CDC Office of Science

QUALITY | INTEGRITY | INNOVATION

To promote quality, integrity, and innovation of CDC science to improve the public's health.

2022 STRATEGIC FOCUS AREAS, GOALS, MILESTONES, AND KEY ACTIVITIES

STRATEGIC SCIENCE: Ensure CDC prioritizes and disseminates new scientific work that guides interventions, informs policy, and optimizes impact

- **Science Quality**: Increase the quality of agency scientific products
  - Support agency processes to identify priority strategic science questions and lead agency-level engagements to promote/address these topics
  - Communicate OS and ADS's roles in strategic science across the agency
    - Develop tools, resources, and consultations
  - Implement and operationalize the process for manuscript concept development
  - Establish a set of quality standards for manuscripts entering the eClearance
- **Scientific Integrity**: Embed scientific integrity standards in CDC's scientific processes and policies
  - Promote transparency in the implementation of agency scientific integrity policies and practices
    - Update existing scientific integrity related policies and standard operating procedures to align with the Office of Science and Technology Policy's (OSTP) Scientific Integrity Fast-Track Action Committee (FTAC) report
  - Identify or develop training opportunities on scientific integrity related policies and practices
    - Provide formal training for employees, contractors, and Notice of Funding Opportunity (NOFO) recipients on roles and responsibilities related to scientific integrity policies
- **Science implementation**: Implement strategies and process flows that mitigate barriers to timely implementation of science and translation into public health action
  - Reduce Paperwork Reduction Act (PRA) barriers to CDC data collection and program evaluations, including in NOFOs
    - Conduct a landscape analysis on the inclusion of robust evaluation components in CDC funded projects
    - Develop a communication strategy to promote the use of existing PRA Generic Clearance (Gen IC) developed to facilitate rigorous program evaluations during the NOFO process
    - Establish a plan to increase the utilization of robust approaches to evaluation and evidence building across the agency in partnership with the Program Performance and Evaluation Office
    - Continue to pursue an exemption from the current lengthy PRA process for information collections associated with CDC's public health investigations, research, surveillance, and evaluations; implement modernized rapid approach to ensure high quality, nonduplicative and minimal burden data collections

CDC Office of Science

QUALITY | INTEGRITY | INNOVATION

To promote quality, integrity, and innovation of CDC science to improve the public's health.

SCIENTIFIC INFRASTRUCTURE: Optimize scientific infrastructure and services

- **Guidelines**: Modernize agency-level guidelines and recommendations framework and process
  - Support more rapid and user-friendly guidelines and guidance development processes for public health emergency response and non-response activities
    - Develop and publish innovative guidelines development process framework
    - Develop and disseminate tools, resources, and templates for digitized guidelines that can integrate with a standardized guideline development process
- **Clearance**: Transform the agency clearance process to improve quality, efficiency, and timeliness
  - Implement a streamlined clearance process
    - Identify gaps, and improvements in CDC's scientific concept approval, product development and clearance processes
    - Review and revise existing policies and systems to streamline the clearance process
    - Implement an enhanced scientific concept approval, product development and clearance process
    - Monitor and evaluate progress
- **System Integration**: Identify opportunities to strengthen and modernize knowledge management systems and processes that support the conduct of science
  - Implement known priority improvements to Office of Science (OS) existing systems and processes to gain efficiencies
    - Expand information technology to facilitate Human Research Protection Office (HRPO) /Institutional Review Board (IRB) processes
  - Develop a long-term plan for managing and facilitating CDC's tech transfer portfolio
    - Assess opportunities for integrating tech transfer activities into Study Tracking and Reporting System (STARS); make recommendations
- **Monitoring**: Ensure quality, accountability, and transparency of CDC science through monitoring, tracking, and reporting of publications
  - Fully implement ORCID ID integration into e-clearance and include mandatory requirement for publication
    - Launch ORCID ID workshop via CDC University and support agency-wide requirement
  - Develop and operationalize tools and processes that enable the tracking, monitoring, and annual reporting of scientific integrity activities
  - Increase the use of STARS, including improving quality and dissemination of STARS data
- **Extramural research**: Establish more modern, flexible, and efficient extramural processes, practices, and policies
  - Assess current operational practices, processes, and policies
  - Develop and implement new and updated policies and practices supporting strategic extramural science

DATA MODERNIZATION AND INNOVATION: Promote CDC's Data Modernization and Innovation activities through data policies, standards, sharing, analytic capacity and collaboration

- **Open Data (Data Sharing)**: Promote increased access to CDC's data through open data principles, policies, and standards
  - Revise and implement updated agency wide operational policy for data sharing
    - Engage Centers, Institute, and Offices (CIOs) and data managers to identify appropriate levels of data release, supervision rules, and access to resources and guidance
  - Operationalize an agency wide Data Use Agreement (DUA) policy and standard template
    - Conduct trainings to socialize and increase awareness of the new DUA policy and template
  - Establish agency wide privacy and ethical standards for open data
    - Conduct an analysis to identify and define standards for open data sharing, privacy, and data quality
  - Develop guidance on ethical uses of data and analytic approaches (e.g., artificial intelligence (AI) and machine learning)
    - Assess policy and ethical implications of new standards and approaches to mitigate potential bias
- **Systems**: Increase the transparency of CDC's scientific portfolio
  - Establish an open, transparent, scientific portfolio system that incorporates advanced analytics, data visualization, and forecasting tools to promote data-driven decision-making across the agency
    - Implement software/system to assess privacy disclosure risks
    - Identify modifications to knowledge management systems/STARS. (e.g., metadata records to Alation, process for sending records to the National Archives and Records Administration)
- **Innovation**: Increase uptake of innovation concepts and accelerate the use of data for innovation
  - Define the future state of innovation and identify promising approaches and practices for promoting innovation
    - Establish processes to analyze data, extract, and summarize insights relevant for future decision-making
  - Advance the use of forecasting, predictive analytics, and other emerging technologies to make efficient and effective decisions
    - Define and socialize success metrics
  - Bring high-quality innovators and thinkers to CDC
    - Advance expertise and leadership related to CDC's data and digital capabilities by leveraging the Presidential Innovation Fellows (PIF) program to connect, coordinate, identify, and forecast areas that benefit from their expertise, input, and leadership

HEALTH EQUITY SCIENCE: Advance the integration and implementation of principles, systems, and standards to embed Health Equity Science (HES) agency wide

- **Training**: Increase the percentage of CDC's scientific workforce trained in HES standards and practices
  - Launch the health equity module in Scientific Integrity Quality Training (SIQT)
    - Roll out updated SIQT content (including the health equity chapter) and enrollment strategy
  - Facilitate a series of agency-wide HES symposiums and learning sessions
    - Conduct an analysis to identify training needs leveraging Excellence in Science Committee (EISC) and science workgroups
    - Identify topics for training sessions for CY22
    - Host a symposium or learning session on scientific writing
  - Facilitate the HES Manuscript Development Training Program in partnership with the Office of Minority Health and Health Equity
    - Host lunch and learn sessions for the HES Manuscript Development fellows
    - Engage fellows in periodic evaluation activities
    - Review and update the curriculum to ensure alignment with emerging HES priorities
- **Evidence**: Increase CDC's contribution to the evidence-base for reducing health disparities
  - Assess CDC's health equity related science portfolio to characterize CDC-supported scientific and intervention
    - Conduct an analysis of CDC's HES portfolio
    - Engage other CIOs for feedback on the analysis and identify gaps
    - Share results, promising practices, and opportunities for collaborations
  - Co-facilitate the development and publication of manuscripts by the HES Manuscript Development fellows
    - Provide TA during the scientific writing and clearance process
    - Provide guidance on the selection of journals and dissemination of findings
    - Host webinars to showcase the projects of the cohort
- **Scientific Review**: Establish and integrate HES principles into CDC scientific review processes
  - Finalize and disseminate agency scientific principles and considerations
    - Convene agency SMEs/workgroup to develop/reach consensus on agency scientific integrity principles and considerations
    - Engage other CIOs to gather feedback on agency scientific principles
  - Embed scientific principles into concept review/clearance process, research, and non-research NOFOs
    - Establish requirements for inclusion of HES content in research and non-research NOFOs and merit review

- **Standards and Data**: Advance HES as part of CDC's DMI including the identification of standards and best practices for collecting, reporting, and analyzing health equity data links
    - Conduct a landscape analysis to identify opportunities for OS to gain efficiencies, reduce barriers, and leverage existing systems
    - Create a repository of existing agency-wide HES data elements
        - Engage DMI coordinators to identify CIO point of contact for HE data standards development
    - Evaluate potential for bias in AI algorithms and models and outline an approach to address them
- **Integration**: Increase the proportion of OS sponsored services, systems, policies, and programs that advance HES
    - Assess current OS systems, services, policies, program, and technical activities to identify opportunities for advancing HES principles
        - Develop a prioritized plan and timeline for explicitly addressing HE through scientific and intervention strategies in OS systems, services, policies, programs, and technical assistance activities
    - Implement and evaluate strategies for advancing HES through OS systems, services, policies, programs, and technical assistance activities

ACRONYMS AND ABBREVIATIONS

AI - Artificial Intelligence
CIOs - Centers, Institute, and Offices
CY22 - Calendar Year 2022
DMI - Data Modernization Initiative
DUA - Data Use Agreement
EISC - Excellence in Science Committee
FTAC - Fast-Track Action Committee
Gen IC - Generic Clearance
HES - Health Equity Science
HRPO - Human Research Protection Office
IRB - Institutional Review Board
NOFO - Notice of Funding Opportunity
OS - Office of Science
OSTP - Office of Science and Technology Policy
PRA - Paperwork Reduction Act
SIQT - Scientific Integrity Quality Training
STARS - Study Tracking and Reporting System