CDC Office of Science Priorities

Data Modernization
Support CDC's data modernization & innovation through strengthening systems, leveraging data science and partnerships

Health Equity Science
Drive health equity science agency-wide through the CORE Health Equity Strategy

Strategic Science
Advance prioritized, high quality scientific work that informs policy and guides practice to optimize public health impact

Scientific Infrastructure
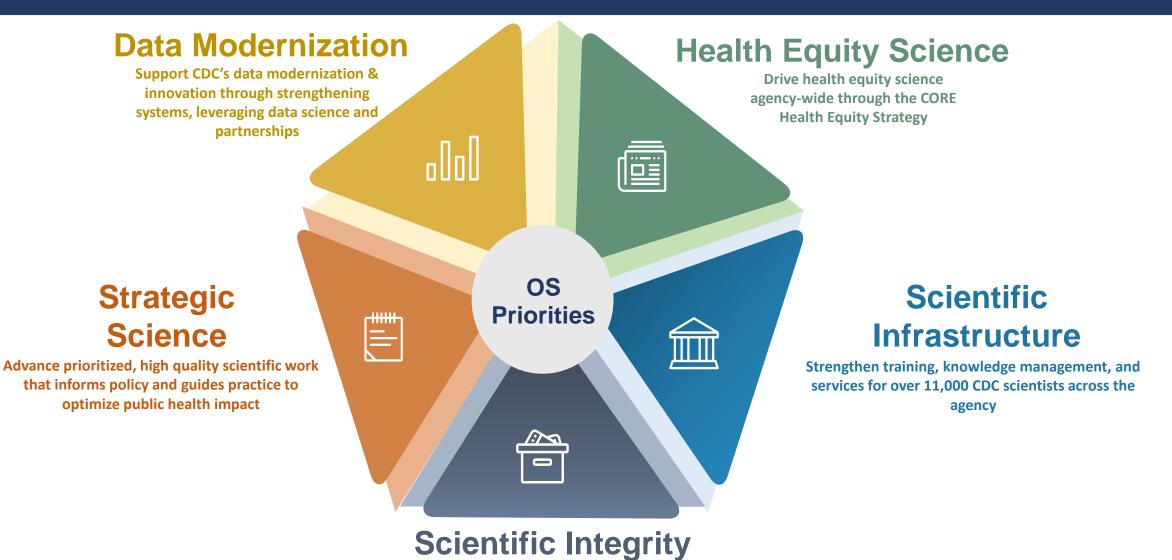Strengthen training, knowledge management, and services for over 11,000 CDC scientists across the agency

OS Priorities

Scientific Integrity
Ensure that CDC scientific and research activities meet the highest standards of ethics, transparency, and quality

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CDC Office of Science — QUALITY | INTEGRITY | INNOVATION

Each office implements key activities that advance all OS Priorities in 2021-22

2021 - 2022

	Genomics & Precision Public Health (OGPPH)	Library Science (OLS)	Scientific Integrity (OSI)	Science Quality (OSQ)	Technology & Innovation (OTI)
Strategic Science	✓ Advancing targeted, high quality scientific work that informs policy and guides practice intended to optimize public health. Identify priority areas for public health impact in human genomics and precision public health in the next decade based on the state of the science and with multisector stakeholder engagement.	✓ Conduct literature searches and research consultations and collaborate with the COVID-19 Chief Medical Officer to produce and disseminate the COVID-19 Science Updates. Support the COVID-19 Strategic Science Unit with a focus on implementing ORCID IDs across the agency.	✓ Through OSI's guidance and tools, encourage CIOs and investigators to describe how their planned activities and projects advance the science and research specific to CDC's Strategic Priorities.	✓ Leverage resources and expertise in scientific clearance, guidelines development, science impact assessment, and knowledge management to support the work of the Strategic Science Unit and agency-wide strategic science agenda.	✓ Engage multi-disciplinary and -sector collaborators and stakeholders to build a diverse and strategic group of partners and enhance our ability to share ideas, piggyback resources, decrease costs, and shorten timelines to implementation. Focus will be on expanding partnerships with University Affiliated Research Centers and others who can advance our data modernization, health equity, and other strategic priorities.
Data Modernization	✓ Develop new approaches to public health surveillance for genomics and precision health applications, beginning with familial hypercholesterolemia as a model. Integrate host genomics in public health surveillance and research.	✓ Advance emerging systems and technologies, data modernization, and data visualization by implementing a new Library Team. Build on previous library space pilots to incorporate state-of-the-art innovative library spaces while adhering to COVID-19 space and safety requirements.	✓ Leverage STARS and other knowledge management systems to streamline and expedite review for federal regulations (human subjects, privacy protections, Paperwork Reduction Act) and public health ethics to eliminate manual or email-based processes and outdated systems.	✓ Create dashboards to monitor scientific products, promote data-use agreements, and improve public use of CDC science products.	✓ Build a vital innovation and entrepreneurial community within CDC where collaboration is encouraged, and ideas and best practices are shared and scaled. Equip the scientific workforce with skills and resources to reduce the time needed to translate a promising idea to a solution to increase the pace of modernization.
Health Equity Science	✓ Support equitable implementation of evidence-based genomic applications for disease prevention to improve population health outcomes by developing and implementing population health practice guidelines based on systematic reviews of evidence in collaboration with community partners.	✓ Promote and advance OS efforts to address health equity across the agency and improve the Library's collection on health equity and health equity science related topics. Build on the Health Equity and Anti-Racism (HEAR) eBook series and enhance collection of books, journals, and databases related to health equity.	✓ Establish a CDC operational policy that promotes equal access to research and clinical investigations and inclusion of diverse populations and populations that are disproportionally impacted by public health diseases and illness.	✓ In collaboration with STARS stakeholders, OSQ's Knowledge Management Unit will unveil new HES-related questions in STARS to monitor agency-wide HES projects. OSQ will also lead the development of technical assistance for HES agenda development, and work with scientific workgroups to support agency HES initiatives.	✓ Leverage complementary capabilities of partners and collaborators to develop and scale strategies and solutions such as our collaboration with NASA, Georgia Tech Research Institute, and our extramural programs, including the Small Business Innovation Research Program, to catalyze innovation in health equity science.
Scientific Integrity	✓ Provide ongoing training opportunities for CDC staff and partners in leading genomics and precision health topics to help ensure that CDC scientific and research activities meet the highest standards of ethics, transparency, and quality.	✓ Support efforts to maintain scientific integrity through conduct of literature searches using sound and reproducible methodologies.	✓ Attract, recruit, and retain staff that are trained subject matter experts in human subjects, ethics, and privacy.	✓ Revise external-facing web sites, create checklists, and provide consultation, to support CDC scientific integrity.	✓ Responsibly stimulate new and evolving scientific practices (i.e., citizen science and community–engaged research) by providing consultation and a central portal of information on emerging, innovative topics and practices.
Scientific Infrastructure	✓ Enhance the CDC Genomics and Precision Health website and searchable publications knowledge base (PHGKB) as sources of scientific information on priority public health topics, such as COVID-19. Continue to provide technical assistance and enhanced training and communication products to support CDC public health response.	✓ Continue to increase awareness, use, and impact of the Library through innovative communications initiatives and partner engagement strategies. Create a safe and healthy Library environment and build on longstanding excellent customer experience for in-person library services. Prepare for eventual return to campus locations.	✓ Expand knowledge management technology to support regulatory review by the CDC IRB, CDC CRG, and to the extent possible, HHS and OMB. Automate reporting of key metrics to continually improve scientific integrity-related guidance and review.	✓ Promote early and proactive engagement with CDC scientists, and use the Knowledge Management IT systems to harmonize data in various systems, and to reinforce standardized approaches so that data can be used to accurately inform Agency situational awareness regarding CDC science.	✓ Make technology transfer and innovation resources more discoverable and efficient. Cultivate greater connectivity with customers and the broader innovation ecosystem to expand the pipeline of collaborators and accelerate the translation of ideas and needs to solutions. Develop a central web portal that hosts information on innovation and data modernization resources, opportunities, services, etc.

2021 OS Strategic Priorities Action Dashboard

Strategic Science

- ● Established Strategic Science Unit (SSU) within the COVID-19 IM Response
- ● Wrote and published OS-EISC analytic essay on Strategic Science for Public Health
- ● Support the COVID-19 Strategic Science Unit with a focus on implementing ORCID IDs across the agency
- ● Provide guidance, tools and processes for CIOs and investigators to align their planned activities and projects with the agency's Strategic Priorities
- ● Partner with WHO, STLT and other stakeholders to advance CDC as a global and national leader in public health science

Data Modernization

- ● Released line level case surveillance data set inclusive of geography data elements
- ● Developed Data Use Agreement Template (DUA)
- ● Revise the CDC data management and sharing policy
- ● Develop guidelines for data and metadata standards
- ● Develop an ethical framework for data
- ● Create an advanced analytics resource hub and provide guidance for tools like Artificial Intelligence (AI)

Health Equity Science

- ● Developed the CDC Health Equity Science and Intervention Strategy in collaboration with OMHHE
- ● Launch a new module in STARS and monitor CDC's Health Equity Science Portfolio
- ● Sponsor the HEAR Library Book Note Series
- ● Provide agency-wide symposia focusing on Health Equity Science topics
- ● Establish a Health Equity Science Fellowship with EISC and OMHHE
- ● Create new Health Equity Science Category for 2021 Charles S. Shepard Awards

Scientific Integrity

In response to the Presidential Memorandum on Scientific Integrity:

- ● Coordinated with OADPS, OADC, COVID-19 IM and CIOs for agency-wide review and update of websites
- ● Submitted the summary report on CDC's review of Federal scientific and technological advisory committees, commissions, and boards (in collaboration with SBI)
- ● Named the Chief Science Officer and Scientific Integrity Official for CDC
- ● Update the 2016 CDC Guidance on Scientific Integrity
- ● Establish Standard Operating Procedures (SOPs) to address violations of all CDC scientific integrity policies to assure awareness, quality, and consistency of processes and outcomes.
- ● Strengthen all CDC integrity policies and external facing internet and social media presence on the integrity and quality of CDC science

Scientific Infrastructure

- ● Identified 7.7 million public access downloads of CDC publications in 2020 through the provision of CDC Stacks
- ● Expand on the CDC Genomics and Precision Health website and searchable publications knowledge base as sources of scientific information to support CDC public health response (e.g., COVID-19)
- ● Expand STARS to automate reporting of key metrics to modernize regulatory reviews and continually improve SI-related guidance and review
- ● Create a central web portal that hosts information on innovation and data modernization resources, opportunities and services
- ● Increase use of the CDC Thacker Library for innovative communications initiatives and partner engagement strategies