WHO road safety data collection experience
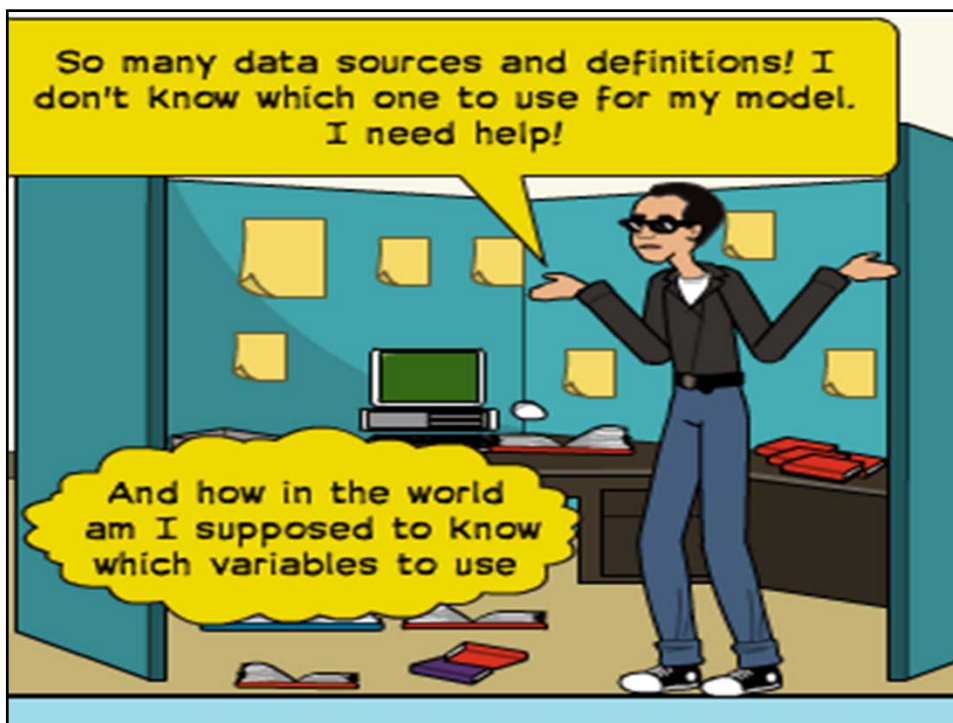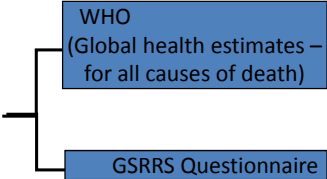
Dr Kacem Iaych
SafeFITS Round Table
Geneva
30 June 2017

So many data sources and definitions! I don't know which one to use for my model. I need help!

And how in the world am I supposed to know which variables to use

Objective

- To share the experience of WHO in road safety data collection efforts to support Member States in planning and decision making using reliable data

WHO and health statistics

- WHO plays a key role in collecting, processing, analysing, disseminating and guiding Member States to improve health data on several topics.
- Intentional and unintentional injuries are included
- Road traffic injuries is one of the injury topics on which WHO collects and disseminates data

WORLD
HEALTH
STATISTICS
2017

MONITORING
HEALTH FOR THE
SDGs

World Health
Organization

WORLD HEALTH
STATISTICS
2015

World Health
Organization

WHO road traffic fatality data sources
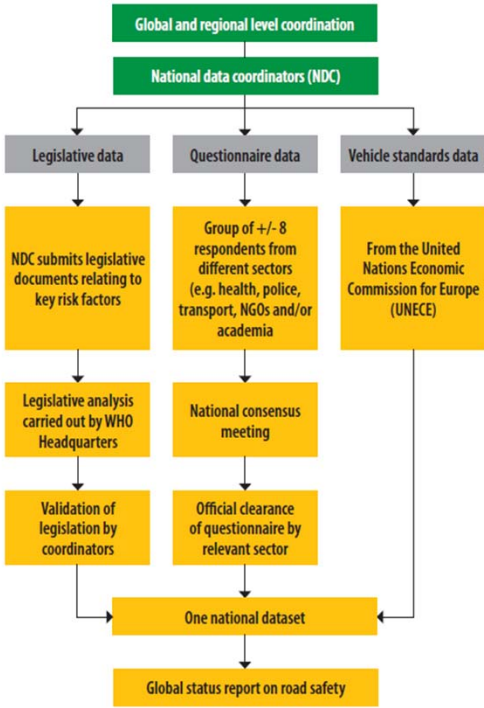
- **Reported health data Vital Registration(VR)**
- **Reported data – through GSRRS questionnaire**
- **Estimate of road traffic fatalities**

WHO
(Global health estimates – for all causes of death)

GSRRS Questionnaire

GSRRS methodology

- Global and regional coordination
- National data coordination
  - Questionnaire data
  - Legislation data
  - Vehicle standards data

Global and regional level coordination

National data coordinators (NDC)

Legislative data	Questionnaire data	Vehicle standards data
NDC submits legislative documents relating to key risk factors	Group of +/- 8 respondents from different sectors (e.g. health, police, transport, NGOs and/or academia)	From the United Nations Economic Commission for Europe (UNECE)
Legislative analysis carried out by WHO Headquarters	National consensus meeting	
Validation of legislation by coordinators	Official clearance of questionnaire by relevant sector	

One national dataset

Global status report on road safety

Data sources on road traffic injuries and fatalities

WHO

- Data sources

  - Police records
  - Health facility records
  - Vital registration / death certification
  - Combine sources
  - Insurance

- Definitions used

  - Died at scene of crash
  - Died within 24 hours of crash
  - Died within 7 days of crash
  - Died within 30 days of crash
  - Died within a year of crash
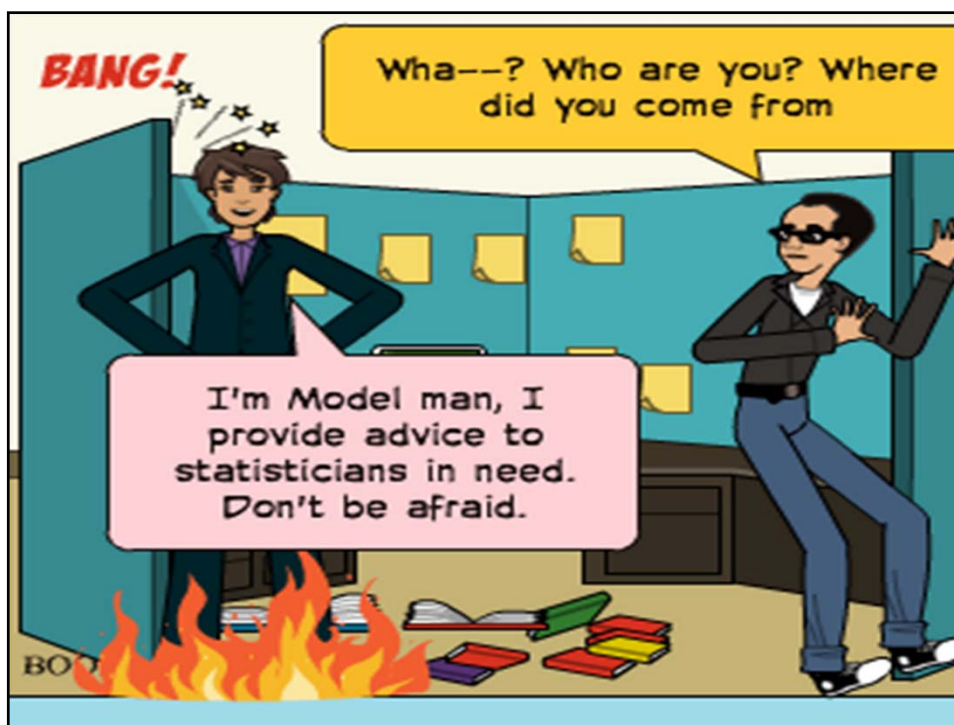 - Unlimited time period following crash

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14% of countries combine databases

- Most countries rely on Police data systems only.

- 100 (of 180) countries use a 30-day definition.

- Good Vital Registration data for 85 countries.

- For 78 countries comparative estimates had to be generated using a statistical model.

Difference between Police and VR data

Country	Police data	Vital registration data	Prop
Belgium	724	1014	40.1
Chile	1623	2116	30.4
Italy	3385	4192	23.8
Japan	4373	5971	36.5
Netherland*	570	650	14.03
Republic Korea	5092	6374	25.2
Spain*	1680	1915	13.9

Why estimate?

- Underreporting of fatalities in reported data
- Incompleteness of data from countries (e.g. some countries have data only from some geographical regions)
- Significant differences in data from vital registration vs. police and other types of data
- Definitions of road traffic death used by countries differ

Classification of countries

Group 1: Countries with death vital registration data

Group 2: Countries with other sources of information or causes of death

Group 3: Countries with population less than 150,000

Group 4: Countries without eligible death registration data

Groups 2 & 3

Group 2

- For India, Iran, Thailand and Viet Nam, data on total deaths by cause were available for a single year or an earlier recent single year or group of years.

Group 3 (13 countries)

- Small countries with populations of less than 150 000 people the deaths reported in the survey were used directly, without adjustment

Independent variables used

Independent variables	Description	Included in models
ln(GDP)	WHO estimates of Gross Domestic Product (GDP) per capita (international dollars or purchasing power parity dollars, 2011 base)	Models A, B, C
ln(vehicles per capita)	Total vehicles per 1000 persons	Models A, B, C
Road density	Total roads (km) per 1000 hectares	Models A, B, C
National speed limits on rural roads	The maximum national speed limits on rural roads (km/h) from WHO questionnaire	Models A, B, C
National speed limits on urban roads	The maximum national speed limits on urban roads (km/h) from WHO questionnaire	Models A, B, C
Health system access	Health system access variable (principal component score based on a set of coverage indicators for each country)	Models A, B, C
Alcohol apparent consumption	Liters of alcohol (recorded plus unrecorded) per adult aged 15+	Models A, B, C
Population working	Proportion of population aged 15-64 years	Models A, B, C
Percentage motorbikes	Per cent of total vehicles that are motorbikes	Model B
Corruption index	Control of corruption index (units range from about -2.5 to +2.5 with higher values corresponding to better control of corruption	Model B
National policies *for walking /cycling*	Existence of national policies that encourage walking and / or cycling	Model C
Population	Total population (used as offset in negative binomial regression)	Models A, B, C

Results of estimation

- 2007: 1.1 million deaths (GSRRS1 - 2009)

- 2010: 1.24 million deaths (GSRRS2 – 2013)

- 2013:1.25 million deaths (GSRRS3 -2015)
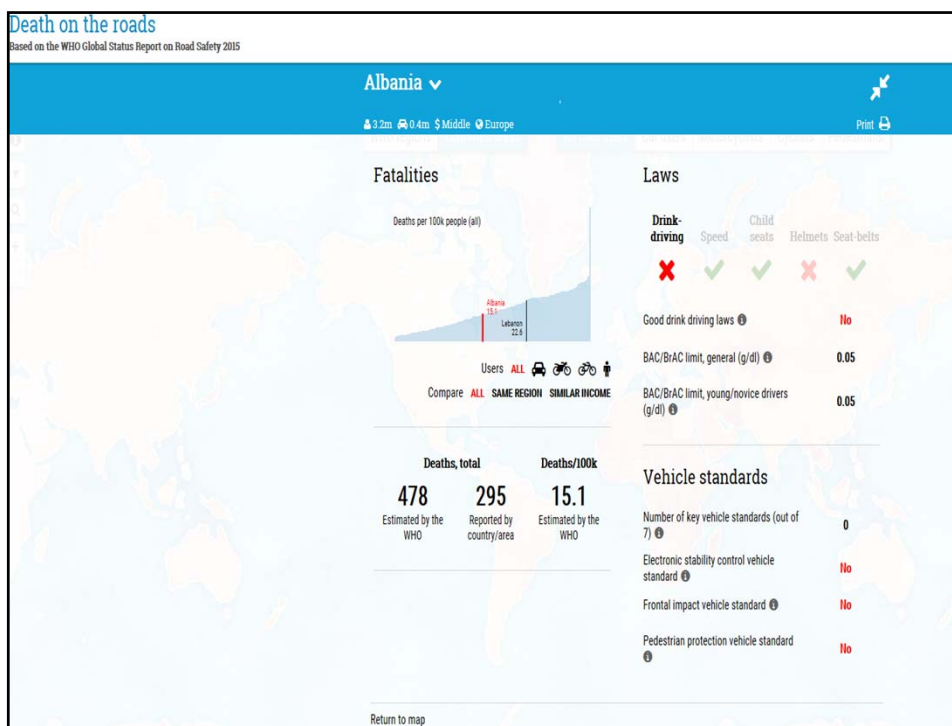
- 2015: 1.3 million (GHE -2017)

Conclusion

- This multi-method approach has been used for three reports
- It is continuously being improved
- We welcome your feedback on how to make it better

References

➢ Global Status Report on Road Safety
http://www.who.int/violence_injury_prevention/road_safety_status/2015/en/

➢ Global Health Estimates
http://www.who.int/healthinfo/global_burden_disease/estimates/en/index1.html

➢ Data visualization
http://www.who.int/violence_injury_prevention/road_traffic/death-on-the-roads/en/

Thank you for your attention

iaychk@who.int

http://www.who.int/violence_injury_prevention/en/