obsolete: Diphenhydramine Alone (Unknown if Over the Counter or Prescription)	3,084	2,037	827	149	449	566	2	36	8	1,134	846	4	30	994	317	384	62	0			
Other Sedating Antihistamines	6,077	3,909	1,856	280	347	1,255	2	146	23	3,002	710	3	158	1,214	906	293	30	2			
Category Total:	120,473	79,204	39,090	8,038	11,566	18,519	75	1,625	291	57,610	19,859	52	1,117	23,952	15,403	6,973	867	22			
Antimicrobials																					
Anthelmintics																					
Diethylcarbamazine	14	12	8	0	0	2	0	2	0	12	0	0	0	1	5	0	0	0			
Levamisole	25	17	1	0	1	12	0	3	0	14	1	0	1	6	1	3	0	0			
Other Types of Anthelmintic	2,600	2,115	731	134	82	978	7	153	30	1,459	460	12	164	553	398	107	18	6			
Piperazine	109	101	71	5	3	14	0	8	0	98	2	1	0	4	19	3	0	0			
Unknown Types of Anthelmintic	3	3	2	0	0	1	0	0	0	3	0	0	0	0	0	0	0	0			
Antibiotics																					
Systemic Antibiotic Preparations (Oral, Intravenous, Intramuscular)	25,266	19,777	8,786	1,654	1,085	6,950	36	1,171	95	16,801	1,023	12	1,836	2,438	3,132	1,472	311	30			
Topical Antibiotic Preparations (Dermal, Otic, Ophthalmic, Nasal)	3,508	3,341	2,082	167	89	752	8	221	22	3,165	50	8	106	92	474	160	15	0			
Unknown Types of Antibiotic Preparation	267	178	99	12	9	49	0	7	2	156	6	1	14	17	25	16	2	1			
Antifungals																					
Systemic Antifungal Preparations (Oral, Intravenous, Intramuscular)	1,208	911	352	48	38	379	5	80	9	796	15	1	98	96	121	60	16	1			
Topical Antifungal Preparations (Dermal, Otic, Ophthalmic, Nasal)	5,382	5,098	3,015	163	87	1,481	7	315	30	4,883	52	12	136	327	715	300	29	1			
Unknown Types of Antifungal Preparation	13	13	5	0	1	6	0	1	0	13	0	0	0	2	3	1	1	0			
Antiparasitics																					
Antimalarials	1,020	523	118	34	29	305	0	33	4	422	58	0	38	186	152	48	35	7			
Metronidazole	1,544	870	228	16	54	468	2	95	7	680	78	3	108	131	110	14	1	0			
Other Types of Antiparasitic	29	22	11	1	2	7	0	1	0	19	1	0	2	7	3	5	0	0			
Antituberculars																					
Isoniazid	54	29	2	0	10	16	0	1	0	11	11	0	7	22	3	5	6	8			
Other Types of Antitubercular	27	10	1	0	0	9	0	0	0	10	0	0	0	3	2	1	0	0			
Rifampin	56	29	5	0	8	15	0	1	0	19	6	0	4	15	0	10	1	0			
Antivirals																					
Amantadine	356	125	24	15	27	55	0	3	1	91	27	0	6	53	28	16	17	1			
Antiretrovirals	2,421	1,557	78	11	45	1,223	1	181	18	1,275	105	0	168	244	245	116	35	3			
Other Anti-Influenza Agents	853	773	229	186	93	227	1	37	0	699	15	0	57	61	131	49	6	2			
Systemic Antiviral Preparations (Oral, Intravenous, Intramuscular)	1,479	1,006	202	37	68	620	0	76	3	784	119	0	98	237	162	68	45	11			
Topical Antiviral Preparations (Dermal, Otic, Ophthalmic, Nasal)	168	164	66	8	9	63	1	17	0	155	3	0	6	5	25	6	1	0			
Unknown Types of Antiviral Preparations	334	213	64	7	16	108	1	14	3	172	25	0	15	44	50	19	1	1			
Miscellaneous Antimicrobials																					
Other Types of Antimicrobial	282	248	155	3	7	68	1	13	1	232	6	0	8	31	62	20	0	0			
Unknown Types of Antimicrobial	9	7	1	0	0	3	1	2	0	6	0	0	1	2	0	1	0	0			
Category Total:	47,027	37,142	16,336	2,501	1,763	13,811	71	2,435	225	31,975	2,063	50	2,873	4,577	5,866	2,727	645	85	9		

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age				Reason				Treated in Health Care Facility				Outcome				
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death
Antineoplastics																			
Miscellaneous Antineoplastics	2,391	1,803	220	36	59	1,323	3	144	18	1,646	44	5	92	555	336	189	99	32	7
Category Total:	2,391	1,803	220	36	59	1,323	3	144	18	1,646	44	5	92	555	336	189	99	32	7
Asthma Therapies																			
Miscellaneous Asthma Therapies	3,957	3,573	1,600	670	250	873	4	150	26	2,877	406	4	257	482	545	431	204	6	0
Albuterol	128	88	4	1	2	75	0	6	0	44	5	0	30	56	9	8	26	6	1
Aminophylline or Theophylline	5,236	3,439	1,989	480	184	673	4	100	9	3,243	158	0	23	350	701	88	12	1	0
Leukotriene Antagonist or Inhibitor	2,199	2,143	762	454	125	693	2	100	7	2,061	41	0	34	567	151	805	174	2	0
Non-Selective Beta Agonists	223	192	57	20	12	92	0	10	1	170	10	1	11	33	27	22	6	0	0
Other Asthma Therapeutic Agents	857	728	110	77	32	438	0	68	3	644	41	1	37	68	110	56	37	0	0
Terbutaline and Other Beta-2 Agonists	5	5	2	1	0	0	1	1	0	5	0	0	0	1	3	0	0	0	0
Unknown Asthma Therapeutic Agents																			
Category Total:	12,605	10,168	4,524	1,703	605	2,844	11	435	46	9,044	661	6	392	1,557	1,546	1,410	459	15	1
Cardiovascular Drugs																			
Angiotensin Converting Enzyme Inhibitor	1,517	789	209	46	45	465	0	24	0	695	86	0	4	221	236	49	28	0	1
Angiotensin Converting Enzyme Inhibitor in Combination with Diuretic	8	6	0	0	0	5	0	1	0	6	0	0	0	0	1	0	0	0	0
Angiotensin Converting Enzyme Inhibitor in Combination with Other Drugs (Excluding Calcium Antagonists)	12,810	4,844	1,688	285	182	2,489	5	178	17	4,139	624	1	54	1,533	1,629	222	137	5	1
Angiotensin Converting Enzyme Inhibitor, Alone																			
Angiotensin Receptor Blocker	1,503	828	161	23	21	584	0	37	2	780	33	0	8	146	200	40	21	0	0
Angiotensin Receptor Blocker in Combination with Diuretic	711	218	34	4	5	160	0	15	0	201	11	0	5	38	48	11	6	0	0
Angiotensin Receptor Blocker in Combination with Other Drugs (Excluding Calcium Antagonists)	10,409	4,349	843	129	98	2,971	1	290	17	3,991	274	3	61	858	1,185	176	77	5	0
Angiotensin Receptor Blocker, Alone																			
Antihyperlipidemic	25	12	5	0	0	6	0	1	0	11	1	0	0	1	4	0	0	0	0
Antihyperlipidemic Combinations (Excluding Calcium Antagonists)	13,576	4,076	1,445	141	145	2,036	7	287	15	3,768	214	3	78	488	712	121	22	2	0
Antihyperlipidemic, Alone	5,894	3,118	839	1,299	671	273	2	28	6	2,511	506	3	77	1,474	880	447	496	29	0
Antihypertensives	9	7	1	0	0	6	0	0	0	6	0	0	1	1	2	0	1	0	0
Antihypertensive in Combination with Diuretic	7	3	1	0	0	2	0	0	0	3	0	0	0	1	3	0	0	0	0
Antihypertensive in Combination with Other Drugs (Excluding Diuretics)																			

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age						Reason				Treated in Health Care Facility				Outcome			
			Age						Reason				Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death	
Beta Blockers																				
Beta Blocker in Combination with Diuretic	152	77	16	4	2	49	0	6	0	73	2	0	1	20	24	4	2	0	0	
Beta Blocker in Combination with Other Drugs (Excluding Calcium Antagonists)	3	2	1	0	0	1	0	0	0	1	0	0	1	1	1	0	0	0	0	
Beta Blocker, Alone	28,392	10,996	2,465	348	606	7,074	4	451	48	8,549	2,092	12	260	4,423	3,364	816	1,112	139	23	
Calcium Antagonist																				
Calcium Antagonist in Combination with	300	164	28	1	3	126	0	5	1	146	14	0	3	53	55	6	4	4	1	
Angiotensin Converting Enzyme Inhibitor																				
Calcium Antagonist in Combination with	104	61	14	7	0	38	0	2	0	57	4	0	0	24	26	3	1	1	0	
Angiotensin Receptor Blocker																				
Calcium Antagonist in Combination with	12	5	2	0	1	2	0	0	0	5	0	0	0	1	2	0	0	0	0	
Antihyperlipidemic																				
Calcium Antagonist in Combination with Other Drugs	59	36	8	1	1	24	0	2	0	34	2	0	0	13	16	1	2	0	0	
Calcium Antagonist, Alone	15,718	5,990	1,128	210	267	4,122	1	240	22	4,998	830	4	112	2,872	2,065	514	496	101	29	
Miscellaneous Cardiovascular Drugs																				
Alpha Blockers	6,409	1,807	208	58	230	1,200	0	99	12	1,096	636	0	67	827	409	315	217	7	0	
Antiarrhythmics	2,294	1,135	92	18	26	934	1	58	6	1,008	54	1	67	579	363	95	132	44	2	
Cardiac Glycosides	1,440	1,051	46	8	3	984	0	9	1	338	42	0	612	920	109	106	436	139	29	
Clonidine	11,150	5,628	1,645	1,304	1,170	1,421	6	63	19	3,452	1,961	16	115	3,854	990	1,079	1,815	238	1	
Hydralazine	1,878	657	117	17	39	454	0	29	1	502	123	0	28	272	172	83	69	4	0	
Long-Acting Nitrates	858	207	14	2	3	179	0	9	0	185	15	0	6	60	50	24	16	0	0	
Nitroglycerin	720	381	158	15	12	164	1	29	2	275	82	1	20	171	139	28	22	1	0	
Nitroprusside	16	15	4	1	1	9	0	0	0	5	0	0	10	15	1	0	5	1	0	
Other Types of Cardiovascular Drug	502	196	35	5	5	139	0	11	1	181	12	0	2	51	57	13	13	4	0	
Other Types of Vasodilator	1,547	943	293	30	35	514	0	63	8	715	113	3	97	304	204	120	62	11	0	
Unknown Types of Cardiovascular Drug	32	11	1	2	0	4	0	2	2	9	1	0	1	3	1	0	0	0	0	
Unknown Types of Vasodilator Vasopressors	8	7	2	0	0	5	0	0	0	6	0	0	1	4	0	1	4	0	0	
Vasopressors	242	193	60	28	7	83	0	14	1	173	10	0	9	62	16	57	18	1	1	
Category Total:	118,305	47,812	11,563	3,986	3,578	26,523	28	1,953	181	37,919	7,742	47	1,700	19,290	12,964	4,331	5,214	736	88	
Cold and Cough Preparations																				
Acetylsalicylic Acid with Decongestant and/or Antihistamine																				
Acetaminophen and Acetylsalicylic Acid with Antihistamine without Opioids	5	4	1	0	2	1	0	0	0	1	3	0	0	2	1	1	0	0	0	
Acetaminophen and Acetylsalicylic Acid with Antihistamine without Opioids	13	5	3	1	1	0	0	0	0	3	1	0	1	1	0	0	1	0	0	

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age					Reason					Treated in Health Care Facility				Outcome					
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death				
Acetaminophen and Acetylsalicylic Acid with Decongestant without Opioids	5	4	3	0	1	0	0	0	0	0	3	1	0	0	0	0	1	1	0	0	0	
Acetaminophen, Acetylsalicylic Acid, and Dextromethorphan with Antihistamine	12	6	5	0	1	0	0	0	0	0	5	1	0	0	0	1	0	0	0	0	0	
Acetaminophen, Acetylsalicylic Acid, and Dextromethorphan with Decongestant	14	13	9	2	0	1	0	0	0	1	13	0	0	0	0	2	4	1	0	0	0	
Acetaminophen, Acetylsalicylic Acid, and Dextromethorphan with Decongestant and Antihistamine	8	5	4	0	0	1	0	0	0	0	5	0	0	0	0	1	2	0	1	0	0	
Obsolete: Acetaminophen, Acetylsalicylic Acid, and Dextromethorphan Combinations with Decongestant and/or Antihistamine without Phenylpropanolamine	4	4	3	0	0	1	0	0	0	0	3	1	0	0	0	1	1	0	0	0	0	
Acetaminophen with Decongestant and/or Antihistamine																						
Acetaminophen and Codeine with Antihistamine	7	5	2	0	0	3	0	0	0	0	4	1	0	0	0	2	2	0	1	0	0	
Acetaminophen and Codeine with Decongestant	2	2	2	0	0	0	0	0	0	0	2	0	0	0	0	0	2	0	0	0	0	
Acetaminophen and Codeine with Decongestant and Antihistamine	10	8	1	0	4	3	0	0	0	0	2	6	0	0	0	5	0	4	2	0	0	
Acetaminophen and Dextromethorphan with Antihistamine	5,952	2,390	757	158	444	944	1	64	22	1,267	983	6	95	1,125	459	412	245	22	2	0	0	
Acetaminophen and Dextromethorphan with Antihistamine	5,503	2,536	1,206	245	318	674	1	71	21	2,004	375	2	125	557	503	218	84	4	0	0	0	
Acetaminophen and Dextromethorphan with Decongestant	3,052	1,888	1,138	244	152	335	1	18	0	1,566	253	1	53	363	391	175	68	2	0	0	0	
Acetaminophen and Dextromethorphan with Decongestant and Antihistamine	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acetaminophen and Other Opioid with Antihistamine	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acetaminophen and Other Opioid with Decongestant	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Acetaminophen and Other Opioid with Decongestant and Antihistamine	480	287	68	18	66	125	2	6	2	109	169	0	4	184	51	58	64	3	0	0	0	
Acetaminophen with Decongestant and Antihistamine without Opioids	1,258	727	455	105	50	99	0	16	2	621	68	1	29	127	144	50	18	2	0	0	0	

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome		
		Age							Reason					Treated in Health Care Facility				Outcome		
		≤5	6-12	13-19	54	100	≥20	Unknown Child	Unknown Adult	Unknown Age	Uhint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death
784	380	178	35	54	100	0	12	1	302	57	0	21	70	73	24	10	3	0		
16	10	6	2	1	1	0	0	0	9	1	0	0	2	2	2	0	0	0		
3	1	0	0	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0		
Acetaminophen with Decongestant without Opioids																				
Obsolete: Acetaminophen and Decongestant and/or Antihistamine without Phenylpropanolamine																				
Obsolete: Acetaminophen with Decongestant and/or Antihistamine Combinations without Phenylpropanolamine or Opioids																				
Acetylsalicylic Acid with Decongestant and/or Antihistamine																				
1	1	0	0	0	1	0	0	0	1	0	0	0	0	0	0	0	0	0		
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
6	5	3	1	1	0	0	0	0	4	0	0	1	1	0	1	0	0	0		
21	10	3	2	1	4	0	0	0	8	0	0	1	1	2	2	0	0	0		
7	4	1	0	0	2	1	0	0	4	0	0	0	0	1	0	0	0	0		
83	52	32	11	3	5	0	1	0	43	5	0	3	8	14	4	1	0	0		
2	1	1	0	0	0	0	0	0	1	0	0	0	0	1	0	0	0	0		
Anthistamine and/or Decongestant																				
25	17	11	1	1	4	0	0	0	15	2	0	0	4	6	1	1	0	0		
3,482	2,830	1,927	586	85	207	0	24	1	2,659	107	0	47	340	633	207	60	7	0		
8	8	4	1	0	3	0	0	0	7	1	0	0	1	2	0	1	0	0		
3,550	2,732	1,702	400	153	422	2	48	5	2,498	166	2	49	430	567	182	81	6	1		
212	136	25	10	12	81	0	7	1	101	29	0	6	53	30	20	14	1	0		
2,869	2,177	654	217	371	893	0	34	8	1,221	888	1	38	1,031	297	390	465	28	0		
63	48	8	2	1	37	0	0	0	41	7	0	0	17	14	7	2	0	0		
1,022	631	253	26	94	242	0	12	4	338	277	0	8	315	150	85	113	13	1		
12	7	1	1	0	5	0	0	0	4	1	0	1	2	2	0	1	0	0		

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age				Reason				Treated in Health Care Facility				Outcome				
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death
Decongestant with Dextromethorphan	2,208	1,638	1,141	280	63	133	4	17	0	1,499	93	1	40	179	341	97	37	6	0
Decongestant with Other Opioid	3	2	1	0	0	1	0	0	0	1	1	0	0	1	0	0	1	0	0
Decongestant without Opioid	3,615	2,367	984	186	225	845	3	116	8	2,110	153	3	79	311	513	132	62	1	0
Obsolete: Antihistamine and/or Decongestant with Codeine without	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phenylpropanolamine	50	32	2	2	5	21	0	2	0	6	24	0	0	26	7	7	10	2	0
Obsolete: Antihistamine and/or Decongestant with																			
Dextromethorphan without Phenylpropanolamine	6	5	2	2	1	0	0	0	0	5	0	0	0	0	0	0	0	0	0
Obsolete: Antihistamine and/or Decongestant without Phenylpropanolamine and Opioid																			
Miscellaneous Cold and Cough Preparations																			
Acetaminophen in Combination with Dextromethorphan (Without Decongestants or Antihistamines)	238	149	83	25	18	21	0	2	0	123	22	0	4	33	27	16	4	0	0
Cough and Cold Preparations (Not Otherwise Classified)	3,357	2,345	1,680	188	128	303	6	35	5	1,985	283	2	59	386	370	172	84	8	1
Dextromethorphan Preparations (Not Otherwise Classified)	12,058	8,874	3,107	1,253	1,463	2,824	12	195	20	6,044	2,497	7	255	3,109	1,289	1,226		69	1
Dextromethorphan With Expectorants	1,130	853	423	126	97	190	0	16	1	660	160	0	24	223	118	98	67	1	0
Expectorants Without Dextromethorphan	2,461	1,550	455	100	113	736	4	135	7	1,340	132	1	73	171	279	56	19	3	0
Non-Narcotic Antitussives Excluding	2,440	1,808	537	131	175	839	2	113	11	1,483	225	0	90	654	503	255	63	17	4
Dextromethorphan	10	7	3	2	1	0	0	1	0	6	1	0	0	1	2	0	0	0	0
Obsolete: Expectorants or Antitussives (Without Narcotics or Narcotic Analogs)	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Obsolete: Non-Acetylsalicylic Acid Salicylates in Combination with																			
Dextromethorphan	12	7	1	1	1	4	0	0	0	3	3	0	1	4	1	1	0	0	0
Obsolete: Unknown Types of Cough and Cold Preparation																			
Non-Acetylsalicylic Acid Salicylates with Decongestant and/or Antihistamine																			
Non-Acetylsalicylic Acid Salicylates and	2	2	1	0	1	0	0	0	0	1	1	0	0	1	1	0	0	0	0
Dextromethorphan with Antihistamine																			
Non-Acetylsalicylic Acid Salicylates and	3	3	1	2	0	0	0	0	0	3	0	0	0	0	1	0	0	0	0
Dextromethorphan with Decongestant																			

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

No. of Case Mentions	No. of Single Exposures	Age					Reason					Treated in Health Care Facility					Outcome			
		≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death				
2	2	1	0	1	0	0	0	1	1	0	0	0	0	0	1	0	0	0	0	
Non-Acetylsalicylic Acid Salicylates and Dextromethorphan with Decongestant and Antihistamine																				
1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Non-Acetylsalicylic Acid Salicylates and Opioid with Decongestant																				
3	1	1	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	
Non-Acetylsalicylic Acid Salicylates with Decongestant and Antihistamine without Opioid																				
3	2	2	0	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	
Non-Acetylsalicylic Acid Salicylates with Decongestant without Opioid																				
Phenylpropanolamine Containing Preparations																				
14	8	1	3	2	2	0	0	6	2	0	0	0	0	0	3	1	3	0	0	
Acetaminophen and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine without Opioid																				
2	1	1	0	0	0	0	0	1	0	0	0	0	0	0	1	0	1	0	0	
Acetaminophen, Acetylsalicylic Acid, and Phenylpropanolamine Combinations with Decongestant and/or Antihistamine without Opioid																				
23	13	7	3	1	2	0	0	12	1	0	0	0	0	4	1	0	0	0	0	
Acetaminophen, Acetylsalicylic Acid, Phenylpropanolamine, and Dextromethorphan Combinations with Decongestant and/or Antihistamine																				
19	11	6	1	1	2	0	1	11	0	0	0	0	0	3	0	0	2	0	0	
Acetaminophen, Phenylpropanolamine, and Dextromethorphan Combinations with Decongestant and/or Antihistamine																				
11	8	6	0	1	0	0	1	8	0	0	0	0	0	1	2	1	0	0	0	
Acetylsalicylic Acid, Phenylpropanolamine, and Dextromethorphan Combinations with Decongestant and/or Antihistamine																				
2	2	1	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0	
Acetaminophen and/or Phenylpropanolamine and Codeine																				

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age					Reason					Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	None	Minor	Moderate	Major	Death		
Antihistamine and/or Decongestant with Phenylpropanolamine and Dextromethorphan	56	43	25	9	1	7	0	1	0	39	3	0	0	1	8	6	4	3	0	0
Antihistamine and/or Decongestant with Phenylpropanolamine without Opioid	22	16	9	3	0	3	0	1	15	1	0	0	0	0	1	0	0	0	0	0
Non-Acetylsalicylic Acid Salicylates, Phenylpropanolamine, and Dextromethorphan Combinations with Decongestant and/or Antihistamine	2	2	1	1	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Other Phenylpropanolamine Preparations (Excluding Street Drugs and Diet Aids)	231	193	82	2	1	97	0	11	189	2	0	0	1	20	52	12	1	1	0	0
Category Total:	56,485	36,878	17,030	4,388	4,116	10,225	39	960	28,423	7,008	27	1,109	9,787	6,870	4,040	2,813	198	10	10	10
Diagnostic Agents																				
Miscellaneous Diagnostic Agents																				
Diagnostic Tablets for Glucose or Ketones	12	11	4	1	0	6	0	0	11	0	0	0	0	0	4	0	0	0	0	0
Other Types of Diagnostic Agent	4,573	4,125	1,112	185	91	2,074	9	603	3,943	44	11	109	248	562	462	28	1	1	0	0
Unknown Types of Diagnostic Agent	22	17	5	0	0	8	0	4	15	1	0	1	3	5	1	1	0	0	0	0
Category Total:	4,607	4,153	1,121	186	91	2,088	9	607	3,969	45	11	110	251	571	463	29	1	0	0	0
Dietary Supplements/Herbals/ Homeopathic																				
Amino Acids																				
Creatine	159	122	66	6	23	21	2	3	95	12	0	15	21	11	14	3	1	0	0	0
Other Amino Acid Dietary Supplements	713	445	225	30	26	134	0	29	311	32	1	94	69	84	61	17	3	0	0	0
Botanical Products																				
Citrus Aurantium (Single Ingredient)	5	2	1	0	0	1	0	0	2	0	0	0	0	0	0	0	0	0	0	0
Echinacea	125	88	56	9	5	15	0	3	73	6	0	7	10	9	6	1	0	0	0	0
Ginkgo Biloba	100	60	27	5	1	24	0	3	48	5	0	6	7	11	2	1	0	0	0	0
Ginseng	61	36	21	0	1	11	0	3	25	1	0	9	6	8	5	4	0	0	0	0
Kava Kava	130	76	7	2	7	55	1	4	22	29	1	22	40	4	21	11	2	0	0	0
Ma Huang/Ephedra (Single Ingredient)	16	11	4	1	2	3	0	0	8	2	0	1	6	2	4	2	0	0	0	0
Multi-Botanicals with Citrus Aurantium	28	26	12	1	3	10	0	0	16	5	0	5	12	8	4	4	0	0	0	0
Multi-Botanicals with Ma Huang	21	16	3	0	1	10	0	2	7	5	1	2	9	2	3	1	0	0	0	0
Multi-Botanicals without Ma Huang or Citrus Aurantium	1,816	1,489	964	84	64	331	2	41	1,186	113	6	176	259	242	119	67	10	0	0	0
Other Single Ingredient Botanicals	3,860	3,072	1,694	166	116	889	9	173	2,581	178	8	276	354	450	289	49	7	0	0	0
St. John's Wort	176	128	96	2	13	17	0	0	106	11	0	10	19	26	3	3	1	0	0	0
Valerian	158	86	25	5	9	43	0	3	49	20	0	17	33	16	15	4	0	0	0	0
Yohimbe	69	52	6	0	4	40	0	2	21	6	0	24	26	7	10	8	2	0	0	0
Cultural Medicines																				
Asian Medicines	84	63	25	4	2	29	1	1	45	3	1	13	22	17	13	5	1	0	0	0

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death		
Ayurvedic Medicines	343	218	137	11	24	38	1	7	0	175	23	1	17	47	46	17	8	1	0		
Hispanic Medicines	15	12	5	1	2	4	0	0	0	7	2	0	3	6	0	1	3	0	0		
Other Cultural Medicines	125	100	44	3	2	44	0	7	0	65	18	0	15	36	12	10	13	2	0		
Energy Products	1,290	1,106	634	100	169	176	1	22	4	805	138	6	143	206	183	207	96	3	0		
Energy Drinks: Caffeine Containing (From Any Source Including Guarana, Kola Nut, Tea, Yerba Mate, Cocoa, etc)	791	626	424	49	62	77	1	11	2	510	63	1	50	71	108	65	27	1	0		
Energy Drinks: Caffeine Only (Without Guarana, Kola Nut, Tea, Yerba Mate, Cocoa, etc)	72	19	8	1	1	9	0	0	0	9	6	0	2	6	4	5	1	1	0		
Energy Drinks: Ethanol and Caffeine Only (Without Guarana, Kola Nut, Tea, Yerba Mate, Cocoa, etc)	1	1	0	0	0	1	0	0	0	0	1	0	0	0	0	0	0	1	0		
Energy Drinks: Ethanol Containing (From Any Source Including Guarana, Kola Nut, Tea, Yerba Mate, Cocoa, etc)	1	1	0	0	0	1	0	0	0	0	1	0	0	1	1	0	0	0	0		
Energy Drinks: No Caffeine (From Any Source)	19	16	8	3	1	4	0	0	0	13	0	0	3	2	3	1	0	0	0		
Energy Drinks: Unknown	664	508	256	79	75	82	1	13	2	375	64	2	65	84	82	94	34	2	0		
Energy Products: Other	199	159	80	4	26	47	0	1	1	103	24	0	26	47	26	28	16	1	0		
Hormonal Products	230	167	66	6	5	85	0	5	0	94	22	0	49	60	28	25	13	3	0		
Androgen or Androgen Precursor Dietary Supplements	25	18	8	2	0	5	0	2	1	17	0	0	1	1	6	0	0	0	0		
Glandular Dietary Supplements	53,235	46,732	38,014	5,071	1,756	1,541	97	188	65	43,592	2,654	28	214	5,165	8,003	3,405	145	4	0		
Melatonin Alone	1,025	931	764	115	18	30	1	3	0	888	34	0	8	98	194	78	4	0	0		
Melatonin in Combination with Other Substances	46	28	14	0	2	11	0	1	0	19	4	0	5	6	4	4	0	1	0		
Phytoestrogen Dietary Supplements																					
Miscellaneous Dietary Supplements/Herbals/ Homeopathic	10,751	9,966	8,798	443	105	493	26	93	8	9,652	93	3	175	572	1,595	263	16	2	0		
Homeopathic Agents	2,396	1,905	1,201	131	91	400	3	65	14	1,557	124	6	204	307	296	159	61	10	0		
Unknown Dietary Supplements or Homeopathic Agents																					
Other Dietary Supplements	341	215	166	12	10	21	0	6	0	198	10	0	6	19	35	8	0	0	0		
Fatty Acid Supplements	580	430	306	13	7	87	0	15	2	405	9	1	13	25	64	13	2	0	0		
Glucosamine (with or without Chondroitin)	1,581	837	531	52	24	196	1	29	4	740	35	0	55	80	124	58	12	0	0		
Other Single Ingredient Non-Botanical Dietary Supplements																					
Category Total:	81,251	69,767	54,696	6,411	2,657	4,985	147	735	136	63,819	3,753	66	1,731	7,752	11,711	5,010	631	59	0		
Diuretics																					
Miscellaneous Diuretics	3,281	888	268	29	17	529	0	44	1	800	67	0	19	234	184	117	39	2	0		
Furosemide	3,691	1,241	359	64	86	649	0	77	6	1,028	146	1	57	315	283	120	50	0	0		
Other Types of Diuretic																					

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome		
			Age							Reason					Treated in Health Care Facility				Outcome		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unit	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death		
Thiazide	4,151	1,232	400	72	60	645	2	52	1,068	137	0	22	301	302	79	30	1	1			
Unknown Types of Diuretic	120	24	5	0	0	17	0	0	22	2	0	0	13	5	4	0	0	0			
Category Total:	11,243	3,385	1,032	165	163	1,840	1	173	2,918	352	1	98	863	774	321	123	3	1			
Electrolytes and Minerals																					
Miscellaneous Electrolytes and Minerals																					
Calcium and Calcium Salts	10,268	8,727	7,474	490	134	501	21	99	8,389	227	3	76	388	1,466	250	21	4	1			
Chromium, Trivalent	162	143	47	16	5	53	1	20	129	6	1	6	19	30	26	2	0	0			
Colloidal Silver	156	124	47	13	6	48	1	9	77	18	0	27	46	17	15	5	0	0			
Fluoride (Excluding Vitamins, Hydrofluoric Acid & Mouthwashes)	843	802	579	91	16	89	3	18	714	9	4	70	50	125	63	8	1	0			
Germanium and Germanium Salts	2	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0			
Iron and Iron Salts (Excluding Vitamins with Iron)	7,426	5,451	2,145	237	772	2,013	7	243	4,143	831	8	423	1,486	998	840	167	7	2			
Magnesium and Magnesium Salts	4,687	3,575	1,795	235	136	1,176	12	203	2,973	208	44	319	463	584	430	63	7	0			
Multi-Mineral and Multi-Herbal Dietary Supplement	335	242	128	8	21	75	0	8	158	49	1	32	69	54	36	25	2	0			
Multi-Mineral Dietary Supplements	205	146	71	14	8	41	0	10	114	11	0	20	23	24	3	0	0	0			
Other Types of Electrolyte or Mineral	72	63	26	4	4	27	0	2	49	2	1	9	10	10	5	1	0	0			
Potassium and Potassium Salts	1,924	683	152	16	18	430	0	62	529	104	5	41	170	129	57	26	6	1			
Selenium and Selenium Salts	114	83	27	5	3	37	0	8	73	1	2	5	20	14	7	2	0	0			
Sodium and Sodium Salts	4,535	3,797	1,951	532	147	922	7	226	3,279	352	32	109	566	616	491	69	3	0			
Unknown Types of Electrolyte or Mineral	13	9	5	0	1	3	0	0	6	2	0	1	1	3	1	0	0	0			
Zinc and Zinc Salts	3,270	2,720	1,012	148	169	1,155	2	215	1,917	170	2	609	193	258	452	32	1	0			
Category Total:	34,012	26,566	15,459	1,809	1,440	6,570	54	1,123	22,551	1,990	103	1,747	3,504	4,328	2,695	424	31	4			
Eye/Ear/Nose/Throat Preparations																					
Miscellaneous Eye/Ear/Nose/Throat Preparations																					
Topical Steroids For Eye/Nose/Throat	2,047	1,785	764	301	67	501	3	144	1,666	51	1	57	55	270	128	5	0	0			
Nasal Preparations																					
Other Nasal Decongestants or Sympathomimetics (Excluding Tetrahydrozoline)	2,289	2,149	589	125	175	1,028	5	204	1,882	101	10	146	239	416	181	58	6	0			
Other Types of Nasal Preparation	893	855	449	41	23	257	1	75	811	10	0	32	26	121	56	6	0	0			
Tetrahydrozoline, Nasal Preparations	39	38	20	0	2	16	0	0	31	5	2	0	13	16	2	2	0	0			
Unknown Types of Nasal Preparation	14	12	4	0	0	5	0	3	10	0	0	2	1	2	0	0	0	0			
Ophthalmic Preparations																					
Contact Lens Products	1,316	1,262	646	35	64	426	3	79	1,218	21	5	12	199	152	211	34	1	0			
Glaucoma Medications	397	343	70	7	3	213	0	48	314	3	2	17	30	63	31	6	0	0			
Other Ophthalmic Sympathomimetics	664	634	356	17	33	178	1	43	577	30	5	13	155	225	32	5	0	0			
Other Types of Ophthalmic Preparation	2,721	2,575	1,218	86	71	918	9	250	2,398	54	28	82	189	411	103	30	1	0			
Tetrahydrozoline, Ophthalmic Preparations	867	789	291	17	40	354	1	76	547	125	93	10	266	216	56	59	4	0			

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age						Reason					Treated in Health Care Facility				Outcome			
			Age						Reason					Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death			
Unknown Types of Ophthalmic Preparation	50	42	10	0	4	26	0	2	0	25	5	6	6	13	3	6	5	1	0		
Otic Preparations																					
Combination Products	445	438	166	25	13	197	1	35	1	429	2	0	6	38	55	104	8	0	0		
Other Types of Otic Preparation	2,359	2,335	576	87	66	1,290	2	302	12	2,276	14	4	32	312	180	732	55	0	0		
Unknown Types of Otic Preparation	23	23	5	3	3	9	0	3	0	23	0	0	0	5	1	9	1	0	0		
Throat Preparations																					
Other Types of Throat Preparation	615	591	84	67	61	296	0	75	8	549	31	0	9	25	88	40	3	0	0		
Throat Lozenges with Local Anesthetics	299	272	84	29	22	106	0	26	5	249	11	0	11	23	53	17	4	0	0		
Throat Lozenges without Local Anesthetics	649	589	401	48	22	95	0	21	2	527	29	0	22	17	89	38	4	0	0		
Unknown Types of Throat Preparation	3	2	0	0	0	2	0	0	0	1	0	0	1	2	0	1	0	0	0		
Category Total:	15,690	14,734	5,733	888	669	5,917	26	1,386	115	13,533	492	156	458	1,608	2,361	1,749	285	13	0		
Gastrointestinal Preparations																					
Antacids																					
Antacids: Other Types	2,088	1,839	1,510	94	18	180	5	27	5	1,741	58	3	27	72	227	31	8	0	0		
Antacids: Proton Pump Inhibitors	10,280	4,267	1,661	119	282	1,867	2	313	23	3,749	385	0	119	529	795	173	18	1	0		
Antacids: Salicylate-Containing	3,294	2,874	1,925	432	87	369	4	50	7	2,594	175	2	81	335	612	151	40	4	0		
Antidiarrheals																					
Antidiarrheals: Diphenoxylate and Atropine Containing	136	75	20	1	2	49	0	3	0	59	11	0	3	40	25	13	7	1	0		
Antidiarrheals: Loperamide	984	695	195	38	46	366	1	45	4	465	153	2	67	227	151	61	34	15	1		
Antidiarrheals: Non-Narcotic Containing (Excluding Salicyl Containing)	32	25	20	3	0	1	0	1	0	25	0	0	0	0	2	1	0	0	0		
Antidiarrheals: Other Narcotic Containing	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Antidiarrheals: Paregoric Containing	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Antispasmodics																					
Antispasmodics: Anticholinergic Containing	2,566	1,024	269	69	146	471	0	62	7	730	218	0	63	410	256	152	105	7	0		
Antispasmodics: Other Types	450	175	25	3	4	127	0	16	0	162	4	0	9	20	35	11	1	0	0		
Miscellaneous																					
Gastrointestinal Preparations																					
Laxatives	14,832	12,739	7,954	731	435	2,941	23	596	59	11,591	513	36	557	1,145	1,646	1,202	167	2	0		
Other Types of Gastrointestinal Preparation	9,309	7,568	5,695	329	132	1,157	17	213	25	7,024	197	6	320	461	1,198	343	62	3	0		
Unknown Types of Gastrointestinal Preparation	23	18	12	0	0	3	1	2	0	15	0	0	3	2	2	1	0	0	0		
Serotonin 5-HT₃ Receptor Antagonists																					
Serotonin 5-HT ₃ Receptor Antagonists: Ondansetron	3,557	2,056	1,183	191	152	471	4	50	5	1,740	225	1	74	536	585	155	64	7	0		
Serotonin 5-HT ₃ Receptor Antagonists: Other or Unknown	8	3	3	0	0	0	0	0	0	3	0	0	0	2	1	0	1	0	0		
Category Total:	47,561	33,358	20,472	2,010	1,304	8,002	57	1,378	135	29,898	1,939	50	1,323	3,779	5,535	2,294	507	40	1		

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age					Reason					Treated in Health Care Facility				Outcome		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death
Hormones and Hormone Antagonists																			
Hypoglycemic, Combination																			
Hypoglycemic: Biguanide Combinations (Excluding Sulfonyleurea)	412	210	24	4	6	160	0	14	2	188	14	0	6	44	50	16	7	2	0
Hypoglycemic: Other or Unknown Oral Hypoglycemic Combination	31	17	2	1	2	12	0	0	0	15	2	0	0	5	8	1	1	0	0
Hypoglycemic: Sulfonyleurea Combinations	55	31	7	1	1	21	0	1	0	26	3	0	1	21	8	2	9	1	0
Hypoglycemic, Single Agent																			
Hypoglycemic: Glucagon-Like Peptide-1 (GLP-1) Receptor Agonists	2,356	2,170	67	21	28	1,827	2	212	13	1,862	109	0	190	673	294	418	136	6	0
Hypoglycemic: Other or Unknown	135	114	6	1	4	86	0	16	1	92	6	0	16	41	14	28	12	1	2
Insulin	6,686	5,533	146	113	193	4,674	1	369	37	4,575	832	11	79	2,668	2,007	425	888	103	4
Oral Hypoglycemics: Alpha-Glucosidase Inhibitors	23	9	3	2	0	4	0	0	0	9	0	0	0	1	1	0	0	0	0
Oral Hypoglycemics: Biguanides	9,299	3,768	678	132	326	2,384	7	224	17	2,938	671	3	112	1,177	651	373	278	71	25
Oral Hypoglycemics: Dipeptidyl Peptidase-4 (DPP-4) Inhibitors	863	295	78	5	6	189	0	17	0	276	17	0	1	54	89	15	3	2	0
Oral Hypoglycemics: Meglitinides	52	15	3	0	0	10	0	2	0	12	0	0	3	5	5	1	2	0	1
Oral Hypoglycemics: Sodium Glucose Co-Transporter 2 Inhibitor (SGLT2) Inhibitors	1,706	659	158	16	20	417	0	47	1	600	35	0	19	139	183	35	15	1	0
Oral Hypoglycemics: Sulfonyleureas	2,980	1,098	416	25	31	593	1	28	4	840	145	0	83	868	324	75	344	61	2
Oral Hypoglycemics: Thiazolidinediones	387	100	30	4	5	56	0	5	0	84	13	0	3	29	33	5	2	0	0
Miscellaneous Hormones and Hormone Antagonists																			
Androgens	464	377	68	6	21	226	0	47	9	282	37	2	52	88	57	64	17	4	1
Corticosteroids	10,865	8,723	3,149	715	314	3,737	26	723	59	8,019	179	18	488	559	1,109	359	58	2	0
Estrogens	1,179	812	296	18	52	379	0	60	7	719	55	2	32	81	116	49	6	0	0
Oral Contraceptives	2,441	1,841	1,152	75	273	268	3	58	12	1,542	244	3	40	211	270	120	10	1	0
Other Hormone Antagonists	739	540	141	15	27	321	0	35	1	507	23	0	10	56	85	15	3	0	1
Other Hormones	772	564	119	48	44	307	1	39	6	509	28	0	25	138	125	44	13	2	0
Progestins	1,307	987	462	56	53	339	17	53	7	860	55	2	65	123	170	48	17	1	0
Selective Estrogen Receptor Modulators	215	116	27	7	2	62	0	17	1	116	0	0	0	9	23	3	0	0	0
Thyroid Preparations (Including Synthetics and Extracts)	12,088	7,750	3,518	318	245	3,187	9	427	46	7,370	291	4	48	990	1,399	174	38	5	0
Unknown Hormones or Hormone Antagonists	10	6	0	0	0	5	0	1	0	4	1	0	1	2	0	2	1	0	0
Category Total:	55,065	35,735	10,550	1,583	1,653	19,264	67	2,395	223	31,445	2,760	45	1,274	7,982	7,021	2,272	1,860	263	36
Miscellaneous Drugs																			
Alzheimer Drugs																			
Miscellaneous Alzheimer Drugs	2,620	763	57	8	11	641	0	45	1	649	55	0	43	260	137	125	79	8	1
Antidotes																			
Miscellaneous Antidote Drugs	377	202	47	4	11	126	0	10	4	164	16	2	16	54	45	28	8	3	1
Other Miscellaneous Drugs																			

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death			
Allopurinol	1,026	247	95	3	5	131	1	10	2	223	9	0	11	38	58	11	5	1	0			
Bisphosphonates (Including Combinations)	661	596	6	2	4	531	0	46	7	560	5	0	30	126	103	47	7	0	0			
Disulfiram	171	47	5	0	1	32	0	6	3	17	14	1	14	21	5	5	7	2	0			
Ergot Alkaloids	23	16	1	1	2	9	0	3	0	10	0	0	6	9	1	5	2	0	0			
Hematopoietics	36	32	8	1	2	18	0	3	0	29	0	0	3	10	4	5	1	0	0			
Monoclonal Antibodies (Including Fragments)	367	335	21	14	19	230	0	47	4	261	4	0	70	86	40	43	20	2	0			
Neuromuscular Blocking Agents (Succinylcholine, Curare, etc)	37	24	0	0	0	23	0	1	0	17	2	1	4	14	7	5	1	3	0			
Nicotine Pharmaceuticals	1,253	1,167	710	79	32	280	4	57	5	1,001	89	3	67	203	264	171	34	0	0			
Other Types of Miscellaneous Prescription or Over the Counter Drug	15,633	11,606	3,199	559	788	5,843	21	1,099	97	10,505	581	15	430	1,701	2,205	917	272	30	4			
Parkinson Drugs																						
Decarboxylase Inhibitor, Alone	43	17	3	0	0	13	0	1	0	17	0	0	0	5	3	0	2	0	0			
Levodopa (Alone or with Decarboxylase Inhibitor)	1,499	848	112	5	1	672	1	55	2	744	63	2	31	212	153	107	78	2	0			
Levodopa and Carbidopa with Other Drugs	66	38	9	1	0	23	1	4	0	33	2	0	1	10	12	3	4	0	0			
Other Parkinson Drugs (Including Combinations)	1,124	474	144	10	23	262	1	33	1	393	56	1	20	198	78	137	55	3	0			
Category Total:	24,936	16,412	4,417	687	899	8,834	29	1,420	126	14,623	896	25	746	2,947	3,115	1,609	575	54	6			
Muscle Relaxants																						
Miscellaneous Muscle Relaxants																						
Baclofen	4,424	1,860	209	57	134	1,400	1	50	9	695	930	19	121	1,442	229	311	573	296	8			
Carisoprodol (Formulated Alone)	675	293	5	2	13	269	0	2	2	45	230	1	4	257	21	86	89	35	1			
Cyclobenzaprine	7,665	3,152	630	173	281	1,942	0	111	15	1,578	1,441	1	83	1,874	629	698	571	101	4			
Metaxalone	218	115	8	2	10	89	0	6	0	80	34	0	1	40	20	20	14	2	1			
Methocarbamol	2,493	953	112	26	91	664	1	48	11	421	482	2	34	581	212	249	130	29	0			
Other Types of Muscle Relaxant	366	138	15	4	18	91	0	10	0	59	66	0	7	88	33	28	19	8	0			
Tizanidine	4,558	1,936	210	50	84	1,506	1	75	10	858	916	11	100	1,322	233	399	612	95	2			
Unknown Types of Muscle Relaxant	162	30	0	0	5	24	0	1	0	2	27	0	0	27	6	7	9	4	0			
Category Total:	20,561	8,477	1,189	314	636	5,985	3	303	47	3,738	4,126	34	350	5,631	1,383	1,798	2,017	570	16			
Narcotic Antagonists																						
Miscellaneous Narcotic Antagonists																						
Miscellaneous Narcotic Antagonist	1,492	608	66	14	41	426	3	49	9	332	154	14	87	265	88	86	72	50	0			
Category Total:	1,492	608	66	14	41	426	3	49	9	332	154	14	87	265	88	86	72	50	0			
Radiopharmaceuticals																						
Miscellaneous Radiopharmaceutical Specific Pharmaceutical Radionuclides																						
Radiopharmaceutical Specific Pharmaceutical Radionuclides	40	31	3	2	1	24	0	1	0	17	0	2	11	17	7	1	6	0	0			
Category Total:	40	31	3	2	1	24	0	1	0	17	0	2	11	17	7	1	6	0	0			
Sedative/Hypnotics/Antipsychotics																						
Barbiturates																						
Long Acting Barbiturates	1,129	635	133	17	35	417	0	33	0	499	87	2	30	188	132	62	56	27	2			
Short or Intermediate Acting Barbiturates	118	63	3	0	7	42	0	9	2	46	11	1	1	35	8	19	4	6	0			
Unknown Types of Barbiturate	27	4	1	1	1	1	0	0	0	2	1	1	0	4	0	1	0	0	0			
Miscellaneous Sedative/Hypnotics/Antipsychotics																						

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

No. of Case Mentions	No. of Single Exposures	Age							Reason					Treated in Health Care Facility				Outcome		
		≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unit	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death		
																			5,413	10,160
43,822	16,541	1,600	787	2,999	10,601	5	451	98	5,413	10,160	41	666	2,814	4,161	4,109	701	17			
44,346	15,911	1,895	425	1,728	11,151	9	541	162	4,630	10,396	245	325	2,965	4,735	2,974	570	13			
8,548	2,489	390	84	457	1,467	0	79	12	969	1,404	2	93	1,586	686	259	22	1			
9	5	0	0	0	4	0	0	1	1	2	2	0	4	3	3	0	0			
5	5	2	1	1	0	0	1	0	3	1	0	0	3	1	3	0	0			
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
6	3	0	0	0	3	0	0	0	3	0	0	0	0	0	0	0	0			
4	1	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0			
7,613	3,177	253	91	182	2,509	2	122	18	1,076	1,937	14	57	2,210	965	611	121	3			
2,355	922	69	15	56	736	0	35	11	279	442	45	133	706	205	277	48	1			
2,013	821	79	33	90	577	1	39	2	390	335	2	81	502	174	185	20	0			
1,999	1,411	789	17	112	458	0	29	6	899	481	1	19	633	196	190	19	0			
166	49	0	0	7	34	0	5	3	2	38	4	4	38	5	18	2	0			
Category Total:	112,162	5,214	1,471	5,675	28,000	17	1,344	316	14,212	25,295	360	1,409	30,062	7,759	11,220	8,689	1,536	37		
Serums, Toxoids, Vaccines																				
Miscellaneous Serums, Toxoids and Vaccines																				
2,145	1,828	292	177	130	1,018	8	178	25	1,202	9	2	607	489	166	352	133	13	0		
Category Total:	2,145	2,921	1,777	1,301	1,018	8	1,781	25	1,202	9	2	607	489	166	352	133	13	0		
Stimulants and Street Drugs																				
Cannabinoids and Analogs																				
4,048	3,419	1,391	389	372	1,138	10	103	16	2,145	855	11	373	1,883	483	653	39	2			
733	563	244	26	201	79	0	11	2	282	240	5	30	329	36	177	115	16	0		
82	74	48	1	14	8	1	2	0	53	15	0	6	34	9	25	15	0	0		
34	28	12	2	6	7	0	0	1	18	7	0	3	14	2	10	4	1	0		
55	43	12	4	21	4	1	1	0	13	30	0	0	26	3	13	13	1	0		
8	8	4	1	0	3	0	0	0	4	4	0	0	4	1	4	1	0	0		
10	9	5	0	2	2	0	0	0	5	4	0	0	6	1	2	1	1	0		
762	583	192	37	156	179	0	13	6	269	269	4	33	417	56	170	148	15	0		
8,526	3,994	1,612	412	782	987	9	153	39	2,281	1,284	77	222	2,738	292	1,030	123	0			
11,735	10,512	4,301	1,863	1,683	2,414	17	186	48	6,668	3,033	120	534	7,502	741	2,796	209	0			
124	96	31	13	12	37	0	3	0	52	29	1	13	59	12	23	24	2	0		
1,523	553	270	43	91	127	2	18	2	324	150	12	29	443	27	129	212	30	0		
65	43	14	4	3	19	0	3	0	21	12	0	10	29	3	16	8	0	0		
34	32	18	1	1	8	0	3	1	29	2	0	1	8	9	3	0	0	0		
27	15	8	1	0	5	0	1	0	11	3	0	1	8	2	3	1	0	0		
129	114	31	9	20	48	0	4	2	52	52	1	7	80	4	34	30	2	0		

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age						Reason						Treated in Health Care Facility				Outcome			
			Age						Reason						Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death				
Synthetic Cannabinoids, Analogs and Precursors	537	293	39	14	72	152	0	13	3	81	192	2	4	248	24	63	112	28	2			
Diet Aids	9	6	2	0	2	2	0	0	0	4	2	0	0	1	2	2	1	0	0			
Diet Aids: Phenylpropanolamine and Caffeine Combinations																						
Diet Aids: Phenylpropanolamine Only	5	4	2	1	0	0	0	1	0	4	0	0	0	1	2	0	0	0	0			
Other Types of Diet Aid, Over the Counter Only	94	63	31	1	11	17	0	3	0	39	17	0	5	26	10	12	9	0	0			
Other Types of Diet Aid, Prescription Only	17	11	6	0	1	4	0	0	0	10	1	0	0	5	3	2	1	0	0			
Unknown Types of Diet Aid	30	17	7	0	2	8	0	0	0	8	2	0	7	9	1	2	4	0	0			
Miscellaneous Stimulants and Street Drugs	16,918	10,083	2,869	1,473	1,837	3,580	7	263	54	7,090	2,608	28	192	4,666	2,178	1,687	1,555	123	7			
Amphetamines and Related Compounds	353	298	15	2	12	239	0	25	5	104	169	4	9	189	29	42	64	24	0			
Amyl or Butyl Nitrites (Street Drugs)	3,311	2,515	1,014	138	409	835	2	95	22	1,600	534	26	323	613	253	419	254	15	1			
Caffeine	5,212	1,162	108	19	64	841	3	90	37	214	833	33	12	941	132	175	311	148	28			
Cocaine	64	42	13	1	2	21	0	4	1	25	13	0	3	16	8	6	7	1	0			
Ephedrine	558	387	11	3	15	330	0	19	9	98	226	35	3	324	17	58	97	117	0			
gamma-Hydroxybutyric Acid including Analogs or Precursors	126	52	4	1	8	37	0	2	0	4	41	2	0	43	5	9	17	8	0			
Hallucinogenic Amphetamines	1,278	794	67	3	37	627	0	45	15	134	497	38	99	586	66	167	248	55	3			
Kratom	630	313	10	4	180	101	0	12	6	23	271	5	4	264	15	69	137	14	0			
Lysergic acid diethylamide (LSD)	55	44	12	1	2	22	1	4	2	34	3	1	4	15	5	12	1	1	0			
Mescaline/Pebyte	7,600	3,162	245	31	103	2,450	6	260	67	510	2,438	84	32	2,530	329	544	993	275	137			
Methamphetamines	9,260	6,104	1,371	2,372	1,477	790	9	68	17	4,766	1,188	8	103	1,956	1,305	895	649	23	1			
Methylphenidate	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Other Hallucinogens	561	325	123	14	48	126	1	11	2	220	65	0	33	120	60	58	40	2	0			
Other Stimulants (Excluding Amphetamines)	35	23	2	0	5	15	0	1	0	3	18	1	0	16	2	1	10	2	0			
Other Street Drugs	42	26	2	0	7	15	0	1	1	4	18	1	1	22	1	7	4	9	0			
Other Synthetic Street Drugs	325	116	12	1	9	82	0	10	2	22	79	8	1	99	11	9	39	26	0			
Phenylcyclohexylpiperidine (PCP)	105	59	6	0	5	42	0	4	2	8	40	6	0	44	2	9	25	5	1			
Synthetic Cathinones, Analogs and Precursors	1,357	568	35	7	96	382	0	31	17	78	450	15	6	476	39	111	197	53	1			
Synthetic Phenethylamines, Analogs, and Precursors	78	36	3	0	3	25	0	3	2	6	26	2	1	31	0	6	16	3	0			
Synthetic Tryptamines, Analogs and Precursors	7	5	0	0	2	2	0	1	0	1	3	1	0	5	0	1	2	0	0			
Unknown Hallucinogens	237	159	8	6	26	90	0	27	2	59	78	6	1	117	14	22	42	22	3			
Unknown Stimulants or Street Drugs	76,702	46,753	14,210	6,898	7,799	15,900	69	1,494	383	27,376	15,801	537	2,105	26,943	6,194	10,374	9,886	1,393	186			
Category Total:																						
Topical Preparations																						
Miscellaneous Topical Preparations	1,642	1,518	610	93	248	434	4	117	12	1,406	39	1	56	109	211	137	22	0	0			
Acne Preparations	3,909	3,884	172	6	371	2,882	0	417	36	3,837	16	1	27	298	631	188	11	0	0			
Boric Acid or Borates (As Antiseptics, Excluding Insecticides)	1,230	1,179	701	49	20	349	2	55	3	1,159	12	1	5	74	152	158	6	0	0			
Calamine (Including All Caladryl Type Products)	8,970	8,763	6,439	312	198	1,500	27	260	27	8,430	163	20	103	1,117	2,064	1,048	78	8	1			
Camphor																						

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age						Reason					Treated in Health Care Facility				Outcome				
			≤5		6-12		13-19		≥20		Unknown Child	Unknown Adult	Unknown Age	Unint	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death
Camphor and Methyl Salicylate Combinations	878	854	485	51	22	240	1	53	2	813	10	1	24	94	163	121	7	0	0	0	0	
Diaper Care and Rash Products	17,802	17,493	16,326	227	118	597	68	138	19	17,307	36	50	68	446	2,284	733	20	0	0	0	0	
Hexachlorophene Containing Antiseptics	24	24	12	0	0	12	0	0	0	21	1	0	2	3	2	5	1	0	0	0	0	
Hydrogen Peroxide 3% Iodine or Iodine Containing Antiseptics	7,094	6,643	1,658	329	377	3,566	7	662	44	6,247	254	35	75	624	623	1,168	78	2	0	0	0	
Mercury Containing Antiseptics	1,310	1,172	165	59	66	735	4	135	8	990	88	4	83	178	186	170	14	2	0	0	0	
Methyl Salicylate	27	25	12	1	3	6	0	3	0	21	2	1	1	6	5	3	1	0	0	0	0	
Minoxidil, Topical	2,687	2,625	1,598	110	61	669	4	173	10	2,514	28	5	66	270	464	340	17	1	0	0	0	
Other Types of Rubefacient or Liniment (Excluding Camphor and Methyl Salicylate)	231	219	80	4	7	107	1	19	1	188	8	3	18	50	41	26	15	1	0	0	0	
Other Types of Topical Antiseptic	2,368	2,326	1,575	47	44	544	2	104	10	2,144	19	5	150	106	305	324	21	0	0	0	0	
Podophyllin	1,849	1,766	570	83	71	872	2	153	15	1,645	52	5	51	273	237	249	29	2	0	0	0	
Silver Nitrate	76	74	22	6	6	37	1	2	0	58	10	0	6	16	15	13	3	0	0	0	0	
Topical Steroids (Including Otic, Ophthalmic, and Dermal Preparations)	92	83	15	1	26	29	0	9	3	69	6	1	7	19	14	19	2	1	0	0	0	
Topical Steroids in Combination with Antibiotics (Including Otic, Ophthalmic, and Dermal Preparations) and Other Keratolytics	6,791	6,607	3,153	525	167	2,178	19	530	35	6,459	37	8	83	139	922	245	13	0	0	0	0	
Topical Steroids in Combination with Antibiotics (Including Otic, Ophthalmic, and Dermal Preparations)	1,181	1,142	511	53	33	426	2	108	9	1,092	16	1	31	47	135	120	12	0	0	0	0	
Wart Preparations and Other Keratolytics	839	831	408	71	25	268	2	48	9	773	10	3	42	134	138	120	24	2	0	0	0	
Category Total:	59,000	57,228	34,512	2,027	1,863	15,451	146	2,986	243	55,173	807	145	898	4,003	8,592	5,187	374	19	1	1	1	
Miscellaneous Unknown Drug																						
Miscellaneous Unknown Drugs	25,180	16,095	3,131	747	2,458	8,346	56	925	432	5,057	6,687	966	566	12,435	2,287	2,333	3,587	2,204	194	194	194	
Category Total:	25,180	16,095	3,131	747	2,458	8,346	56	925	432	5,057	6,687	966	566	12,435	2,287	2,333	3,587	2,204	194	194	194	
Veterinary Drugs																						
Miscellaneous Veterinary Drugs without Human Equivalent	6,631	5,915	1,385	125	133	3,590	10	623	49	5,765	74	17	40	425	1,107	488	71	12	0	0	0	
Category Total:	6,631	5,915	1,385	125	133	3,590	10	623	49	5,765	74	17	40	425	1,107	488	71	12	0	0	0	
Vitamins																						
Miscellaneous Vitamins	704	490	354	36	11	79	0	8	2	449	16	2	22	51	85	20	5	0	0	0	0	
Other Types of Vitamin	806	584	430	62	20	57	1	11	3	522	38	1	16	66	107	27	3	1	0	0	0	
Unknown Types of Vitamin																						
Multiple Vitamin Liquids:																						
Multiple Vitamin Liquids: Adult Formulations with Fluoride (No Iron)	12	11	7	1	2	1	0	0	0	11	0	0	0	0	1	0	0	0	0	0	0	
Multiple Vitamin Liquids: Adult Formulations with Iron (No Fluoride)	262	205	110	13	8	65	1	8	0	171	8	0	26	13	28	12	2	0	0	0	0	
Multiple Vitamin Liquids: Adult Formulations with Iron and Fluoride	16	9	7	0	0	2	0	0	0	9	0	0	0	2	2	0	0	0	0	0	0	

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age						Reason				Treated in Health Care Facility				Outcome			
			≤5	6-12	13-19	20	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death
Multiple Vitamin Liquids: Adult Formulations without Iron or Fluoride	521	427	258	34	20	95	1	19	0	374	19	1	31	40	58	22	3	0	0	
Multiple Vitamin Liquids: Pediatric Formulations																				
Multiple Vitamin Liquids: Pediatric Formulations with Fluoride (No Iron)	102	100	97	1	1	1	0	0	0	99	1	0	0	4	12	3	0	0	0	
Multiple Vitamin Liquids: Pediatric Formulations with Iron (No Fluoride)	498	466	440	18	2	4	1	1	0	458	1	0	6	29	84	28	0	0	0	
Multiple Vitamin Liquids: Pediatric Formulations with Iron and Fluoride	13	11	11	0	0	0	0	0	10	0	0	1	0	1	2	0	0	0	0	
Multiple Vitamin Liquids: Pediatric Formulations without Iron or Fluoride	834	751	636	89	7	8	7	4	0	736	11	0	3	35	103	23	1	0	0	
Multiple Vitamin Tablets: Adult Formulations																				
Multiple Vitamin Tablets: Adult Formulations with Fluoride (No Iron)	73	57	48	4	1	2	0	1	1	55	0	0	1	2	6	0	0	0	0	
Multiple Vitamin Tablets: Adult Formulations with Iron (No Fluoride)	3,989	3,034	2,253	97	96	515	4	65	4	2,820	126	5	70	276	565	144	18	2	0	
Multiple Vitamin Tablets: Adult Formulations with Iron and Fluoride	34	16	4	3	1	7	0	1	0	12	2	0	2	2	1	1	0	0	0	
Multiple Vitamin Tablets: Adult Formulations with Iron	74	65	51	5	2	6	0	1	0	57	4	0	3	8	17	3	0	0	0	
Multiple Vitamin Tablets: Adult Formulations without Iron or Fluoride	10,754	8,629	6,481	940	309	721	19	146	13	8,128	331	8	130	478	1,574	245	18	4	0	
Multiple Vitamin Tablets: Pediatric Formulations																				
Multiple Vitamin Tablets: Pediatric Formulations with Fluoride (No Iron)	120	113	99	13	1	0	0	0	0	111	2	0	0	3	22	1	0	0	0	
Multiple Vitamin Tablets: Pediatric Formulations with Iron (No Fluoride)	3,108	2,873	2,501	267	43	42	9	7	4	2,806	57	0	7	215	603	163	6	0	0	
Multiple Vitamin Tablets: Pediatric Formulations with Iron and Fluoride	15	12	7	5	0	0	0	0	0	12	0	0	0	2	2	0	0	0	0	
Multiple Vitamin Tablets: Pediatric Formulations with Iron Carbonyl (No Fluoride)	32	27	25	1	0	1	0	0	0	27	0	0	0	0	3	2	0	0	0	
Multiple Vitamin Tablets: Pediatric Formulations without Iron or Fluoride	16,501	15,592	13,060	2,174	226	85	31	13	3	15,085	447	1	24	489	2,174	376	12	0	0	
Multiple Vitamins, Unspecified Adult Formulations with Fluoride (No Iron)	6	6	6	0	0	0	0	0	0	6	0	0	0	0	2	0	0	0	0	

(continued)

Table 22B. Demographic profile of SINGLE SUBSTANCE Pharmaceuticals exposure cases by generic category – Continued.

	No. of Case Mentions	No. of Single Exposures	Age					Reason					Treated in Health Care Facility				Outcome		
			≤5	6-12	13-19	≥20	Unknown Child	Unknown Adult	Unknown Age	Unint	Int	Other	Adv Rxn	Health Care Facility	None	Minor	Moderate	Major	Death
Multiple Vitamins, Unspecified Adult Formulations with Iron (No Fluoride)	743	537	402	19	11	93	1	11	0	507	18	0	12	65	96	37	2	0	0
Multiple Vitamins, Unspecified Adult Formulations with Iron and Fluoride	10	5	3	0	0	2	0	0	5	0	0	0	0	0	1	0	0	0	0
Multiple Vitamins, Unspecified Adult Formulations without Iron or Fluoride	603	509	401	49	18	33	1	7	483	19	0	6	48	81	20	3	0	0	0
Multiple Vitamins, Unspecified Pediatric Formulations																			
Multiple Vitamins, Unspecified Pediatric Formulations with Fluoride (No Iron)	12	11	11	0	0	0	0	0	11	0	0	0	0	0	3	0	0	0	0
Multiple Vitamins, Unspecified Pediatric Formulations with Iron (No Fluoride)	70	61	55	5	1	0	0	0	58	1	0	1	4	10	2	0	0	0	0
Multiple Vitamins, Unspecified Pediatric Formulations with Iron and Fluoride	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Multiple Vitamins, Unspecified Pediatric Formulations without Iron or Fluoride	926	865	722	129	6	5	2	1	842	22	0	0	25	127	32	0	0	0	0
Other Vitamins																			
Other B Complex Vitamins	4,795	2,801	2,083	161	76	404	4	62	2,567	111	3	95	223	459	68	14	2	0	0
Vitamin A	406	316	163	13	11	95	2	30	286	6	1	22	20	55	10	1	0	0	0
Vitamin B3 (Niacin)	605	471	103	8	20	291	1	46	209	64	0	197	110	29	138	30	1	0	0
Vitamin B6 (Pyridoxine)	405	248	187	6	1	48	0	6	227	7	0	13	15	33	9	5	1	0	0
Vitamin C	2,316	1,384	971	170	43	159	3	35	1,276	67	2	35	83	194	72	6	0	0	0
Vitamin D	10,448	7,041	4,671	442	245	1,438	14	211	6,692	215	3	107	658	1,145	262	29	0	0	0
Vitamin E	735	458	321	27	13	71	3	23	413	22	2	18	33	90	19	3	0	0	0
Category Total:	60,549	48,185	36,978	4,792	1,195	4,330	105	717	45,534	1,615	30	847	3,000	7,774	1,739	161	11	0	0
Pharmaceuticals Total:	1,508,789	930,959	389,547	65,803	103,678	332,337	1,240	33,548	674,510	211,283	3,798	29,989	309,153	176,066	115,491	73,954	18,322	1,272	0
GRAND TOTAL (Nonpharmaceuticals + Pharmaceuticals):	2,500,333	1,801,654	804,402	127,421	144,350	611,229	4,920	96,224	1,469,910	249,164	18,059	45,853	462,165	302,268	257,141	104,128	21,399	1,627	0

APPENDIX C

Abstracts of Selected Cases

Selection of Abstracts for Publication

The abstracts included in Appendix C were selected for publication in a 3-stage process consisting of qualifying, ranking, and reading. Changes in place since the 2014 report for the selection of the top 200 cases: include all pregnant subjects with RCF 1-3, include all children (0-2 y/o) subjects, increase (double) the weight on the autopsy report, add a weighting for Age of subject (1/age in years), add a weighting for infrequency of substance category (Generic Code).

Qualifying cases were thus: Age 0-2 y/o, Pregnant, or RCF 1-Undoubtedly Responsible, 2-Probably Responsible or 3-Contributory. Fatalities by Indirect report were excluded beginning with the 2008 annual report. The ranking was based on Final Case Weighting (FCW).

$$FCW = f [1/(\text{num substances in this case}), WCS, 1/\text{Age (years)}, 1/(\text{num cases in that generic code this year})]$$

Where:

$$\begin{aligned} \text{Weighted Case Score (WCS)} = & \text{Hospital records} * 8.8 \\ & + \text{Postmortem} * 15.2 \\ & + \text{Blood levels} * 6.9 \\ & + \text{Quality/Completeness} * 6.4 \\ & + \text{Novelty/Educational value} * 13.2 \end{aligned}$$

WCS Scores were normalized (z-score) within each America's Poison Centers reviewer before the final weighting: 25% for each (1/NumSubstances, WCS, 1/Age, 1/NumCodes).

The WCS weighting factors were the averages of review team recommendations gathered in 2006.

The top ranked abstracts (200 ties) were each read by individual reviewers who volunteered (See Appendix E) and the 2 managers (DAS and JBM). Each reader judged each abstract as "publish" or "omit" and all abstracts receiving 9 or more of 12 publish votes were selected, further edited, cross-reviewed by the 2 managers, MCB, and DDG, and published in this report.

Abstracts

Abstracts of the cases were selected (see Selection of Abstracts for Publication, above) from the human fatalities judged related to an exposure as reported to US PCs in 2022. A structured format for abstracts was required in the PC preparation of the abstracts and was used in the abstracts presented. Abbreviations, units and normal ranges omitted from the abstracts are given at the end of this appendix.

Case 96. Acute disc battery and penny ingestion: probably responsible

Scenario/Substances: A 9 m/o female was seen to swallow what her mother thought was a disc battery. She tried to "retrieve it" manually but was not successful. The child immediately developed oral bleeding. The mother then called EMS who transported her to the ED.

Clinical Course: In the ED, the child had a "massive upper GI bleed". CT showed an object resembling a button battery in the stomach with no perforation. She was intubated and blood

products were administered. Endoscopy was attempted but aborted due to bleeding. Her abdomen then became distended, and she was taken to the OR for gastrotomy. A 20mm disc battery was removed in addition to a penny. There was no evidence of erosion or burn in stomach, but the upper esophagus appeared injured (injury not described). A Blakemore tube was placed. She was admitted to the ICU and developed organ failure. She hemorrhaged again and died on Day 2. Gastroenterologist suspected that what mom thought was a battery being swallowed was the penny, and that the battery that was found in stomach was swallowed some time before the penny event and had probably caused the esophageal injury. It was assumed the battery moved from esophagus to stomach on its own or associated with the penny ingestion.

Autopsy Findings: Not available.

Case 98. Acute envenomation (crotalinae): undoubtedly responsible

Scenario/Substances: A 6 y/o male biking with father in open space on a dirt trail in the early evening. He got off his bike to investigate the mile marker and suddenly screamed "snake! snake!", ran to father, and then collapsed in father's arms. Father did not have cell phone with him, so ran through the field to nearest residence to get help. EMS was called and found the patient pale and dusky with pulses. Respirations were agonal and a supraglottic airway was placed. During transport, he suffered a VT arrest and PALS was initiated.

Past Medical History: Ureteropelvic junction obstruction history.

Physical Exam: Unresponsive, no obvious bite site. Scattered ecchymotic lesions on inner thighs and at IV sites. Following ROSC and intubation, and on an epinephrine drip: BP 91/65, HR 169, RR 30, O₂ Sat 100 %, T 36°C.

Laboratory/Diagnostic Findings: CO₂ 15 / Cr 1.2, lactate 12 mmol/L, "AST/ALT in the 500s", INR 2.7, Hgb 12.8 / Plt 11, fibrinogen 63. ABG-pH < 7 "on maximum ventilatory support - 10L/kg tidal volume, RR 30, PEEP 10". ECG: VT.

Clinical Course: He arrived at the hospital in PEA arrest. Standard PALS continued and required 20min of CPR until ROSC. The patient then required escalating vasopressors following ROSC. He was transferred to a tertiary care center. He had a large volume bleed from his NG as well as multiple IV sites. Hgb fell to 5.8. He received a total of 30 vials of Crotalidae polyvalent Fab antivenom over a period of 12h as well as blood products (PCC, platelets, PRBCs, and cryoprecipitate). The patient became hypoxic on maximum ventilatory settings, and concern for DIC was discussed given pulmonary embolism risk. He was noted to have edematous face and lips, and anaphylaxis was noted as a concern, so methylprednisolone given. The patient was transferred to a second tertiary children's hospital for ECMO and CRRT as he had developed oliguric renal failure. An additional 10 vials of Crotalidae immune F(ab)₂ antivenom was given on arrival to this hospital for ongoing hypotension. Pressors were weaned following this dose. CRRT was started for profound volume overload. His CT head and neurologic exam were concerning for severe cerebral edema. ECHO of his heart showed minimally reduced EF of left and right ventricles. Additional antivenom was held given concern he would likely not survive. The patient developed vital signs concerning for brain herniation and was declared brain dead. Based on the prognosis, comfort measures were instituted, and he died 4 days following initial event.

Autopsy Findings: Not performed.

Case 99. Acute envenomation (*Crotalinae*): undoubtedly responsible

Scenario/substance: A 38 y/o female was walking her dog and was bitten on her right lateral distal dorsal foot by a medium-sized brown snake with a triangular/diamond shaped pattern; this was most likely consistent with an Eastern Diamondback based on geography. Initially she felt fine and refused EMS transport, then developed pain in her leg, difficulty breathing and weakness.

Past Medical History: Thyroid disease, no previous snake bites. Home medications: None.

Physical Exam: BP 82/48, HR 55, RR 26, T 36°C, O₂ sat 99%. Initially lungs clear, normal breath sounds. Two fang marks on right ankle with no bleeding or bruising, but with some swelling up to mid-thigh.

Laboratory/Diagnostic Findings: Na 137 / K 4.2 / Cl 109/ CO₂ 22 / BUN 13 / Cr 1.02 / Glu 153, PTT <19.6 / PT 10.3 / INR 0.94, WBC 4.4 / Hgb 11.8 / Hct 37.4 / Plt 295. Ethanol was not detected. CxR: Unremarkable. Thromboelastography showed hypercoagulability: R time 1.7min, K time 0.8min, Angle degree 84.9, Max amplitude 67.5.

Clinical Course: During transport to the hospital, she became confused, developed respiratory distress and was hypoxic; there was no facial swelling, rash, or angioedema. IM epinephrine, diphenhydramine, methylprednisolone, and IVF were given; she was hypertensive with systolic BP 180 upon arrival. Within a few minutes of arrival her BP decreased to 74/54; IM then IV epinephrine were initiated as well as albumin. She became bradycardic and developed vomiting. About 50 minutes from the bite, she was lethargic and confused with oxygen saturations of 80%. As they intubated her (at 77 minutes post bite), she vomited blood which added to the frothy sputum that filled the airway and she had 2 episodes of lost pulses requiring CPR. Six vials of Crotalidae polyvalent Fab antivenom were administered right after intubation and she was sedated on propofol and fentanyl. Her second CxR demonstrated diffuse airspace opacity. Despite neuromuscular blockade to optimize respirations her oxygen saturations only rose to 80% on 100% FiO₂; large amounts of froth emanated from her ET tube. By 2h post envenomation she was on ECMO; her EF a little later was only 20%. By 8.75h she had received a total of 12 vials of Crotalidae polyvalent Fab. Her PT/INR, platelets and fibrinogen were normal. On Day 2 she had received a total of 20 vials of Crotalidae polyvalent Fab antivenom; her Plt and fibrinogen remained normal with her hemoglobin falling to 9.8. On Day 3 she was off vasopressors and decannulated with improved pulmonary exam and CxR; she received some PRBC for anemia. She was continued on heparin and her platelets, PT/INR and fibrinogen remained stable. On Day 6 she was found to have a large intraparenchymal hemorrhage, subarachnoid hemorrhage with midline shift and edema; this was deemed non-operable by neurosurgery. On Day 13 she was back on ECMO for ARDS. Her condition worsened, care was withdrawn, and she died on Day 17 and went for organ donation.

Autopsy Findings: Cause of death: complications from venomous snake bite. Manner of death: accident.

Case 100. Acute envenomation (*Loxosceles reclusa*): probably responsible

Scenario/Substances: A 44 y/o male was cleaning a ceiling fan when what he described to be a brown recluse spider fell on his face and bit him below his right eyebrow. The following night ~24h later he presented to the ED with swelling to the right side of his face and angioedema that started ~8h after he was bitten.

Past Medical History: Patient denied any significant PMH.

Physical Exam: BP 108/67, HR 129, RR 18, O₂ sat 91% on RA, T 36.8°C. Vitals after intubation: BP 88/52, HR 135, RR 18, O₂ sat 96% on vent with 100% FiO₂.

Laboratory/Diagnostic Findings: ABG-pH 7.05 / pCO₂ 12 / HCO₃ 11.6 / BE -18, CO₂ < 10 / Cr 3.9, INR 2.0, fibrinogen 501, fibrin degradation products > 20, d-dimer 10.79, hepatic transaminases elevated, bilirubin elevated, myoglobin > 3000, Hct 10 / Hct 34 / RBC 3.9 / Plt 99.

Clinical Course: The patient was initially talkative and interactive. A bite mark was evident above the right eyebrow. The patient's face was swollen with significant ecchymoses to the right side of his face. The swelling extended down to the level of the lips at the time of presentation with obvious angioedema of the right side of the lips and face extending to just below the jawline. The ecchymoses extended to the level of the eye and beyond. The eyelids were swollen shut and the eye was proptotic. Due to the degree of swelling and bruising the eyeball was poorly visualized but the patient stated that he had lost vision in that eye earlier and that vision was getting blurry in the left eye. The patient had bloody and serosanguineous discharge from the eye at presentation. The patient had no tongue involvement related to the angioedema on presentation and did not endorse respiratory distress initially, but his initial RA saturation was in the low 90s. The patient was intubated due to a decrease in O₂ sats and the extent of swelling to his lips and face. The physician noted that on intubation the patient's trachea was deviated. The ED physician also performed lateral canthotomy with cantholysis for orbital compartment syndrome. The patient was admitted to ICU for sepsis workup. He was receiving IV fluids, multiple vasopressors, and broad-spectrum antibiotic therapy. The patient died later that morning.

Autopsy Findings: Not performed.

Case 102. Acute envenomation (*Crotalinae*): undoubtedly responsible

Scenario/Substances: A 60 y/o male was bitten by a rattlesnake at the top of his left shoulder while holding the snake around his neck at a rattlesnake roundup. He was intubated en route to the emergency department due to respiratory distress and was given epinephrine and dopamine for hypotension.

Physical Exam: 4h post-exposure, the patient had developed swelling towards his back, around his bicep, and into his neck. Pulses and capillary refill were both reported as good. BP 147/59, HR 122, O₂ sat 100% on RA, afebrile.

Laboratory/Diagnostic Findings: Chemistry unremarkable except: Glu 214 / Cr 1.26, WBC 19.8 / Plt 34, PT 33.9, INR 2.97, CK 657, troponin 565. EKG: NSR.

Clinical Course: The patient was intubated and ventilated, on vasopressors, and had been given diphenhydramine, hydrocortisone, sodium bicarbonate, and tetanus vaccine. He had received 6 vials of Crotalidae polyvalent Fab antivenom 3h after the bite. The patient had swelling to his tongue, which was protruding from his mouth, and his lung sounds were not audible. He was also anuric. He developed progressive hypotension and bradycardia and had received dopamine, norepinephrine, vasopressin, and epinephrine. He had received sodium bicarbonate 21 times by IV push, and had also received 4 units of blood, 4 units of FFP, 80 mEq potassium chloride, and 4 grams of magnesium. Repeat labs were plt 34, fibrinogen 35, PT 32.6, INR 2.85. In total the patient received 18 vials of Crotalidae polyvalent Fab antivenom. The patient died 7.5h after the bite.

Autopsy Findings: Not available.

Case 120. Acute sodium nitrate ingestion: undoubtedly responsible

Scenario/Substances: A 21 y/o female reportedly took sodium nitrate.

Past Medical History: Depression.

Physical Exam: In the ED she was unresponsive, hypotensive, tachycardic and cyanotic.

Laboratory/Diagnostic Findings: Na 150 / K 3.4 / Cl 113 / CO₂ 11 / BUN 14 / Cr 0.69 / Glu 149. pH 6.98 / PCO₂ 43 / PaO₂ 7 / HCO₃ 10. Serum APAP, ethanol and salicylate not detected. Methemoglobin 55.1%.

Clinical Course: She arrested but responded to CPR and intubation with ROSC. Methylene blue 2mg/kg was given. After 3.5 mg/kg of methylene blue follow-up methemoglobin was 26.4%. She was admitted to the ICU and sedated with fentanyl and propofol. She received sodium bicarbonate drip and additional methylene blue to a total of 4mg/kg. Methemoglobin level after treatment was 1.7%. On Day 2, the patient started to develop ARDS. Methemoglobin 2.6%. She was also started on NAC and vitamin C IV to prevent recurrence of methemoglobinemia. The patient was evaluated for brain death and donation. On Day 9, the decision was made to withdraw care and for organ procurement.

Autopsy Findings: Because of organ donation, autopsy was limited. ME concluded that based on the clinical course, patient history and elevated methemoglobin level, that the cause of death was toxicity from sodium nitrate and the manner of death was suicide.

Case 126. Acute sodium nitrite ingestion: undoubtedly responsible

Scenario/Substances: A 23 y/o male called his roommate and reported he "took something I shouldn't have". By the time the roommate arrived about 10minutes later, she found the patient unresponsive and "turning blue". EMS was called and on arrival to the scene, patient had cyanosis to face, lips, and nail beds with agonal respirations. Naloxone was administered without improvement. The patient's teeth were clenched so a nasal airway was placed and O₂ was administered by NRB. He began vomiting but likely aspirated because of clenched teeth. He was bagged and transported to the ED. Enroute his O₂ sats remained in the mid 80%.

Past Medical History: Depressed recently but without suicidal ideation. No home medications.

Physical Exam: Severe distress, ill-appearing, gray skin color, GCS 3. Vomit in mouth, diaphoretic, hypotensive, hypoxic not breathing on own. Cyanotic, cool, pale skin. Blue lips. Pupils fixed and dilated. Faint pulses in all extremities. Rhonchi auscultated. BP 92/44, HR 115, RR 36, O₂ sat 86% on RA.

Laboratory/Diagnostic Findings: Na 141 / K 3.3 / Cl 113 / CO₂ 22 / BUN 12 / Cr 1.32 / Glu 172 / AG 6, lactate 8mmol/L, AST 17, ALT 28, bilirubin 0.6, WBC 12.2 / Hgb 13.8 / Hct 40.8 / platelets 303, ABG-pH 7.32 / pCO₂ 34 / pO₂ 548 / HCO₃ 17.5 / BE -7.7. Serum APAP and salicylate not detected. Ethanol 4mg/dL. UDS negative. CxR: Intubated patient. Questionable findings of minimal left perihilar edema or infiltrates. CT Head: normal. CT Chest: Intubated patient with small focus of possible infiltrate involving the superior segment of the left lower lobe along with slight bibasilar atelectasis. ECG: HR 139, sinus tachycardia with short PR interval, nonspecific ST T wave abnormality; ST depression in lateral leads.

Clinical Course: Upon arrival to the ED, he was hypoxic and unresponsive so was intubated and mechanically ventilated but remained persistently hypoxic with O₂ sat 81%. FiO₂ and PEEP

were increased with no change in O₂ sat. 2L of IV fluid were administered for hypotension followed by norepinephrine. Arterial line placed; blood color noted to be brown. Norepinephrine titrated up to maximum dose. Vasopressin started for persistently low MAP. Patient sent to CT scan and EKG showed evidence of ST depression. CT of head, chest, abdomen and pelvis revealed no obvious pathology to explain his condition. A gastric tube was placed, and charcoal administered for presumed large fatal overdose. First ABG showed hyperoxia which did not correlate with pulse-oximetry. Lactate was elevated despite IV fluids and IV sodium bicarbonate, but patients HCO₃ continued to drop. Methylene blue and hydroxocobalamin were administered but the patient went into cardiac arrest shortly after returning from CT scan. CPR was performed for about 1 hour. Patient was in and out of polymorphic VT, multiple antiarrhythmics were administered and cardioversion was attempted. The patient died 90minutes after arrival to the ED.

Autopsy Findings: Marked pulmonary congestion. Postmortem subclavian blood Nitrates+Nitrites 3300 mcml/L (Reference Nitrites 0-0.35 [mean 0.17], Reference Nitrates 37.7 +/- 15.4). Death investigation of residence found suicide note and an opened container of sodium nitrite powder. Cause of death: acute nitrite intoxication.

Case 132. Acute sodium nitrite ingestion: undoubtedly responsible

Scenario/substance: A 26 y/o female was found unresponsive by her roommate after ingesting unknown amount of sodium nitrite in self-harm attempt. The chemical was found inside a "peaceful suicide kit".

Past Medical History: Cocaine abuse, depression, medical abortion earlier that day.

Physical Exam: Unresponsive. Left wrist lacerations. BP 42/18 during resuscitation.

Laboratory/Diagnostic Findings: ABG-pH 7.1 / HCO₃ 28, lactate 10mmol/L, Hgb 13.6g/dL, UDS positive for cocaine. MethHgb 90%.

Clinical Course: She was given naloxone with no response and required respiratory support on scene via EMS. She developed cardiac arrest several times; methylene blue was given with ROSC. She was intubated and required epinephrine, norepinephrine, and vasopressin for hypotension. Her color improved, but she remained hypoxic. She received 2 units of blood to help with oxygenation and an exchange transfusion. She was declared brain dead and became an organ donor on Day 2.

Autopsy Findings: Antemortem peripheral blood drawn on Day 1 was chocolate brown in color with MethHgb 95%. Cause of death: complications of sodium nitrite toxicity. Manner of death: suicide.

Case 157. Acute ethylene glycol ingestion: undoubtedly responsible

Scenario/Substances: A 54 y/o man texted family members that he planned to kill himself by drinking automobile radiator fluid. The following day family members found him unresponsive.

Past Medical History: Alcohol and cocaine abuse.

Physical Exam: In the ED he was unresponsive and in severe respiratory distress. BP 200s/100s, HR 90, RR 100, GCS 3, pinpoint pupils, urine fluorescent with Woods lamp.

Laboratory/Diagnostic Findings: Na 151 / K 5 / Cl 97 / CO₂ 6 / BUN 25 / Cr 3 / Glu 300 / AG, 48, AST 20, ALT 21. ABG-pH 6.8 / pCO₂ 27 / pO₂ 200 / HCO₃ 4, lactate 20mmol/L. Serum APAP, ethanol and salicylate not detected. UDS was positive for cocaine. CxR: unremarkable. ECG: HR 90, QRS 86, QTc 455.

Clinical Course: He was intubated for RR 100 shortly after arrival in the ED; propofol, fentanyl, midazolam, and ketamine were used. Fomepizole was started after initial labs showed profound metabolic acidosis. He was transferred to the ICU, where CRRT was started because he was judged too unstable for dialysis, and the fomepizole dose was increased on Day 1. Thiamine and folate were given, in cofactor doses. Day 2 lactate 35mmol/L and ethylene glycol 123mg/dL. He was on multiple vasopressors, still too unstable for hemodialysis, with worsening acidosis despite CRRT. Based on the prognosis, his family requested only comfort measures and he died on Day 2.

Autopsy Findings: The coroner found changes from hypertensive heart disease and mild atherosclerosis, as well as colonic diverticulitis, none of which were contributory to death. Cause of death: ethylene glycol toxicity with calcium oxalate crystals in kidneys and in several body fluids. Manner of Death: suicide.

Case 160. Chronic cobalt exposure: probably responsible

Scenario/Substances: A 58 y/o male presented to hospital with fatigue and recent CHF exacerbation.

Past Medical History: Chronic kidney disease stage 3, cardiomyopathy, hypothyroidism, hyperparathyroidism. s/p metal on metal hip replacement in 2009 and revised 2017.

Physical Exam: BP 111/70, HR 88, 111/70, RR 14, O₂ sat 99% on 2L nasal cannula. He was an easily fatigued male and hard of hearing. **Laboratory/Diagnostic Findings:** Na 132 / K 4 / Cl 102 / CO₂ 18 / BUN 20 / Cr 1, AST 34, ALT 73. Serum Cobalt > 600mcg/L.

Clinical Course: Patient exhibited hypothyroidism and new onset hearing loss. IV NAC was started. Discharge was planned, but he developed worsening dyspnea and over the next 48h refractory shock. IV NAC was continued. He was placed on BiPAP several days into hospitalization. On Day 7 he developed severe metabolic acidosis and cardiogenic shock refractory to vasopressors. Based on the prognosis, the family opted for institution of comfort measures, and he died on Day 9.

Autopsy Findings: Not performed.

Case 166. Acute borate ingestion, inhalation/nasal, dermal: probably responsible

Scenario/Substances: A 60 y/o male was found apneic after ingesting boric acid in a suicide attempt.

Past Medical History: HTN, anxiety, depression, hyperlipidemia, tobacco use disorder, type B aortic dissection with intramural hematoma (discovered one week prior to overdose and treated non-operatively before he left the hospital AMA), methamphetamine use.

Physical Exam: BP 82/46, HR 73, RR 0, O₂ sat 91% on 100% FiO₂ by bag valve mask; T 34.1°C; BMI 19.8. Dusky, pale, unresponsive, actively vomiting, pupils 3mm and reactive, dry mucous membranes, poor skin turgor, lungs clear bilaterally, heart regular rate and rhythm, abdominal distention, tight.

Laboratory/Diagnostic Findings: Na 142 / K 5.5 / Cl 106 / CO₂ 5 / BUN 21 / Cr 2.47 / Glu 70 / AG 31, Ca 9.3, Mg 2.3, Phos 6.9, AST 143, ALT 42, ALP 136, bilirubin 1.1, Tprot 7.1, albumin 3.2, Osm 332, OG 28, BNPT 1814, troponin 1.67, CK 3500, WBC 15 / Hgb 12.6 / Hct 35 / Plt 252, INR 1.2, ABG-pH 6.75 / pCO₂ 69 / pO₂ 60 / HCO₃ 10 / BE -26, lactate 22mmol/L. EKG: QRS 138, QTc 448, NSR. Serum APAP, ethanol and salicylate not detected. UDS positive for amphetamines. CxR: no acute pathology. CT chest/abdomen/pelvis: stable type B aortic dissection, right upper lobe PNA, multiple small bowel air-fluid levels.

Clinical Course: The patient was intubated, started on 3 vasopressors, received fomepizole, a sodium bicarbonate infusion, broad spectrum antibiotics, briefly underwent CVVHD until he became too hypotensive. Based on the prognosis, the family opted for institution of comfort measures, and he died 10h after presentation.

Autopsy Findings: Not performed. Cause of death was boric acid overdose, septic shock, and cardiogenic shock.

Case 209. Acute sodium hydroxide ingestion: undoubtedly responsible

Scenario/Substance: A 93 y/o female at an assisted living facility, accidentally ingested several sips of washing detergent (pH 13 containing 30% sodium hydroxide). She immediately began vomiting, drooling and had pain in her mouth and with swallowing; EMS was called. On EMS arrival her GCS was 10 and she was transported to the ED.

Past Medical History: Dementia, peripheral vascular disease.

Physical Exam: In the ED, listless and somnolent, upper and lower lips blistered, erythematous with inflamed oropharynx. Some drooling, no stridor. BP 136/67, HR 73, RR 21, O₂ sat 96% on RA, T 36.3°C.

Laboratory/Diagnostic Findings: Na 138 / K 4.2 / Cl 106 / CO₂ 22 / BUN 27 / Cr 0.57 / Glu 143 / AG 10, AST 157, ALT 21, bilirubin 0.6. WBC 7 / Hgb 12.1 / Hct 39.0 / Plt 185, CxR: Streaky opacities in the lung bases – atelectasis versus scarring.

Clinical Course: She was transitioned to comfort care (had advanced directive noting to be DNR/DNI and case discussed with daughter). ENT was consulted but decision was made not to pursue endoscopy or other procedure. She was admitted for symptomatic treatment with morphine for pain, and ondansetron and lorazepam as needed. She died on Day 3.

Autopsy Findings: Chemical burns to the oral cavity, esophagus and stomach. Cause of Death: "Ingestion of alkaline cleaning solution".

Case 213. Hand sanitizer (methanol) ingestion: undoubtedly responsible

Scenario/Substances: A 29 y/o man drank sake at a restaurant and developed abdominal pain, nausea, and vomiting. Three days later, he called EMS due to continued nausea/vomiting, chest pain, and dyspnea.

Past Medical History: Alcohol use disorder, cardiomyopathy related to alcohol use. His wife reported that he sometimes drank vanilla extract and hand sanitizer.

Physical Exam: In the ED nausea, vomiting, chest pain, dyspnea. BP unobtainable, HR 140, RR 22, O₂ sat 97% on vent, afebrile

Laboratory/Diagnostic Findings: K 4.7 / CO₂ 7 / AG 36, lactate 7.8mmol/L, WBC 23. ABG-pH 6.67 / pCO₂ 53 / pO₂ 114 / HCO₃ 6.3. Serum ethanol and salicylate not detected. Serum methanol 77mg/dL.

Clinical Course: On ED arrival he had acute decline in mental status and was intubated, requiring 3 vasopressors for hypotension after initially having hypertension. He was given fomepizole. He began having repeated seizures (status) and developed a GI bleed. T 39.3°C (rectal), HR 160, BP 128/73, K 6.9, Cr 3.2, CK 399, and pH not improving. K dropped to 3.1 and he was supplemented. A neurological exam showed brain death and CT showed massive cerebral edema and cerebellar tonsillar herniation. He was treated with pyridoxine, folic acid, thiamine and CVVHDF which was discontinued after 1 h due to clotting of the line. He developed anuria and continued to be unresponsive,

with flat EEG. Formal brain death testing was confirmatory, and he expired ~10 days after exposure.

Autopsy Findings: Not performed. Cause of death: methanol in the form of hand sanitizer.

Case 216. Acute mineral oil ingestion, aspiration: probably responsible

Scenario/Substances: A 12 m/o male ingested an unknown amount of baby oil with an unknown time of ingestion.

Physical Exam: HR 150s–160s, RR 50s–70s, O₂ Sat 94% on 14L high-flow nasal cannula O₂, T 38.2°C.

Laboratory/Diagnostic Findings: VBG-pH 7.3. CxR: RLL infiltrate.

Clinical Course: In the ED, he was initially asymptomatic but went on to vomit twice. He also became increasingly tachypneic over the course of 2 hours. He was put on a NRB for increasing breathing difficulty and started on ceftriaxone, bronchodilators, and hydrocortisone. The patient was then transferred to the PICU. In the PICU, he continued to be tachypneic with RR 50–60 and with decreased sounds at the right lung base. A repeat CxR showed stability and was consistent with the RLL infiltrate seen earlier. During the first day in the PICU, the patient was tachycardic, appeared well perfused, and not lethargic receiving 14L high-flow nasal cannula 100% O₂ and on corticosteroids. The next day, an enterovirus infection was reported, and he was receiving APAP for fever, hydrocortisone, albuterol, and antibiotics (ampicillin/sulbactam, vancomycin). There was no change in status. Day 3: WBC 10.9, Neutrophils 77. Eventually, he was intubated and put on a ventilator because of a persistent O₂ sat of 83%, and then he was placed on ECMO. The patient died from intracerebral hemorrhages, likely due to heparin required for ECMO, 14 days after presentation.

Autopsy Findings: Not available.

Case 233. Acute hydrogen sulfide inhalation: undoubtedly responsible

Scenario/Substances: A 25 y/o female reportedly texted her mother and threatened suicide. She was found by law enforcement wearing gloves and goggles unresponsive in her running car. In the vehicle was a 5-gallon bucket with chemicals that had a rotten egg smell. CO levels in were normal per fire department.

Past medical history: Home medications: phentermine.

Physical Exam: Unresponsive, pupils fixed and dilated, no reflexes, + secretions. BP 166/105, P 119, RR 15, T 36.9°C, O₂ sat 95 % on vent with 100% FIO₂.

Laboratory/Diagnostic Findings: Na 142 / K 3.6 / Cl 106 / CO₂ 11 / BUN 12 / Cr 1.07 / Glu 282 / AG 25, lactate 7.7 mmol/L, AST 395, ALT 368, bilirubin 0.29, INR 1.3, WBC 21.6 / Hgb 11.3 / Hct 35.5 / Plt 401, CK 214, CKMB 6.52, troponin 77. ABG- pH 7.149 / pCO₂ 33.7 / pO₂ 571 / HCO₃ 12 / BE -16, lactate 9.8 mmol/L. Serum APAP and salicylate not detected; ethanol 11 mg/dL. UDS was positive for THC. CxR: Diffuse airspace opacity throughout the lungs bilaterally slightly worse on the left. EKG: HR 155, QRS 80, QTc 417. Head CT: Hypoxic ischemic encephalopathy.

Clinical Course: She was in asystole and was resuscitated at the scene with ROSC after 2 rounds of epinephrine. She was intubated and sedated with fentanyl and propofol. The patient was on norepinephrine, sodium bicarbonate, and calcium gluconate infusions; antibiotics were also started. She remained unresponsive and placed on a cooling protocol to maintain normothermia. She had frothy pulmonary edema and extensive bilateral infiltrates with severe hypoxemia. Day 2, she remained obtunded,

unresponsive, pupils fixed and dilated, without corneal or cough reflexes. Patient was determined to have brain death and died later on Day 2.

Autopsy Findings: Cause of death: hypoxic ischemic encephalopathy due to hydrogen sulfide poisoning. Manner of death: suicide.

Case 275. Acute chlorine gas inhalation: probably responsible

Scenario/Substances: A 65 y/o male paper mill worker was cleaning out a tank with chlorine dioxide. He was attempting to shut off the device and accidentally inhaled the vapors. He presented to the ED ~2h after the exposure with complaints of labored breathing, tachypnea, wheezing, shortness of breath, and hypotension.

Past Medical History: Previous workplace chlorine dioxide exposure. CAD, diabetes, GERD, HTN, obstructive sleep apnea.

Physical Exam: BP 95/56, HR 83, RR 26, O₂ sat 94% on 15L O₂ mask, T 36.7°C, dyspneic and copious yellow fluid was noted when intubated.

Laboratory/Diagnostic Findings: Na 137 / K 6.0 / Cl 104 / CO₂ 25 / BUN 32 / Cr 1.4 / Glu 266, AST 44, ALT 33, bilirubin 0.7, INR 1.6, WBC 16.07 / Hgb 15.9 / Hct 48.4 / Plt 212. ABG-pH 7.23 / pCO₂ 50.9 / pO₂ 88 / HCO₃ 21.0 / BE -6.9. Serum APAP, ethanol and salicylate not detected. UDS not performed. CxR: spotty and diffuse infiltrates, bilateral fluffy parenchymal disease most consistent with pneumonitis, possible inhalation injury.

Clinical Course: In the ED, he was treated with IV fluids for hypotension and high flow oxygen. O₂ sats 88–90% on 15L mask. He was treated with nebulized albuterol, methylprednisolone, and furosemide, but respiratory status did not improve, so he was intubated for respiratory fatigue. He was sedated on propofol and required norepinephrine for hypotension. On Day 2 he was admitted to the ICU and received nebulized heparin, vancomycin and piperacillin/tazobactam for presumed pneumonia. On Day 3, the patient self-extubated and was placed on 70% BiPAP with O₂ sat 94%. He developed atrial fibrillation on removal of endotracheal tube, which was treated with metoprolol. He began waking up more and following commands. On Days 4 and 5 of hospitalization, he had periodic agitation but global decline in mental status with right-sided weakness. He was re-intubated to perform an MRI, which showed bilateral strokes. He continued to deteriorate with worsening neurologic deficits. Based on the prognosis, the family opted for institution of comfort measures, and he died on Day 14.

Autopsy Findings: Not performed.

Case 290. Acute chlorine gas inhalation/nasal: undoubtedly responsible

Scenario/Substances: A 76 y/o female was helping her spouse unclog a toilet at home. They first placed a number of products in the toilet that caused a gas cloud to form, per the fire department. The patient began to have dyspnea, coughing, eye irritation and GI irritation. She went outside to get fresh air, vomited and while sitting in her husband's truck, developed dyspnea again and lost consciousness. EMS was called and found the patient on the ground, unresponsive and asystolic. CPR was initiated with ROSC after epinephrine x 3. Asystole returned, requiring 2 more doses of epinephrine and further CPR with ROSC. During transport she experienced bradycardia without hypotension. She received atropine, which improved her heart rate and increased her blood pressure. EMS reported she had red face

and large pupils. Fire department later identified the gas as chlorine.

Past Medical History: Home medications: none.

Physical Exam: In the ED she was unresponsive, intubated, pupils 7 mm and non-reactive. BP 70/47, HR 89, RR 26, O₂ sat 100%, T 32.8 °C (bladder).

Laboratory/Diagnostic Findings: Na 141 / K 5.6 / Cl 109 / CO₂ 14 / BUN 22 / Cr 1.6 / Glu 275 / AG 18, lactate 8.04 mmol/L, AST 332 / ALT 210 / bilirubin 0.1, WBC 6.83 / Hgb 8.3 / Hct 28.6 / Plt 216. VBG-pH 6.76 / pCO₂ 104 / pO₂ 79.1 / HCO₃ 14.4 / BE -20.7. Serum APAP and salicylate not detected. ECG: HR 97, QRS 113, QTc 497. CxR: Hazy right upper lung zone opacities, which may be secondary to aspiration and/or pulmonary contusion. Chest CT: Patchy bibasilar peribronchovascular tree-in-bud nodularity/ground glass with bronchiolar mucoid impaction. Findings were consistent with infectious/inflammatory bronchiolitis possibly related to aspiration. Head CT: Loss of gray-white matter differentiation consistent with global hypoxic ischemic injury.

Clinical Course: She was admitted to the ICU where she required maximum rates of phenylephrine, norepinephrine, and epinephrine infusions. An infectious work up was unrevealing. Neurology consultant found severe encephalopathy, but was negative for seizure activity. The patient demonstrated some initiation of breaths on the ventilator, but was unable to maintain oxygen saturations and was not a candidate for extubation. On Day 3 the patient demonstrated no corneal reflex, no blink to threat, and no withdrawal to noxious stimuli. The head was consistent with anoxic brain injury. Based on the prognosis, the family opted for institution of comfort measures and she died on Day 3.

Autopsy Findings: ME opined Cause of Death: inhalation of chlorine gas, Manner of Death: accident

Case 302. Acute-on-chronic mercury (elemental) inhalation and amphetamine, benzodiazepine, marijuana, cocaine, oxycodone ingestion: undoubtedly responsible

Scenario/Substances: EMS transported a 39 y/o male with a 2-day history of difficulty breathing after inhaling fumes generated from heating mercury to clean gold at home in an unventilated basement. He also had a cough, chest pain, arthralgias and myalgias.

Past Medical History: Chronic substance use (quit heroin 3 weeks prior), tobacco use.

Physical Exam: HR 130, RR 19, T 38.9°C, O₂ sat 74% on RA correcting to 98% on 15L O₂ by NRB. Diaphoretic and tachypneic with rales throughout; using accessory muscles to breathe.

Laboratory/Diagnostic Findings: Na 131 / K 2.9 / Cl 109 / CO₂ 22 / BUN 31 / Cr 1.31 / Glu 204, Ca 7.9, AST 29, ALT 7, ALP 97, d-dimer 540 ng/mL. WBC 20 (absolute neutrophil count 17.18). UDS was positive for amphetamine, benzodiazepine, THC, cocaine, opiate, and oxycodone. CxR: bilateral hazy appearance.

Clinical Course: Day 1: Chelation with 2,3-dimercaptosuccinic acid was started. 14h post-presentation: HR 71, BP 95/59 (MAP 66), RR 58, O₂ sat 89% on BIPAP. The patient was sedated with dexmedetomidine. At 19 hours, the patient was receiving antibiotics and steroids for pneumonitis; dexmedetomidine, fentanyl, hydromorphone, midazolam and phenobarbital for pain and sedation. The patient was intubated and ventilated at 22 hours. Blood Hg (3 days post-exposure) > 200 ng/mL. Day 4: CxR showed improved aeration at the right lung base with minimal bilateral patchy opacities. ABG-pH 7.26 / pCO₂ 51 / pO₂ 94 / O₂ sat 95% on 70% FiO₂ / T 37.6°C. BUN 32, CO₂ 23. Urine Hg > 1000 mcg/L. Day 5: O₂ sat 93% on 65% FiO₂, ANC 6.69. CxR showed persistent patchy bilateral airspace disease. Medications:

dexmedetomidine, fentanyl, midazolam, propofol, phenobarbital, clonidine, ceftriaxone, doxycycline, metronidazole, methylprednisolone, levalbuterol, ipratropium, haloperidol, quetiapine, 2,3-dimercaptosuccinic acid and thiamine. Day 6: SpO₂ 93%, T 38, ANC 5.44. Hospital day 8: selenium 600 mcg/d and NAC 50 mg/kg/d were added. Day 12: The patient still required heavy sedation (midazolam, propofol, ketamine). The CxR showed increasing opacity within the left lower lobe and worsening multifocal airspace disease. O₂ sat was 96% on 44% FiO₂ with 14 PEEP. Blood Hg 154 ng/mL 15 days post-exposure. 17 days post-exposure: urine Hg 2495 mcg/24h, lead 21 mcg/24h and cadmium 10.6 mcg/24h. Day 16: He had severe ARDS, and could not be weaned from the ventilator despite prone positioning and pulse dosing of steroids. Chest CT showed fibrotic changes at the lung bases, and diffuse and persistent ground glass opacities. The 2,3-dimercaptosuccinic acid was stopped. Selenium and NAC were continued. Day 18: A tracheostomy was placed, and additional antibiotics were added for ventilator-associated pneumonia. On Day 20, the CxR continued to worsen, and a lung transplant was refused. Random urine mercury 570 ng/mL on day 27 post-exposure. Day 31 (32 days post-exposure): The patient was extubated and placed on comfort measures and died.

Autopsy Findings: Cause of death: Complications of acute intoxication due to the combined effects of opiate, oxycodone, benzodiazepine, amphetamine and cocaine in the setting of inhalation injury. Manner of death: accident. Toxicology: Mercury: > 80 mcg/L hospital serum or plasma on the day of death.

Case 327. Acute botulism parenteral: contributory

Scenario/Substances: An 82 y/o male was admitted to the hospital 4 days prior for evaluation of a 3-day history of dysarthria, progressing to dysphagia, and a descending paralysis.

Past Medical History: High cervical cord stenosis at C1/C2, Type II diabetes, COPD, peripheral neuropathy, T11-12 deformity/discitis/osteomyelitis due to previous infection, neck and back fractures, hypertension, current methamphetamine abuse, opiates and marijuana, past alcoholism with heavy drinking none for several years, cirrhosis with esophageal varices, Hepatitis B, gastric ulcer and history of GI bleed, foot amputation for diabetic foot ulcer/osteomyelitis. Home medications: gabapentin, glipizide, lisinopril, metformin.

Physical Exam: BP 116/54, HR 102, RR 16, O₂ sat 100% on RA, T 36.7°C.

Laboratory/Diagnostic Findings: Na 130 / K 4.9 / Cl 98 / CO₂ 22 / BUN 23 / Cr 0.7 / Glu 142, AST 128, ALT 59, bilirubin 1.2, lipase 53, albumin 2.3, INR 1.9, WBC 9.9 / Hgb 9.5 / platelets 73. ABG-pH 7.47 / pCO₂ 33 / pO₂ 92 / HCO₃ 24.4 / O₂ sat 98% FiO₂ 30%. UDS was not reported. CxR: right upper lobe opacities suspicious for pneumonia, no effusion or pneumothorax. Head CT: generalized atrophy with commensurate dilation of 3rd and lateral ventricles. No loss of gray-white matter differentiation, no hemorrhage. Brain MRI: no acute intracranial pathology seen. ECG: 1st degree AV Block. Echocardiogram grade 1 diastolic dysfunction, EF 45–50%.

Clinical Course: The patient had a cardiac and respiratory arrest. He was given 10 minutes of CPR with ROSC and intubated. BP 98/46 (MAP 63), HR 97, RR 15, O₂ sat 98% on 30% FiO₂ 5 PEEP. Due to wounds in the lower extremities and worsening paralysis, the concern was wound botulism. The patient was intubated and ventilated; alert and following commands, but not able to move any extremities. He was on norepinephrine (max 12 mcg/min titrated down to 2 mcg/min) and antibiotics. Botulinum antitoxin obtained through the health department was given.

When moving /repositioning, he would become bradycardic and hypertensive consistent with spinal injury. A C-spine collar was placed. The patient could nod and shake head, open and close mouth, and move eyes (PERRLA). Vitals signs were labile BP 150/40, HR 36–60, T 37.2°C (bladder), O₂ sat 100% on 30% FIO₂. A stool sample was collected and sent per CDC request. Norepinephrine was discontinued but the patient was otherwise unchanged, occasionally wiggling of feet and able to move head, otherwise flaccid. Results of stool sample testing were unavailable. After 3–4 days the patient's hemoglobin dropped (6.5 to 4.8) and WBC climbed to 18. Based on the prognosis, the family opted for institution of comfort measures, and he died on Day 8. Contributory Statement: possible wound botulism with complications of chronic drug and alcohol abuse.

Autopsy Findings: Not available.

Case 330. Acute Amanita phalloides ingestion: probably responsible

Scenario/Substances: A 27 y/o male and 3 other workers at a construction site, gathered white mushrooms, made them into a soup and shared the soup. About 9.5 h later they all started having nausea and vomiting. They presented to the ED.

Physical Exam: BP 125/79, HR 79, RR 18, O₂ sat 94% on RA, T 36°C.

Laboratory/Diagnostic Findings: Na 145 / K 4.4 / Cl / CO₂ 20 / BUN 18 / Cr 1.42 / Glu 198, lactate 2.7 mmol/L, AST 125, ALT 108, bilirubin 0.3. INR 1.0, Hgb 16 / Hct 46. ABG-pH 7.38 / pCO₂ / pO₂ / HCO₃. Serum APAP, ethanol and salicylate not detected. UDS negative.

Clinical Course: The patient was treated with IV NAC, penicillin, multidose activated charcoal and transferred to a tertiary care facility. The AST, ALT continued to increase. Silibinin was obtained from the FDA and used to treat the patient. He was treated with plasmapheresis, rifaximin, vitamin C, IVF, calcium chloride, and CRRT. His mental status declined, and he was intubated to protect his airway. He became hypotensive and was started on norepinephrine. He was treated with hypertonic saline for possible cerebral edema. His fulminant hepatic failure continued, and vasopressin was started. Eventually, he was made comfort care and died.

Autopsy Findings: Not performed.

Case 339. Acute bifenthrin, chlorpyrifos ingestion, dermal: undoubtedly responsible

Scenario/Substances: A 3 y/o male was found by his father with a bottle of bifenthrin in his hand. The father stated the child got a small amount in his mouth, spit it out, and had some on his clothes. Father reported washing the child's mouth out prior to arrival at the ED.

Past Medical History: No remarkable medical history, no home medications.

Physical Exam: Exam unremarkable, BP 112/71, HR 111, RR 20, O₂ sat 98% on RA, T 37.3°C.

Clinical Course: The father brought the child to the ED for evaluation 10 min after the exposure and reported that the child had emesis. The child was acting appropriately and had a normal physical exam. No lab work was done. The child was observed for a few hours in the ED, he drank fluids without difficulty and was discharged. ~7 h after the exposure, the child was brought back to the ED by the father who reported the child woke up from a nap and was not acting himself. HR 144, RR 22, BP 126 systolic, T 36°C, O₂ 99% on RA. The child was triaged but left prior to being seen by a provider. ~9 h after the exposure, the

father took the child to a second hospital where he reported the bifenthrin had been mixed with chlorpyrifos. The child was irritable, fussy, tachycardic, and had increased salivation, but breath sounds were normal. BP 114/46, HR 146, RR 20, O₂ sat, T 37°C. Na 140 / K 2.9 / Cl 102 / CO₂ 23.4 / BUN 20 / Cr 0.7 / Glu 215 / AG 17.5, WBC 19.1 / Hgb 12.3 / Hct 37.4 / Plt 529. CxR: unremarkable. ECG: HR 146, QRS 66, QTc 433. Suction was required due to copious secretions, and he became lethargic but was not intubated. Transfer to a tertiary care center was initiated, but en route to the tertiary care hospital, the patient developed respiratory distress and diverted to the original ED ~12 h after exposure. On arrival he was lethargic, bradycardic, BP 124/88, HR 100, RR 32, T 36°C, O₂ sat 38% on NRB; albuterol and ipratropium were given. ECG: HR 168, QRS 66, QTc 454. He had bilateral rhonchi and rales on exam. Prior to intubation, O₂ saturations began to drop and assisted ventilation with bag valve mask was begun. He became bradycardic, CPR and PALS protocol were initiated, and he was successfully intubated on the third attempt. Multiple doses of epinephrine and atropine were given, but the patient died ~14 h after exposure.

Autopsy Findings: Autopsy and toxicology labs are pending.

Case 344. Acute methyl bromide, ethanol (beverage): undoubtedly responsible

Scenario/Substances: A 41 y/o male was brought to ED after being found unconscious near an empty bottle of methyl bromide pesticide. The police found him at a storage facility laying on the ground outside his truck with his clothes off. Vomitus was found inside the cab of the truck. EMS reported patient O₂ sat was in the 70s despite being on 8 L O₂ via NRB.

Past Medical History: Chronic alcoholism, chronic pancreatitis, HTN.

Physical Exam: Diaphoretic ill-appearing man, pupils sluggish but reactive to light, ETT in place, BP 84/51, HR 103, RR 14, O₂ sat 98% intubated, T 36.2°C.

Laboratory/Diagnostic Findings: BUN 16 / Cr 2.0, AST 40, ALT 45, ALP 164, troponin 17, bilirubin 0.3, bilirubin (direct) < 0.10, WBC 13.1, Tprot 10.3, albumin 5.3. UA negative.

Clinical Course: The patient was intubated in the ED. He was found to be in shock, and started on 5 pressors, IV fluids, and a sodium bicarbonate drip. MAP continued to be decreased even with fluid and pressor support. IV albumin was administered. Na 135 / K 2.9 / CO₂ 21.3 / AG 8, Ca 7.1, Mg 2.4, Phos 4.4, lactate 6.8, AST 623, ALT 335, ALP 115, BNP 33, PTT 49.8, PT 13.8, bilirubin 0.4, troponin 17, WBC 16.2, RBC 5.03, GFR 32, Tprot 6.6, albumin 3.8, pH 7.16, pCO₂ 15.1, HCO₃ 5.3. Ethanol 180 mg/dL. UDS negative. Head CT: Unremarkable. CxR: Lungs clear. The patient went into VF ~8 h after presentation; CPR was initiated and epinephrine, sodium bicarbonate, and cardioversion were administered. After several rounds of CPR, he died on Day 1.

Autopsy Findings: Ethanol 0.114 g/dL, COHb 5%, bromide 100 mg/L. Cause of death: ethanol and bromide. Manner of death: accident.

Case 348. Acute metolachlor ingestion: probably responsible

Scenario/Substances: A 49 y/o male ingested ~5 cups of herbicide (57% metolachlor) in a suicide attempt. He arrived at the ED ~30 min after ingestion.

Past Medical History: Hypertension and schizophrenia. Home medications: amlodipine, diclofenac, and lisinopril/hydrochlorothiazide.

Physical Exam: On arrival to the ED, GCS 15, diaphoresis, emesis, delusions, tachycardia. BP 121/73, HR 148, RR 22, O₂ sat 97% on RA, T 37°C.

Laboratory/Diagnostic Findings: Na 142 / K 3.5 / Cl 107 / CO₂ 10 / BUN 10 / Cr 1.2 / Glu 157 / AG 28.5, AST 105, ALT 62, bilirubin 0.8, INR 1.02, WBC 12.9 / Hgb 15.6 / Hct 49 / Plt 361. ABG-pH 7.33 / pCO₂ 29.4 / pO₂ 76.3 / HCO₃ 17.4 / BE -10.4. Serum APAP, ethanol and salicylate not detected. UDS negative. CxR: unremarkable. ECG: HR 146, QRS “normal”, rhythm “irregular – LVH”. Ultrasound abdomen: fatty liver, no acute findings.

Clinical Course: Patient was admitted to ICU, some diarrhea continued, he became agitated and received haloperidol. Day 2 he required intubation and vasopressors. Cr 9.5, BUN 67, oliguria, urine concentrated with proteinuria and hematuria. Dialysis was considered, but blood pressure was considered inadequate despite 3 vasopressors and a sodium bicarbonate infusion. He arrested and died despite ACLS protocol.

Autopsy Findings: Not performed.

Case 359. Acute diazinon ingestion: undoubtedly responsible

Scenario/Substances: A 93 y/o female drank 25% diazinon in self-harm attempt and was brought to the ED by EMS with moderate CNS depression and cuts on her upper arm. Atropine was given by EMS for lacrimation, drooling, vomiting, and urination. The emesis had a strong pesticide odor and an empty bottle of the pesticide was found at the scene.

Past Medical History: prior self-harm attempts, depression.

Physical Exam: BP 135/70, HR 80–90, RR 35, O₂ sat 90% on RA, afebrile.

Laboratory/Diagnostic Findings: Serum APAP, ethanol, and salicylate not detected. UDS negative.

Clinical Course: In the ED, the patient’s ECG showed PVCs every 4th beat. As the patient was DNR/DNI, the family opted for institution of comfort measures, and she died 12h into her hospital stay.

Autopsy Findings: RBC cholinesterase ratio to hemoglobin was 4U/g Hgb (reference range: 25–52U/g Hgb). The lower airway showed microscopic injury consistent with aspiration of acid gastric contents and/or the suspected insecticide. Cause of Death: organophosphate toxicity.

Case 363. Acute Taxus species ingestion: undoubtedly responsible

Scenario/Substances: A 40 y/o female ate yew seeds and was found by EMS to have difficulty breathing, moaning, and was pale with cold sweats. Patient had yellow around her lips. Her face turned red and then white. Patient had been fighting with her husband and staying with her mother.

Physical Exam: In cardiac arrest.

Clinical Course: Digoxin immune Fab (6 vials) was administered. The patient then had a palpable pulse, HR 85 (paced) and was on an epinephrine infusion. She went into cardiac arrest again and the pH was 7.08. The patient then coded again and died ~2h after the initial call.

Autopsy Findings: Not available

Case 365. Acute cardiac glycoside plant (oleander) ingestion: undoubtedly responsible

Scenario/Substances: A 68 y/o male was upset and depressed and ate 20–30 leaves of oleander after his wife had left the house for the morning. He started vomiting ~3–4h later.

Past Medical History: Parkinson’s Disease.

Physical Exam: In the ED, HR 30s, globally weak on exam.

Laboratory/Diagnostic Findings: K 5.8, Cr 1.33, WBC 23.1, digoxin 2.1ng/mL

Clinical Course: An ECG was not performed because of the patient’s deep brain stimulator. He was given a total of 10 vials of digoxin Fab fragments with improvement in heart rate into the 50–60s. He was started on furosemide, sodium bicarbonate, insulin, and dextrose for hyperkalemia. On Day 2, his heart rate dropped to the 30s with a junctional rhythm, K 6.6. Atropine was given with minimal benefit. An additional 10 vials of digoxin Fab fragments were given with heart rates improving into the 70–80s and return of sinus rhythm. He received additional furosemide, insulin, dextrose, and sodium bicarbonate with K improving to 5.7, Cr 1.7. Sodium zirconium cyclosilicate and lactulose were added for hyperkalemia. Later that day his heart rate again dropped into the 40s and 50s and K increased to 6.5 with Cr 2.0. He was given another 10 vials of digoxin Fab fragments and started on CRRT. K improved but Cr continued to rise. His heart rate improved through the night, but on Day 3 it again fell, and he was placed on vasopressin and dopamine. CRRT developed clotting issues and was stopped. No more digoxin Fab fragments were available at the hospital. Family declined to have him intubated as he was DNR. The patient transitioned to comfort care and died on Day 4.

Autopsy Findings: Not performed.

Case 378. Acute fentanyl (non-prescription) ingestion and inhalation: undoubtedly responsible

Scenario/Substances: A 12 y/o female was smoking fentanyl pills with her sister and 2 males in a hotel room where her mother lived. She and her sister “nodded off” and she was subsequently found cold, unresponsive and pulseless; EMS was called. When EMS arrived, she was reported to be in VF. She was intubated in the field and resuscitated for ~30minutes including chest compressions and brought to ED after ROSC. Naloxone likely given based on post-mortem report.

Past Medical History: Asthma, recent illicit drug abuse. Social history: Mother was a known fentanyl user and fentanyl paraphernalia (including blue M30 fentanyl tablets) were found in the hotel residence she and her siblings were visiting.

Physical Exam: Hypotensive, intermittently following commands. “Blue M30 tablet found in patient’s airway”. Pupils 6mm post resuscitation. BP 70s/40s, 90/50s on 3 vasopressors; HR 120–160.

Laboratory/Diagnostic Findings: Na 140 / K 3.5 / HCO₃ 13 / Cr 0.95, lactate 7mmol/L, AST 739, ALT 280, troponin 9.1. Serum APAP not detected. UDS Negative. EKG: “Low voltage but Sinus”. Head CT: Cerebral edema, severe anoxic brain injury.

Clinical Course: Brain death testing at 24h was confirmatory. At 48h she was on ventilator (unresponsive with no sedation), she had a bowel movement in which she passed blue material. A dose of fomepizole was given for anion gap acidosis. High resolution CT of abdomen was negative. An extended drug screen which included “opiates” but not fentanyl specifically, was negative. She remained on life support with poor prognosis until Day 5 when care was withdrawn, she was pronounced dead and underwent organ procurement.

Autopsy Findings: Internal exam findings only significant for marked cerebral edema and did not indicate any blue substance in her esophagus. Toxicology: (hospital blood, extended) 4-ANPP presumptively positive, naloxone presumptively positive, fentanyl 6.0ng/mL, norfentanyl 1.1ng/mL. Cause of death: complications of acute fentanyl toxicity. Manner of death: accident.

Case 379. Acute salicylate ingestion: undoubtedly responsible

Scenario/Substances: A 12 y/o female reportedly overdosed on acetaminophen and felt nauseated. She stated she vomited one

time at home and told her sister. She presented to the ED 4.5 h post ingestion. Her mother arrived later with one bottle of 500 tablets of enteric coated aspirin 325 mg and one bottle of 500 tablets of non-coated aspirin 325 mg, unsure how many were missing.

Physical Exam: Alert and awake with tinnitus. BP 140/77, HR 101, RR 28, T 35.8°C.

Laboratory/Diagnostic Findings: K 4.7 / Glu 157. Serum APAP not detected. Serum salicylate 72 mg/dL.

Clinical Course: In the ED she was given a liter of fluid, a dose of activated charcoal, D10W and a sodium bicarbonate infusion was initiated. She was then transferred to a tertiary care center/children's hospital. She was having significant Kussmaul breathing 6 h into her hospital course but was awake and alert with abdominal pain. A repeat salicylate level was 96.5 mg/dL as urine alkalinization continued while dialysis was being planned. Seven hours into the course she started seizing despite lorazepam administration and she was intubated and sedated with propofol. She was given a bolus of D50W. A repeat salicylate returned at 105 mg/dL with lactate of 12 mmol/L. She became febrile to 40.9°C and was tachycardic and hypertensive despite sedation. External cooling was performed. A dialysis catheter was placed for CRRT as HD was not available. Prior to CRRT initiation she experienced cardiovascular collapse requiring vasopressors and CPR. Adequate vascular access for VA-ECMO could not be established. ACLS continued with multiple doses of epinephrine, sodium bicarbonate, and calcium. Rocuronium was given for clenched jaw. After 60 minutes of CPR, the patient was declared dead ~15 h after ED presentation.

Autopsy Findings: Cause of death: acute salicylate toxicity. Manner of death: suicide.

Case 394. Acute colchicine ingestion: undoubtedly responsible

Scenario/Substance: A 16 y/o female presented to ED with vomiting after reportedly ingesting her grandmother's colchicine ~12 h prior.

Past Medical History: Suicide attempts, ADHD, anxiety, and asthma. Medications: guanfacine, aripiprazole, trazodone, venlafaxine, and metformin.

Physical Exam: Vomiting, diarrhea, and abdominal pain. BP 130/96, HR 99, RR 20, T 36.7°C, O₂ sat 99% on RA.

Laboratory/Diagnostic Findings: Na 143 / K 3.5 / Cl 103 / CO₂ 22 / BUN 11 / Cr 0.63 / Glu 150 / AG 18, lactate 5.4 mmol/L, Ca 9.2, CK 206, troponin < 3, AST 127, ALT 71, bilirubin 0.3, PT 11.2, INR 1.08, ALP 204, WBC 14.6 / Hgb 13.5 / Hct 43.5. Serum APAP, ethanol and salicylate not detected. ECG: HR 102, QRS 78, QTc 469.

Clinical Course: The patient received IV lactated ringer boluses and activated charcoal. Day 2: she was transferred to a tertiary care center where tachypnea and altered mentation required intubation. Sedation was provided with fentanyl and dexmedetomidine. Day 3: hypotension developed requiring epinephrine; steroids and antibiotics. Cr 2.89, CO₂ 15, AST 1682. Day 4: HD was required for worsening renal function. Day 5: epinephrine and milrinone were started for worsening hypotension and CRRT was intermittently stopped due to hypotension. Day 6: lactate 12.4 mmol/L. Plastics and vascular surgery were consulted for poor perfusion and concern for compartment syndrome that started with the left arm but eventually included all 4 of her extremities; there was no infiltration event noted. Day 7: she required high doses of 3 vasopressors, her ECHO demonstrated mild ventricular dysfunction and her troponin increased as did

her CPK (7200); she had several runs of VT. She suffered a bradycardic code from which she was resuscitated on Day 8. Based on the prognosis, comfort measures were instituted, and she died on Day 8.

Autopsy Findings: Postmortem toxicology was non-contributory. The full ME report is not available.

Case 528. Acute tramadol ingestion: undoubtedly responsible

Scenario/Substances: A 26 y/o female was discharged from a psychiatric facility in the morning and called her husband to tell him she was going to overdose on her tramadol. She was tearful and when he tried calling her back, she did not answer. She was found at a bus stop unresponsive and EMS was called. Naloxone was administered without response. She was noted to have a seizure and was treated with midazolam.

Past Medical History: Psychiatric disease with multiple suicide attempts. Home medications: tramadol, aripiprazole, olanzapine, topiramate.

Physical Exam: Pulseless and in cardiac arrest on the ventilator. Pupils fixed and dilated. Skin dry.

Clinical Course: After arrival to the ED, she was sent to CT for a trauma evaluation. Upon return from CT, she was noted to be pulseless and in a wide complex rhythm. ACLS was initiated with multiple doses of sodium bicarbonate. The code was called before ILE could be administered and she died on Day 1.

Autopsy Findings: Postmortem tramadol (subclavian blood) 89,000 ng/mL.

Case 1510. Acute fentanyl (non-prescription), tramadol, cocaine ingestion: undoubtedly responsible

Scenario/Substances: A 19 m/o old female went to a park with her mother. The child returned to her mother with a small clear plastic baggie in her mouth. The baggie appeared empty. They went home, had dinner and the child appeared to be in her usual state of good health. ~4 h after exposure the child was lethargic and did not awaken readily from her nap. Mother took her to the ED. Enroute the child was initially awake and talking, but about 5 min prior to arrival the child was heard gurgling and became unresponsive.

Past Medical History: Born via C-section at 39 weeks GA with sickle cell trait. No home medications, surgeries, or allergies.

Clinical Course: The child arrived at the ED pulseless, apneic and hypothermic (T 31.6°C rectally). Initial rhythm was PEA. CPR (20–30 min) produced ROSC. Pupils were 4 mm and non-reactive. Naloxone was given with some minor response. Post-resuscitation: BP 77/37, HR 120, RR on vent FiO₂ 100%, T 33.1°C. ABG-pH 6.88 / pCO₂ 35 / pO₂ 226 / HCO₃ 7, Na 145 / K 4.4 / Cl 112 / CO₂ 8 / BUN 22 / Cr 0.83 / Glu 92 / lactate > 20 mmol/L, AST 1374, ALT 883, bilirubin 0.2, INR 2.4, albumin 3.3, Ca 9.5, WBC 20.7 / Hgb 8.1 / Hct 26.7 / Plt 41 (repeat 64). Serum APAP, ethanol and salicylate not detected. Serum drug screen was negative for barbiturates, benzodiazepines, cocaine and opiates. Head CT: mild generalized loss of gray-white matter distinction, partial effacement of the supratentorial ventricular system, no skull fractures. Findings were concerning for developing cerebral edema in the setting of hypoxic ischemic injury. Pulmonary hemorrhage required high PEEP. The child developed diabetes insipidus requiring vasopressin. She was found to have bilateral retinal hemorrhages. Her vital signs continued to deteriorate and were unresponsive to IV fluids and increasing doses of vasopressors (epinephrine, norepinephrine, vasopressin). Ventilator management was maximized on 100% oxygen and PEEP. EEG showed

absence of any clear cortical activity suggesting severe anoxic-hypoxic cerebral injury in the clinical context of cardiac arrest and absence of significant metabolic abnormalities. Based on the child's condition and prognosis, the family elected for ventilator support only, and the child soon went into cardiac arrest and died on Day 2.

Autopsy Findings: Pathology showed anoxic encephalopathy, acute pneumonia and the presence of fentanyl in plasma and urine; tramadol in plasma, urine and postmortem heart blood; cocaine in urine, and benzoyllecgonine in plasma and urine. Premortem plasma: fentanyl 0.0040mg/L, benzoyllecgonine 0.010mg/L, tramadol 0.027mg/L. Examination showed no trauma or congenital abnormality. Cause of death: multi-drug toxicity (fentanyl, cocaine, tramadol) with manner of death undetermined.

Case 1528. Acute lidocaine parenteral: undoubtedly responsible

Scenario/Substances: A 41 y/o male received 2,000mg of lidocaine instead of 100mg intended for treatment of nephrolithiasis.

Clinical Course: In the ED, he was initially dizzy and rapidly developed cardiac arrest. He was emergently intubated and received CPR with atropine, epinephrine, and norepinephrine. After 3.5h of CPR, he received a bolus of ILE and was started on a continuous ILE infusion. The patient additionally received sodium bicarbonate. At this time, the patient's pH was < 6.7 and he was transferred to a tertiary care center. At ~12h post-exposure, the remained intubated on sedation requiring large doses of norepinephrine and phenylephrine to maintain adequate MAP. He became hyperthermic (T 41.1°C) and was started on antibiotics and an active cooling protocol. AST 1300, ALT 1100, bilirubin 1.6, ALP 221, Cr 4.6, pH 7.36, HCO₃ 18.4, lactate 15.4 mmol/L, and Plt 107 with unknown contribution of lab interference following ILE therapy. Cardiac ECHO ejection fraction 40%. A lidocaine level was reportedly low as would be anticipated 12h post exposure. At 17h post-exposure, the patient became anuric with concerns of DIC and required norepinephrine, phenylephrine, and vasopressin at elevated doses to maintain hemodynamic stability. The patient was administered vecuronium and was started on CRRT. ECG: HR 150, QRS 68, QTc 443. The patient was considered for transfer to an ECMO-capable facility but was deemed too unstable for ECMO. In total, the patient received 3 boluses of ILE with a continuous infusion with unclear benefit. The patient died on Day 2 in the ICU.

Autopsy Findings: Autopsy pending.

Case 1569. Acute bupropion ingestion: undoubtedly responsible

Scenario/Substances: A 3 y/o female was found by her mother with an open bottle of bupropion XL 300mg with about 60 pills missing. The family reported that the child appeared "stiff" with tremors, and they brought her to the ED.

Past Medical History: The child had been in good health.

Physical Exam: BBP 89/59, HR 122, RR 20, O₂ sat 100%, T 37°C, pupils 4mm, not vocalizing, occasional stiffening of extremities, clonus type movements of lower extremities.

Laboratory/Diagnostic Findings: Na 141 / K 3.1 / Cl 110 / CO₂ 21 / BUN 19 / Cr 0.32 / Glu 99 / AG 10, AST 48, ALT 27, bilirubin 0.1, WBC 9.4 / Hgb 11.7 / Hct 36.2 / Plt 237. VBG-pH 7.31 / pCO₂ 39 / pO₂ 91 / HCO₃ 20 / BE -6.4. Serum APAP, ethanol and salicylate not detected. CxR: ETT in good position. ECG: HR 144, QRS 102, QTc 523.

Clinical Course: The patient was noted to have seizure-like activity and a period of apnea, so she was intubated. She received a fluid bolus, lorazepam 1mg IV, and she was transferred by air to a tertiary care center. There she was sedated with propofol and fentanyl. Early on Day 2 she became bradycardic (low 50s) and was started on an epinephrine infusion. She then had an episode of VT with cardiac arrest requiring CPR. Resuscitation included multiple doses of epinephrine, bicarbonate, and defibrillation. Amiodarone and ILE were also administered. Endoscopy the morning of Day 2 showed a large mass of whitish pills in the stomach fundus. They removed about 30 intact pills and 10 partially intact pills from the stomach. Bupropion 42,000ng/mL and hydroxybupropion 8,900ng/mL. Subsequent concentrations showed a declining trend, but none were available in real time. Social work found no evidence that a family member had administered bupropion to the child. The patient was initially on multiple vasopressors, and then was placed on VA-ECMO. She was treated with prophylactic antibiotics and antifungals while on ECMO, as well as stress dose steroids. The patient had decreased urine output and was started on CRRT. There was minimal spontaneous cardiac activity, but cardiac function gradually improved, and the patient was decannulated from ECMO on day 7. Following the cardiac arrest, the patient no longer had spontaneous movements or respirations. MRI on Day 8 showed findings compatible with hypoxic-ischemic brain injury. Neurologic status remained unchanged. As cardiac activity improved vital signs were labile, with the patient alternatively required vasopressors and nitroprusside to control BP. She also had mild intermittent hypothermia, and a rewarming device was applied as needed. CT on day 12 showed diffuse brain edema and impending transtentorial herniation. Based on the prognosis, the family opted for institution of comfort measures, and she died on Day 14.

Autopsy Findings: Inflammatory changes in the heart, lungs, kidneys, and brain.

Case 1580. Acute-on-chronic bupropion ingestion: undoubtedly responsible

Scenario/Substances: A 17 y/o female ingested ~96 tablets of her 150mg bupropion XL (14.4g total) in a self-harm attempt.

Past Medical History: Depression. Home medications: bupropion XL 150mg.

Laboratory/Diagnostic Findings: Na 137 / K 4 / Cl 111 / Glu 129. Serum APAP, ethanol and salicylate not detected. UDS positive for benzodiazepines. ECG: QRS 86, QTc 457.

Clinical Course: She presented to the ED vomiting, HR 120~4h after ingestion. The patient was transferred to a hospital with a PICU. She remained tachycardic (HR 112) but was hemodynamically stable with a BP 117/56. The patient was sedated with a continuous infusion of dexmedetomidine and hourly boluses of midazolam 4mg. No clinical seizures were reported. The patient required oxygen supplementation to maintain O₂ sat of 98%. Over the next 10hours, the patient experienced 8 seizures and a rapid decline of respiratory and hemodynamic stability with (HR 50s, MAP 45). She was placed on BiPAP and started on an epinephrine infusion. Dexmedetomidine was discontinued, midazolam 4mg boluses were continued PRN. ECG showed a QTc of 539 that improved with minimal intervention. On Day 2, the patient remained unresponsive to pain, tachycardic on BiPAP and sedated on 4mg/h of midazolam with midazolam boluses PRN. The patient developed random involuntary agitation and tremors, though unclear if this was seizure activity. CK 365. On Day 3 her respiratory status declined, and she was intubated. Shortly after intubation, the patient went into cardiac arrest requiring CPR with epinephrine. Once

ROSC was achieved, the patient was flown to a tertiary care pediatric hospital. Upon arrival she showed a wide-complex QRS and shortly after went into VT. The patient received additional CPR and was placed on VA-ECMO at which point she converted to a normal sinus rhythm. ECHO revealed a bilateral pleural effusion, mildly diminished bilateral ventricular function, and evidence of pulmonary hypertension. Labs at this time were remarkable for CO₂ 13, AG 24, lactate 16 mmol/L, Cr 1.17, AST 179, ALT 149. EEG showed signs of severe global cerebral dysfunction. Ecchymosis and petechiae were evident from chest compressions. During the remainder of the patient's ICU stay, the patient remained critically ill with ongoing cardiogenic and vasodilatory shock, concerns of developing sepsis, and fixed and dilated pupils. The patient received 100 mL of ILE for refractory shock with no benefit. The patient additionally received antibiotics, magnesium, sodium bicarbonate, calcium chloride, nebulizers, stress-dose steroids, total parenteral nutrition, hydromorphone and propofol. The patient developed north-south syndrome on ECMO and required additional cannulation. The patient experienced ECMO cannulation complications requiring large amounts of blood products. She later developed compartment syndrome requiring multiple fasciotomies. She was started on CRRT due to acute renal failure and concerns of fluid overload. She also experienced blistering following intravenous extravasation requiring treatment with hyaluronidase and phentolamine. Due to the poor prognosis of the patient, the family elected to pursue comfort care only. The patient died shortly after on Day 12.

Bupropion and hydroxybupropion concentrations on Day 7 were 15 ng/mL and 701 ng/mL, and on Day 10, 83 ng/mL and 1,709 ng/mL respectively. The increase in bupropion and hydroxybupropion levels on day 10 may reflect a swap in samples or a reporting error; however, no error was ever discovered. The increase could also reflect erratic absorption from a bupropion bezoar.

Autopsy Findings: Not available.

Case 1719. Acute diphenhydramine ingestion: undoubtedly responsible

Scenario/Substances: A 30 y/o female walked into ambulance station 1 hour after intentionally ingesting 250 25 mg diphenhydramine tablets in a suicide attempt. Patient started seizing and was given benzodiazepines en route to ED.

Past Medical History: Transgender (Male to Female)

Physical Exam: BP 127/50, HR 150, O₂ sat 98% on NRB, T 36.8C. Unresponsive, skin dry, tachycardic.

Laboratory/Diagnostic Findings: ECG: HR 111, QRS 164, QTc 639.

Clinical Course: Upon arrival, the patient continued to have seizures. More benzodiazepines administered and she was intubated. Shortly thereafter, she had a cardiac arrest with ROSC obtained. A second VF arrest occurred with ROSC after ACLS and 2 amps of sodium bicarbonate and magnesium 2g. EKG: QRS 176, QTc 474. One hour later, a bradycardia arrest occurred evolving to asystole. Four more ampules of sodium bicarbonate, epinephrine, and ILE were administered. ROSC could not be obtained, and she died.

Autopsy Findings: "abundant pink granular pill material and red fluid in the stomach". Diphenhydramine (iliofemoral venous blood) 30,225 ng/mL.

Case 1739. Acute-on-chronic ivermectin ingestion, dermal burn: probably responsible

Scenario/Substances: A 34 y/o male presented to an ED with blurry vision, a rash, and burning to his thighs, and was then

discharged. Later, at home, his wife observed him having a seizure, and called EMS who brought him to the ED.

Physical Exam: BP 148/59, HR 79, O₂ sat 91% on 100% FiO₂, T 36.1°C. Intubated and sedated with dilated non-reactive pupils.

Laboratory/Diagnostic Findings: Na 153 / K 4.4 / Cl 116 / BUN 54 / Cr 1.23, AST 98, ALT 136, Mg 3.0.

Clinical Course: In the ED, he was intubated and sedated with propofol. Shortly after intubation the patient was noted to be in pulmonary failure, thought to be ARDS and was transferred to a tertiary care center and started on VV-ECMO. The patient was noted on a video EEG to have non-convulsive status and was started on multiple anticonvulsants eventually requiring pentobarbital. A comprehensive infectious disease workup was performed including 2 negative lumbar punctures. The patient received antibiotics, antifungals, and antivirals. Two weeks post presentation, it was discovered that he had been taking ivermectin obtained from an online pet pharmacy for COVID-19 prophylaxis. The patient developed multiorgan system failure including liver and renal failure, requiring CRRT and HD. The patient received a dose of ILE, and developed rhabdomyolysis as well as an unrelated burn. On Day 30 he was terminally extubated and died.

Autopsy Findings: Extensive pneumonitis, hemorrhagic cerebral infarcts with history of ivermectin use. Confirmatory laboratory testing is pending but ivermectin and metabolites were detected in postmortem samples.

Case 1740. Acute-on-chronic hydroxychloroquine ingestion: undoubtedly responsible

Scenario/Substances: A 38 y/o male intentionally ingested 3g of his prescribed hydroxychloroquine in a suicide attempt 30 minutes prior to arrival in the ED.

Past Medical History: HIV. Medications: hydroxychloroquine.

Physical Exam: BP 142/78, HR 80, RR 14, O₂ sat 90% on RA, T 37.0°C. Alert and oriented.

Laboratory/Diagnostic Findings: AST/ALT "unremarkable". Serum APAP and ethanol not detected. ECG: HR 96, QRS 117, QTc 421, NSR. (Baseline ECG from 1.5 years prior: QRS 90, QTc 470).

Clinical Course: In the ED, 50g activated charcoal were administered. QRS widened to 123 with no QTc prolongation. He became hypotensive requiring norepinephrine and serum alkalization was initiated. Wide complex tachycardia developed, and he received 10g calcium chloride, 2g magnesium, and an additional 250 mEq sodium bicarbonate. His pH was 7.41 ~1 hour later. The patient was admitted to ICU and developed third degree heart block shortly afterwards; he was transcutaneously paced but remained hypotensive and in cardiogenic shock. He was taken emergently to the catheterization lab for transvenous pacing with successful capture, however he still exhibited intermittent wide complex idioventricular rhythms. He became increasingly acidotic with worsening respiratory and lactic acidosis, on high doses of epinephrine, norepinephrine, vasopressin, and phenylephrine. He developed severe hypokalemia and hypophosphatemia. ILE was administered. Based on the prognosis, the family opted for institution of comfort measures, and he died on Day 2.

Autopsy Findings: Hydroxychloroquine (blood) 130 mcg/mL. Probable cause of death: hydroxychloroquine intoxication.

Case 1751. Chronic methotrexate ingestion: probably responsible

Scenario/Substance: An 80 y/o male presented with complaint of upper body weakness, itchy rash on upper torso and neck,

and sore throat x 4 days. He had been started on methotrexate 8 days prior and misunderstood the prescription. Instead of taking 15mg weekly he took 15mg daily for 7 days. He called his primary care physician who told him to stop taking the medication; his last dose of methotrexate was two days prior to his presentation.

Past medical history: Prostate cancer, hypertension, chronic kidney disease stage 3A, anemia of chronic disease, crystal arthropathy.

Physical Exam: Diffuse erythema on posterior oropharynx without visible white spots. Faint maculopapular eruptions on anterior trunk above umbilicus. BP 120/66, HR 94, RR 16, O₂ sat 99% on RA, Temp 37.4°C.

Laboratory/Diagnostic Findings: Na 137 / K 4.0 / Cl 106/ CO₂ 20 / BUN 24 / Cr 1.08 / Glu 111 / AG 11, lactate 1.7mmol/L, AST 26, ALT 44, bilirubin 1.2, WBC 1.7 / Hgb 7.5 / Hct 24.4/ Plt 83, ANC 990. Methotrexate 0.4 mcmol/L.

Clinical Course: He was admitted to the hospital and started on leucovorin, urinary alkalinization, platelet and blood transfusions and colony stimulating factor. He developed a GI bleed on Day 5. On Day 10 he went into PEA arrest and received CPR and standard ACLS with ROSC achieved. He was intubated and transferred to the ICU on a norepinephrine drip. He developed multi organ system dysfunction and worsening hemodynamic shock. Based on the poor prognosis the family decided to transition him to comfort care. He was started on a hydromorphone drip and terminally extubated, and he died on Day 12.

Autopsy Findings: Cause of death: "complications of methotrexate toxicity in person with calcium pyrophosphate crystal deposition disease."

Case 1880. Acute digoxin ingestion: undoubtedly responsible

Scenario/Substances: A 2 m/o male was brought in for accidental 10-fold overdose of digoxin after being discharged from the tertiary care center.

Past Medical History: Congenital hypoplastic left heart syndrome, chromosomal microduplication. Home medications: aspirin, enalapril, furosemide, acetaminophen, multivitamins, and digoxin elixir 50mcg/mL 0.4mL BID.

Physical Exam: HR 140, RR 28, O₂ sat 85% on RA, T 36.6°C. Patient was initially in no acute distress. He was "not toxic", afebrile and interactive. NG tube in L nare.

Laboratory/Diagnostic Findings: Na 132 / K 5.5 / Cl 97 / CO₂ 26 / BUN 10 / Cr < 0.3 / Glu 76 / AG 9, lactate 1.9mmol/L, AST 30, ALT 19, bilirubin 0.5. WBC 9.6 / Hgb 17 / Hct 50.3 / Plt 512. Serum APAP, ethanol and salicylate not detected. CxR: unremarkable. Digoxin 4.8ng/mL.

Clinical Course: Shortly after the patient was readmitted to the tertiary care center from which the patient had been discharged, patient began crying, stopped and went quiet; VF noted on the monitor. CPR was started and defibrillated with conversion to PEA with HR 60–80. He was given epinephrine, atropine, sodium bicarbonate, amiodarone and a fluid bolus. The first ED did not have digoxin immune Fab. It was obtained from a nearby facility and administered with "some mild change in condition, but remained in PEA". After 60min of CPR, resuscitation efforts were stopped, and he was pronounced dead.

Autopsy Findings: Not available.

Case 2033. Acute benzonatate ingestion: probably responsible

Scenario/Substances: A 16 m/o female got into her mother's benzonatate, developed seizures and cardiac arrest. EMS found

her in VF for which she received defibrillation and amiodarone IV. She was given naloxone, lorazepam x 9 doses, and continuous albuterol for concern of bronchospasm. pH 6.8, initial T 31.6°C (rectal). She received CPR for 40min en route to the ED with ROSC.

Physical Exam: BP 84/42, HR 177, RR 20, O₂ sat 99 % on 45% via ventilator, T 38.1°C.

Laboratory/Diagnostic Findings: Na 142 / K 3.2 / Cl 108 / CO₂ 10 / BUN 10 / Cr 0.4 / Glu 371, AST 272, ALT 74. Serum APAP and salicylate not detected. ECG: QRS 50, QTc 454.

Clinical Course: She was in sinus rhythm on ED arrival. She was intubated and sedated with midazolam and started on an epinephrine infusion to treat hypotension. Repeat labs: Na 153 / K 2 / CO₂ 15 / BUN 15 / Cr 0.59 / Glu 302, ABG-pH 7.42 / CO₂ 23, lactate 12.3mmol/L. Patient received sodium bicarbonate and potassium. Head CT was normal. An active cooling protocol was begun for hyperthermia. Repeat labs: Na 144 / K 3.2 / CO₂ 22 / Glu 244. On Day 2 a repeat EEG was done with one wave seen, but otherwise no electrical activity. On Day 3, it was noted that patient had brain herniation. A brain flow study was performed and showed no intracranial arterial flow, consistent with brain death and she was declared dead.

Autopsy Findings: Not available.

Case 2040. Acute iron ingestion: undoubtedly responsible

Scenario/Substances: A 23 m/o male was found by his mother with a bottle of ferrous sulfate 325mg tablets. She removed a handful of tablets from his mouth, but he subsequently developed vomiting and diarrhea and she transported him to the ED ~2.5h after ingestion.

Past Medical History: No remarkable past medical history and no medications.

Physical Exam: BP 77/53, HR 133, RR 30, O₂ sat 91% on RA, T 32.3°C. He was lethargic and quickly became comatose with cool extremities.

Laboratory/Diagnostic Findings: Na 141 / K 2.7 / Cl 113/ CO₂ 13 / BUN 5 / Cr 0.4 / Glu 344 / AG 15, lactate 2.3mmol/L, AST 30, ALT 11. WBC 47 / Hgb 10.2 / Hct 35 / Plt 295, PT 26.8/INR 2.8 / PTT > 100, Fibrinogen < 80, Ammonia 92 mcmol/L. VBG-pH 7.0 / pCO₂ 43 / pO₂ 40 / HCO₃ 9.9 / BE -29.6. Serum APAP, ethanol and salicylate not detected. UDS negative. Abdominal Xray: showed 10–12 radiopaque densities in the stomach and small intestine. AST later peaked at 1541 and ALT at 494.

Clinical Course: In the ED, the patient was lethargic and tachycardic with delayed capillary refill. Patient was resuscitated with normal saline boluses and oxygen. IV deferoxamine was started along with further fluid resuscitation. The patient decompensated over the next 2h requiring intubation, ventilation, oxygenation, and vasopressors in the ED. He was admitted to the ICU and clinical deterioration continued for the next several hours with hemodynamic instability requiring additional vasopressors, worsening metabolic acidosis requiring sodium bicarbonate infusions, significant coagulopathy and DIC resulting in ongoing hemorrhagic shock, and hypothermia. CRRT was initiated within 6h and deferoxamine was infused into the input port. The iron level peaked at 23,000mcg/dL ~6.5h after ingestion and then subsequently dropped to 282mcg/dL about 21h after ingestion. The patient was placed on VA-ECMO at ~14h post ingestion for refractory hemodynamic instability. He had ongoing and worsening hemorrhagic shock characterized by GI hemorrhage, bleeding into the chest and bleeding from all IV/cannula sites that was refractory to mass transfusion protocol. Patient developed multi-organ system failure. ~21.5h after ingestion. Based on the prognosis, the family opted for institution of comfort measures, and he died.

Autopsy Findings: Not done.

Case 2093. Acute glipizide ingestion: undoubtedly responsible

Scenario/Substances: A 22 m/o female was awake in the morning and then slept all day. She was transported to the emergency department in the evening when the family could not awaken her and she was somewhat stiff. EMS found her to be hypoglycemic and gave D10W and glucagon. The family was concerned she could have ingested melatonin gummies. That product had been recalled for possibly having unreliable amounts of melatonin, up to 164% of the amount reported on the label. The parents denied medications in the home, but the grandparents had metoprolol, pantoprazole, fenofibrate, metformin, gabapentin, and semaglutide.

Physical Exam: BP 102/65, T 37°C.

Laboratory/Diagnostic Findings: Na 136 / K 5.7 / Cl 106 / CO₂ 19 / BUN 14 / Cr 0.24 / Glu 181 / AG 11, lactate 0.222 mg/dL, AST 38, ALT 23, WBC 13.2 / Hgb 12 / Hct 38.7% / Plt 580, ABG-pH 7.27 / pCO₂ 28 / pO₂ 188 / HCO₃ 13 / BE -14. Serum APAP, ethanol and salicylate not detected. UDS negative. ECG: Normal rate and rhythm. Head CT: no signs of intracranial hemorrhage.

Clinical Course: In the ED she was breathing spontaneously but did have hypertonicity and a clenched jaw. She received lorazepam and levetiracetam for ongoing seizure concerns and antibiotics were given. She had no response to naloxone. She was then intubated and admitted to the PICU. About 12h into hospital course her blood glucose dropped to 11 mg/dL. Dextrose boluses and a D25W infusion were given to maintain blood glucose. On Day 2, an EEG indicated ongoing seizures and MRI revealed significant ischemic changes. On Day 3 her blood sugar stabilized and the D25W infusion was stopped. She developed a fever and was given fosphenytoin for some more seizure concerns. On Day 5, head CT confirmed she had a tonsillar herniation with significant hypertension, but still had some brain activity on EEG. On Day 7 her EEG went flat and testing confirmed brain death. Throughout her stay she had extensive endocrinology, genetic and infectious disease workups that showed no abnormalities. Based on the prognosis, the family opted for institution of comfort measures, and she died on Day 8. An investigation of possible abuse was requested.

Autopsy Findings: Glipizide was found in postmortem specimens. Cause of death: Complications of hypoglycemia due to glipizide toxicity.

Case 2205. Acute methamphetamine, dextromethorphan/guaifenesin ingestion: undoubtedly responsible

Scenario/Substances: A 3 y/o male was brought by parents to the ED after a therapeutic dose of dextromethorphan/guaifenesin cough syrup for children was followed by alteration of mental status and several seizures at home.

Physical Exam: In the ED BP 50/30, HR 210, T 40°C. Neuromuscular rigidity.

Laboratory/Diagnostic Findings: Na 145 / K 3.1 / Cl 113 / HCO₃ 18 / Glu 244 / BUN 8 / Cr 1.0, INR 2.1, WBC 13.4 / Hgb 36 / Plt 16. ABG-pH 7.2 / pCO₂ 60. ECG: HR 157 / QRS 87 / QTc 487. Serum APAP and salicylate not detected. UDS positive for amphetamine.

Clinical Course: In the ED, he had altered mental status with diffuse hypertonicity/rigidity, and the temperature increased to 42.8°C. The child was intubated, ventilated, oxygenated and treated with lorazepam, midazolam, rocuronium, and dantrolene. He was placed on an external cooling protocol. Hypotension was treated with IV fluid boluses, and epinephrine infusion. He was transferred to tertiary care PICU. At PICU, T 38.4°C, HR 174, BP 102/86, pH 7.139, lactate 13 mmol/L, CPK 5957, troponin

14,897 ng/L, WBC 28.74 and Hgb 12.1. On Day 2, head CT showed extensive loss of gray-white differentiation consistent with diffuse anoxic brain injury; extensive mass effect including tonsillar and transtentorial herniation. He was put on comfort care and died. Comprehensive urine test at 12h after symptom onset: lorazepam 78 ng/mL (given in ED), 1-OH midazolam > 500 ng/mL (given in ED), diphenhydramine 2600 ng/mL (given in ED), amphetamine 5600 ng/mL, methamphetamine > 10,000 ng/mL.

Autopsy Findings: Additional toxicology: hair testing identified methamphetamine by GC/MS at 5840 pg/mg; hospital blood: amphetamine 150 ng/mL, methamphetamine 6500 ng/mL; post-mortem blood (femoral vein): methamphetamine 3.9 mg/L, amphetamine 0.15 mg/L, diphenhydramine 0.23 mg/L, acetaminophen 17 mg/L.

Case 2506. Acute camphor ingestion: contributory

Scenario/Substances: A 4 y/o female had URI symptoms for several days as did her mother. For symptomatic relief, her mother dissolved camphor tablets in water and had her inhale the vapors. While preparing the solution, the child ingested about half a tablet. ~30 min later, the child awoke, vomited, and seized; EMS was called.

Past Medical History: Speech delay, sickle cell disease on hydroxyurea 300 mg daily, dactylitis at 6 m/o, vaso-occlusive crisis, and an admission for abdominal pain 5 months earlier.

Physical Exam: In the ED BP 114/62, HR 127, RR 20, O₂ sat 100% on NRB, somnolent, tonic clonic activity.

Laboratory/Diagnostic Findings: Na 139 / K 4.4 / Cl 110 / CO₂ 20 / Cr 4.67 / Glu 204. ABG- pH 7.19 / PCO₂ 53 / PO₂ 68 / HCO₃ 20 / lactate 3.9 mmol/L. ECG: sinus tachycardia.

Clinical Course: She arrived at the ED postictal. She seized again, received lorazepam, and soon after stopped convulsing. She was intubated and sedated with propofol, then transferred to a tertiary care center with PICU capability. Upon arrival, she was maintained on video EEG that showed no seizures and diffuse beta likely secondary to benzodiazepine administration. ~12h after arrival to the hospital, the patient suddenly had output of copious secretions from her endotracheal tube and increased work of breathing. EEG showed no seizure activity. The patient's hypoxia got progressively worse (O₂ sat < 70%) even with suctioning, ventilator setting changes, and manual bagging. Initially tachycardic during this significant event, she became bradycardic and then eventually suffered a cardiac arrest with PEA. Despite maximal interventions for the next 60+ min, a perfusing rhythm was unable to be obtained and the patient died. Contributory illness: sickle cell crisis.

Autopsy Findings: Diffuse sickling in all major organ systems.

Abbreviations & Normal Ranges

~:	approximately
abd:	abdomen
ABG:	ABG-pH/pCO ₂ /pO ₂ /HCO ₃ /BE
pH:	arterial blood gases
pCO ₂ :	hydrogen ion concentration [7.38-7.42 mmHg]
pO ₂ :	partial pressure of carbon dioxide [38-42 mmHg]
HCO ₃ :	partial pressure of oxygen [90-100 mmHg]
BE:	bicarbonate [22 - 28 mEq/L]
ACLS:	base excess [±2 mEq/L or mmol/L]
ADHD:	advanced cardiac life support, protocol for the provision of cardiac resuscitation
AF:	attention deficit hyperactivity disorder
	atrial fibrillation

AG:	anion gap Na - (Cl HCO ₃) [12±4 mEq/L or mmol/L]	CKMB:	MB fraction of CK [0.0–5.5 mcg/L; 0.0–5.5 ng/mL] Fraction of total CK activity [0–0.04; 0–4.0%]
AICD:	automatic implanted cardio defibrillator	Cl:	chloride [102-109] mEq/L
AKI:	acute kidney injury	CMV:	cytomegalovirus
ALP:	alkaline phosphatase [13-100] U/L	CNS:	central nervous system
ALT:	Alanine aminotransferase [7-41] U/L = (SGPT)	CO ₂ :	bicarbonate on BMP [22-26] mmol/L
AMA:	against medical advice	COHb:	carboxyhemoglobin (RR < 3%)
ammonia:	[15-47] mcmol/L, [25-80] mcg/dL	COPD:	chronic obstructive pulmonary disease
amp:	ampoule	CPAP:	continuous positive airway pressure
amphetamines (hallucinogenic)	one or more of the products (6-APB, bath salts, plant food, Bliss, Ivory Wave, Purple Wave, Vanilla Sky, et al) or chemicals (3,4 methylenedioxypropylvalerone [MDPV], 6-(2-aminopropyl)benzofuran [6-APB], butylone, desoxypipradrol [2-DPMP], ethylone, flephedrone, naphyrone, mephedrone, methylenedioxypropylvalerone, methylone, methcathinone, et al);	CPR:	cardiopulmonary resuscitation
AMS:	altered mental status	Cr:	creatinine [0.5-0.9] mg/dL females, [0.6-1.2] males
APAP:	acetaminophen (acetyl-para-aminophenol), therapeutic [10-20] mcg/mL	CRRT:	continuous renal replacement therapy
APLS:	advanced pediatric life support, protocol for the provision of cardiac resuscitation	CSF:	cerebrospinal fluid
aPTT:	activated partial thromboplastin time [30-40] sec	CT:	computed tomography (CAT scan)
ARDS:	acute respiratory distress syndrome	CVA:	cerebrovascular accident
AST(SGOT):	Aspartate aminotransferase [12-38] U/L	CVP:	central venous pressure
AV block:	atrio-ventricular block	CVVH:	continuous venovenous hemodiafiltration
BAL:	British anti-Lewisite	CxR:	chest radiograph, chest xray
BBB:	bundle branch block	c/w:	consistent with
BE:	base excess [±2mEq/L or mmol/L]; bicarbonate [22-26] mmol/L	d-dimer:	protein released from blood clot break down, [0-0.50] mg/L
bicarbonate:	[22-26] mmol/L	D10W:	10% dextrose in water
bili (direct):	direct bilirubin [0.1, 0.4] mg/dL	D50W:	50% dextrose in water
bili (indirect):	indirect bilirubin [0.2, 0.9] mg/dL	D5NS:	5% dextrose in normal saline
bilirubin:	total bilirubin [0.3-1.3] mg/dL	D5W:	5% dextrose in water
BiPAP:	bilevel positive airway pressure, pressure support with 2 levels of continuous positive airway pressure	Day:	when capitalized, Day hospital day, i.e., days since admission to the initial hospital admission for this exposure
BLQ:	below the limit of quantitation	DIC:	disseminated intravascular coagulation
BMI:	body mass index [18.5-29.4] kg/m ²	DM:	diabetes mellitus
BNPT:	prohormone with a 76 amino acid N-terminal inactive protein that is cleaved from the molecule to release brain natriuretic peptide. CHF is likely if BNPT > 125 pg/mL (<75 y/o), > 450 pg/mL (>75 y/o)	DNI:	do not intubate
body packing:	insertion of drugs into body orifices to evade law enforcement	DNR:	do not resuscitate
body stuffing:	the ingestion of drugs in order to evade law enforcement	drip:	intravenous infusion
BP:	Blood Pressure, systolic/diastolic, (Torr)	Dx:	diagnosis
BPH:	benign prostatic hypertrophy	ECG:	electrocardiogram (EKG), leads I, II, III, aVR, aVL, aVF, V1, V2, V3, V4, V5, V6
BUN:	see Urea nitrogen	ECHO:	echocardiogram
C:	degrees Centigrade	ECMO:	extracorporeal membrane oxygenation
Ca (ionized):	ionized calcium, [4.5-5.6] mg/dL	ED:	emergency department, in these abstracts refers to the initial health care facility
Ca:	calcium [8.7–10.2] mg/dL	EDDP:	principal methadone metabolite, 2-ethylidene-1,5- dimethyl-3,3-diphenylpyrrolidine
CABG:	coronary artery bypass graft	EEG:	electroencephalogram
CAD:	coronary artery disease	EGD:	esophagogastroduodenoscopy
CHF:	congestive heart failure	ELISA:	enzyme-linked immunosorbent assay
CIWA:	Clinical Institute Withdrawal Assessment for Alcohol	EMS:	emergency medical services, paramedics, the first responders
CK:	creatinine kinase (CPK), total:[39-238] U/L females, [51-294] U/L males	EOMI:	extraocular movements intact.
		ER:	extended release medication
		ETT:	endotracheal tube
		Fe:	serum iron [60-170] mcg/dL
		FFP:	fresh frozen plasma
		FiO ₂ :	fraction of inspired oxygen (%)
		g:	grams;
		g/dL:	grams per deciliter
		GCS:	Glasgow Coma Score, ranges from 3 to 15
		GERD:	gastroesophageal reflux disease
		GI:	gastrointestinal
		Glu:	glucose, fasting [75-110] mg/dL
		h:	hours
		HBO:	hyperbaric oxygen treatment/therapy
		HCF:	health care facility

HCG:	human chorionic gonadotropin test for pregnancy	myoglobin:	measure of muscle injury [5-70] mcg/mL
HCO ₃ :	bicarbonate [22 - 28 mEq/L]	Na:	sodium [136-146] mEq/L
HCP:	health care provider	NAC:	n-acetylcysteine
Hct:	hematocrit [35.4-44.4] females, [38.8-46.4]% males		
HD:	hemodialysis	Narrative Headers:	
Hgb:	hemoglobin [12.0-15.8] g/dL females, [13.3-16.2] g/ dL males	<ul style="list-style-type: none"> • Scenario/Substances: concise narrative of EMS & pre-HCF events • Past Medical History: available relevant past medical history • Physical Exam: initial physical exam if available • Laboratory/Diagnostic Findings: initial results, give units except for units given in abbreviations • Clinical Course: concise narrative of HCF & beyond with outcome • Autopsy Findings medical examiner and/or autopsy results 	
HIE:	hyperinsulinemia-euglycemia therapy		
HIV:	human immunodeficiency virus		
Hour:	when capitalized, Hour or hours since admission or since exposure as specified in the narrative		
HR:	HR, beats per min	NG:	nasogastric
HTN:	hypertension	ng/mL:	nanograms per milliliter
IABP:	intraortic balloon pump	NOS:	not otherwise specified
ICP:	intracranial pressure	not detected:	analyte below the level of quantitation, negative
ICU:	intensive care unit	NPO:	<i>nil per os</i> , nothing by mouth
IDDM:	insulin dependent diabetes mellitus	NRB:	non rebreathing mask for O ₂ delivery
IgE:	immunoglobulin E	NS:	normal saline
ILE:	intravenous lipid emulsion (20%)	NSR:	normal sinus rhythm
IM:	intramuscular	NSTEMI:	non-ST segment elevation myocardial infarction
INR:	international normalized ratio (PT to control) [0.8-1-2]	O ₂ sat:	oxygen percent saturation [94-100]% at sea level
IO:	intraosseous	OG:	serum osmol gap measured serum osmolality – calculated serum osmolality [0±10 mOsmol/kg]
IU/L:	international units per Liter	OR:	operating room
IV:	intravenous	Osm:	osmole
IVF:	intravenous fluid(s)	OTC:	over the counter
K:	potassium [3.5-5] mEq/L	PALS:	pediatric advanced life support
kg:	kilogram	PC:	poison center (PCC, or Poison Control Center)
L:	Liter;	PCC:	prothrombin complex concentrate
lactate:	lactic acid [0.5-1.6] mmol/L arterial, [0.5-2.2] mmol/ L venous [4.5-14.4] mg/dL arterial, [4.5-19.8] mg/dL venous	PCP:	primary care provider
LBBB:	left bundle branch block on ECG	PEA:	pulseless electrical activity
LFT:	liver function tests	PEEP:	positive end expiratory pressure
LV:	left ventricle	PERRLA:	pupils, equal, round and reactive to light and accommodation
LVEF:	left ventricular ejection fraction		
m/o:	months old	Phos:	phosphate (phosphorous) [2.5-4.5] mg/dL
MAP:	mean arterial pressure	PICU:	pediatric intensive care unit
mcg/dL:	micrograms per deciliter	Plt:	platelet count [150-400] x10 ⁹ /L
mcg/L:	micrograms per Liter	PO:	per os (“by mouth” in Latin)
mcg/min:	micrograms per minute	POC:	point of care
mcg/mL:	micrograms per milliliter	ppm:	parts per million
mcmol/L:	micromoles per liter	PR:	P-R interval [120-200] msec on the ECG
MDA:	3,4-methylenedioxymphetamine	PRBC:	packed red blood cells
MDMA:	methylenedioxymphetamine (ecstasy, molly)	PRN:	as needed
ME:	medical examiner	PT:	prothrombin time, INR is preferred, but PT may be used if INR is not available
MetHgb:	methemoglobin (RR < 1%)	PTA:	Prior to admission
Mg:	magnesium [1.5-2.3] mg/dL	PTSD:	post-traumatic stress disorder
mg:	milligrams	PTT:	partial thromboplastin time [26.3-39.4] sec
mg/dL:	milligrams per deciliter	PVC:	premature ventricular contraction
mg/kg:	milligrams per kilogram	QRS:	ECG QRS complex duration [60-100] msec
mg/L:	milligrams per Liter	QT:	Q to T interval on the ECG waveform, varies with HR
min:	minutes	QTc:	QT interval corrected for HR, usually QTcB QT/RR ^{1/2} (Bazett correction) 1-15 y-o [<440] msec, adult male [<430] msec, adult female [<450] msec
mL:	milliliter		
mmol:	millimoles	RA:	on room air
mmol/L:	millimoles per Liter	RBBB:	right bundle branch block on ECG
mosm/kg:	milliosmoles per kilogram	RBC:	red blood cell(s)
mosm/L:	milliosmoles per Liter	RLL:	right lower lobe
MRI:	Magnetic Resonance Imaging	ROSC:	return of spontaneous circulation
MRSA:	Methicillin-resistant Staphylococcus aureus	RPC:	regional poison center
ms:	milliseconds	RR:	respiratory rate, breaths per minute
MSDS:	material safety data sheet		

s/p:	status post
salicylate:	aspirin, acetylsalicylic acid, therapeutic [15-30] mg/dL
SBP:	systolic blood pressure
sec:	seconds
SL:	sublingual
SVT:	supraventricular tachycardia
T (oral):	Temperature (oral) [36.4, 37.2] °C
T (rectal):	Temperature (rectal) [36.4, 37.2] °C
T (tympanic):	Temperature (tympanic) [36.4, 37.2] °C
TBSA:	total body surface area
THC:	tetrahydrocannabinol
THC Homolog:	one or more of the products (Blaze, Dawn, herbal incense, K2, Red X, spice, et al) or chemicals (cannabicyclohexanol, CP-47,497, JWH-018, JWH-073, JWH-200, et al)
TPN:	total parenteral nutrition
Tprot:	total protein
troponin:	troponin I, normal range [0-0.08] ng/mL, Cut-off for MI > 0.04 ng/mL
TTE:	transthoracic echocardiogram
U:	units
U/dL:	units per deciliter
U/L:	units per liter
U/mL:	units per milliliter
UA:	urinalysis
UDS:	urine drug screen
Urea nitrogen:	BUN [6-17] mg/dL
VBG:	venous blood gases
VF:	ventricular fibrillation
VSD:	ventricular septal defect
VT:	ventricular tachycardia
WBC:	white blood cell (leukocyte) count [3.54-9.06] 10 ³ /mm ³
WBI:	whole bowel irrigation
WNL:	within normal limits
y/o:	year old

Disclaimer – all laboratories are different and provide their own normal ranges. Units and normal ranges are provided here for general guidance only. These values were taken from Harrison's^a, Goldfrank's^b or Dart^c

^aTable S10-1 Selected Examples of Laboratory Critical Values, *Harrison's Principles of Internal Medicine 21e*. McGraw-Hill Professional, 2022. Available from: <https://accessmedicine.mhmedical.com/> Aug 23, 2023.

^b*Goldfrank's Toxicologic Emergencies, 11th Edition*, McGraw-Hill Education, 2019. Available from <https://accesspharmacy.mhmedical.com/> Aug 23, 2023

^c*Dart RC, ed. Medical Toxicology, 3rd Edition*, Lippincott, Williams & Wilkins, 2004.

Typical laboratory panels

ABG-pH/pCO₂/pO₂/HCO₃/BE

Basic metabolic panel: Na/K/Cl/CO₂/BUN/Cr/Glu/AG

Complete blood count: WBC/Hgb/Hct/platelets

APPENDIX D

POISONHELP.ORG

Methods: Raw data from PoisonHelp.org was extracted into Microsoft Excel 365 (Redmond, WA, USA) in sequential contact format. On review of each year, it was evident that some se-

quential contacts appeared to be repeat entries due to similarities of nearly every data field over short time periods (i.e., minutes) between contacts. To account for these apparent repeats, identified by adjacent sequential contact numbers or separated by only a single contact, line items with identical age category, state, verbatim substance input (first three characters), and originating operating system were considered repeat entries and were excluded from the final analyses.

The table shows ages of individuals who were involved in human exposures (HEs) reported to PoisonHelp.org Virtual Poison Center during the past 3 years of operation.

Table D-1. Age Distribution of PoisonHelp.org Contacts (repeats excluded).

Year	2020	2021	2022
Age ≤5	6,352	3,799	2,614
6-12	1,218	946	884
Teen 13-19	3,113	2,490	2,058
Adult 20-69	12,591	10,143	8,687
Adult 70+	1,200	1,068	1,093
Unknown Age	11	1	0
Total Counts	24,485	18,447	15,336

Table D-2 lists the 15 most frequent substances involved in human exposure contacts when the substance was known (n = 14,485) reported to PoisonHelp.org in 2022.

Table D-2. Substance Frequency – 2022.

Substance Generic Code	Contact Counts	Percentage of Contacts
Systemic Antibiotic Preparations (Oral, IV, IM)	759	5.24%
Benzodiazepines	687	4.74%
Sertraline	432	2.98%
Atypical Antipsychotics	409	2.82%
Other Types of Miscellaneous Prescription or Over the Counter Drug	321	2.22%
Cetirizine	320	2.21%
Ibuprofen	316	2.18%
Amphetamines and Related Compounds	246	1.70%
Corticosteroids	243	1.68%
Beta Blocker, Alone	242	1.67%
Angiotensin Receptor Blocker, Alone	234	1.62%
Loratadine	214	1.48%
Antacids: Proton Pump Inhibitors	210	1.45%
Escitalopram	205	1.42%
Diphenhydramine (Alone)	191	1.32%

Total number of entries and repeat entries excluded by this process for the past three years are expressed in Table D-3 below:

Table D-3. PoisonHelp.org Contacts per Year

Year	2020	2021	2022	3 Year Totals
Original Counts	28,662	21,691	18,649	69,002
Excluded Repeat Entries	4,177	3,244	3,313	10,734
Final Counts	24,485	18,447	15,336	58,268
% Excluded	14.6%	15.0%	17.8%	15.6%
Information Contacts	0	0	6,283	6,283*
Final Count minus information cases	24,485	18,447	9,053	51,985*

*Only 2022 had contacts stratified between exposure and information.

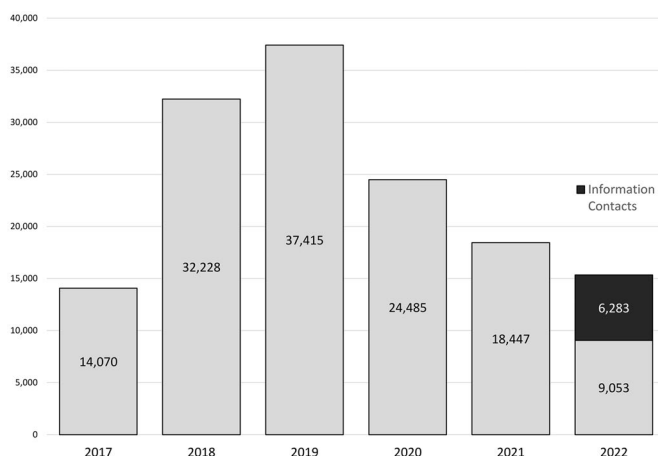


Figure D-1. Contacts per Year. The figure demonstrates total contacts to the PoisonHelp.org Virtual Poison Center during the initial 6 years of operation.

APPENDIX E

Acknowledgments

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We gratefully acknowledge the extensive contributions of each participating PC and the assistance of the many health care providers who report comprehensive data to the PCs for inclusion in this database. We especially acknowledge the dedicated efforts of the Specialists in Poison Information (SPIs) who meticulously managed and coded 2,483,183 encounters at US PCs in 2022.

As in previous years, the initial review of reported fatalities and development of the abstracts and case data for NPDS was the responsibility of the staff at the 55 participating PCs. Many individuals at each center participated in the fatality case preparation. These toxicology professionals and their centers are:

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Regional Poison Center Fatality Awards

Each year, America's Poison Centers and the Fatality Review team recognizes several regional PCs for their extra effort in their preparation of fatality reports and prompt responses to reviewer queries. The awards are presented each year at the North American Congress of Clinical Toxicology Annual meeting.

First Center to Complete all Cases (2/1/2023-Tie)

Louisiana Poison Center (Shreveport) (22 case)

Mississippi Poison Control Center (Jackson) (20 cases)

Largest Number with Autopsy Reports (32 of 58 cases; 55%)

North Carolina Poison Control (Charlotte)

Highest Percentage with Autopsy Reports (76% of 29 cases)

Cincinnati Drug and Poison Information Center (Cincinnati)

Largest Number of Indirect cases (n= 795; 67.1% of all Indirect cases)

Banner Poison & Drug Information Center (Phoenix)

Highest Overall Quality of Reports (5.56 out of possible 12 for 18 cases)

Kansas Poison Center (Kansas City)

Greatest improvement in Overall Quality of Reports (2.21 increase from last year)

Puerto Rico Poison Center (San Juan)

Most Narratives Published in the 2022 Annual report (4 of the 44 published narratives)

North Carolina Poison Control (Charlotte)

Most Helpful Regional Poison Center Staff (39 hour 92% responses to 25 initial case queries)

Connecticut Poison Control Center (Farmington)

Honorable Mention (with 100% response rate)

Rocky Mountain Poison & Drug Safety (Denver)

Upstate New York Poison Center (Syracuse)

Teaching Award for outstanding contributions to case quality through Reviewer teaching

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APPENDIX F**DATA DEFINITIONS****Reason for Exposure**

NPDS classifies all encounters as either an Exposure case (concern about an exposure to a substance) or an Information request (no exposed human or animal). A contact may provide information about one or more exposed person or animal.

SPIs coded the reasons for exposure reported by callers to PCs according to the following definitions:

Unintentional general: All unintentional exposures not otherwise defined below.

Environmental: Any passive, non-occupational exposure that results from contamination of air, water, or soil. Environmental exposures are usually caused by manmade contaminants.

Occupational: An exposure that occurs as a direct result of the person being on the job or in the workplace.

Therapeutic error: An unintentional deviation from a proper therapeutic regimen that results in the wrong dose, incorrect route of administration, administration to the wrong person, or administration of the wrong substance. Only exposures to medications or products used as medications are included. Drug interactions resulting from unintentional administration of drugs or foods which are known to interact are also included.

Unintentional misuse: Unintentional, improper or incorrect use of a nonpharmaceutical substance. Unintentional misuse differs from intentional misuse in that the exposure was unplanned or not foreseen by the patient.

Bite/sting: All animal bites and stings, with or without envenomation, are included.

Food poisoning: Suspected or confirmed food poisoning; ingestion of food contaminated with microorganisms is included.

Unintentional unknown: An exposure determined to be unintentional, but the exact reason is unknown.

Suspected suicidal: An exposure resulting from the inappropriate use of a substance for reasons that are suspected to be self-destructive or manipulative.

Intentional misuse: An exposure resulting from the intentional improper or incorrect use of a substance for reasons other than the pursuit of a psychotropic effect.

Intentional abuse: An exposure resulting from the intentional improper or incorrect use where the patient was likely attempting to gain a high, euphoric effect or some other psychotropic effect, including recreational use of a substance for any effect.

Intentional unknown: An exposure that is determined to be intentional but the specific motive is unknown.

Contaminant/tampering: The patient is an unintentional victim of a substance that has been adulterated (either maliciously or unintentionally) by the introduction of an undesirable substance.

Malicious: Patients who are victims of another person's intent to harm them.

Withdrawal: Inquiry about or experiencing of symptoms from a decline in blood concentration of a pharmaceutical or other substance after discontinuing therapeutic use or abuse of that substance.

Adverse Reaction Drug: Unwanted effects due to an allergic, hypersensitivity, or idiosyncratic response to the active ingredient(s), inactive ingredient(s) or excipient of a drug, chemical, or other drug substance when the exposure involves the normal, prescribed, labeled or recommended use of the substance.

Adverse Reaction Food: Unwanted effects due to an allergic, hypersensitivity, or idiosyncratic response to a food substance.

Adverse Reaction Other: Unwanted effects due to an allergic, hypersensitivity, or idiosyncratic response to a substance other than drug or food.

Unknown Reason: Reason for the exposure cannot be determined or no other category is appropriate.

Medical Outcome

No effect: The patient did not develop any signs or symptoms as a result of the exposure.

Minor effect: The patient developed some signs or symptoms as a result of the exposure, but they were minimally bothersome and generally resolved rapidly with no residual disability or disfigurement. A minor effect is often limited to the skin or mucus membranes (e.g., self-limited gastrointestinal symptoms, drowsiness, skin irritation, first degree dermal burn, sinus tachycardia without hypotension, and transient cough).

Moderate effect: The patient exhibited signs or symptoms as a result of the exposure that were more pronounced, more prolonged, or more systemic in nature than minor symptoms. Usually, some form of treatment is indicated. Symptoms were not life-threatening, and the patient had no residual disability or disfigurement (e.g., corneal abrasion, acid-base disturbance, high fever, disorientation, hypotension that is rapidly responsive to treatment, and isolated brief seizures that respond readily to treatment).

Major effect: The patient exhibited signs or symptoms as a result of the exposure that were life-threatening or resulted in significant residual disability or disfigurement (e.g., repeated seizures or status epilepticus, respiratory compromise requiring intubation, ventricular tachycardia with hypotension, cardiac or respiratory arrest, esophageal stricture, and disseminated intravascular coagulation).

Death: The patient died as a result of the exposure or as a direct complication of the exposure.

Not followed, judged as nontoxic exposure: No follow-up calls were made to determine the outcome of the exposure because the substance implicated was nontoxic, the amount implicated was insignificant, or the route of exposure was unlikely to result in a clinical effect.

Not followed, minimal clinical effects possible: No follow-up calls were made to determine the patient's outcome because the exposure was likely to result in only minimal toxicity of a trivial nature. (The patient was expected to experience no more than a minor effect.).

Unable to follow, judged as a potentially toxic exposure: The patient was lost to follow-up, refused follow-up, or was not followed, but the exposure was significant and may have resulted in a moderate, major, or fatal outcome.

Unrelated effect: The exposure was probably not responsible for the effect.

Confirmed nonexposure: This outcome option was coded to designate cases where there was reliable and objective evidence that an exposure initially believed to have occurred actually never occurred (e.g., all missing pills are later located). All cases coded as confirmed nonexposure are excluded from this report.

Death, indirect report: Death, indirect report are deaths that the poison center acquired from medical examiner or media, but did not manage nor answer any questions about the death.

Relative Contribution to Fatality (RCF)

The Case Review Team (CRT) includes the Author and Reviewer from the RPC, the America's Poison Centers Lead Reviewer, Peer Reviewer and Manager.

The definitions used for the Relative Contribution to Fatality (RCF) classification were as follows:

1. **Undoubtedly responsible** - In the opinion of the CRT, the Clinical Case Evidence establishes beyond a reasonable doubt that the substances actually caused the death.
2. **Probably responsible** - In the opinion of the CRT, the Clinical Case Evidence suggests that the substances caused the death, but some reasonable doubt remained.
3. **Contributory** - In the opinion of the CRT, the Clinical Case Evidence establishes that the substances contributed to the death, but did not solely cause the death. That is, the substances alone would not have caused the death, but combined with other factors, were partially responsible for the death.
4. **Probably not responsible** - In the opinion of the CRT, the Clinical Case Evidence establishes to a reasonable probability, but not conclusively, that the substances associated with the death did not cause the death.
5. **Clearly not responsible** - In the opinion of the CRT, the Clinical Case Evidence establishes beyond a reasonable doubt that the substances did not cause this death.
6. **Unknown** - In the opinion of the CRT, the Clinical Case Evidence is insufficient to impute or refute a causative relationship for the substances in this death.