Response to OMB on SUDORS Information Collection Request [OMB#0920-1128]

National Center for Injury Prevention and Control (NCIPC), Division of Unintentional Injury Prevention (DUIP) and National Center for Health Statistics (NCHS), Division of Vital Statistics

October 4, 2017

1.0 Background

CDC is appreciative of the ongoing engagement with OMB and the offer of assistance to further innovative efforts in responding to the opioid overdose epidemic. The SUDORS data collection ICR was first approved in 2016 with terms of clearance indicating that DUIP would engage with NCHS to achieve more streamlined and collaborative data collection efforts. Since that time, DUIP/NCIPC and NCHS have worked together to identify activities that would ensure benefit to the vital statistics efforts that fall under the purview of NCHS, as well as the work that falls under the purview of DUIP; in particular, our programmatic work under the Enhanced State Opioid Overdose Surveillance (ESOOS) program. Broadly speaking, CDC uses appropriated dollars in partnership with and by funding states to track, analyze, and use data to inform activities to address and prevent opioid overdose. The collaborative activities identified directly relate to the overarching aims of the ESOOS program, with the expectation that the outcomes would have broader implications that benefit state public health efforts and state and national vital statistics programs.

Below is a description of DUIP/NCIPC efforts to collaborate RESTful application programming interface with NCHS in response to OMB recommendations, and an outline of additional efforts to be undertaken.

2.0 Previously Identified Collaborative Activities between NCIPC and NCHS

- **Project 1: Electronic case management system medical examiner/coroner (ME/C) interoperability project**
    - DUIP/NCIPC provided funding to NCHS to support a 2-year contract beginning in fall 2017 with Occupational Research and Assessment, in association with both the National Association Medical Examiners and the International Association of Coroners and Medical Examiners. Occupational Research Assessment will work with 2 to 3 local or county ME/C offices with an electronic case management system (e.g., MDILOG and VertiQ) to pilot test a prototype of an ME/C API data interface. The API interface will allow for automated, real-time data exchange with state-based electronic death registration system and at least one additional reporting system (e.g., CDC National Violent Death Reporting Web System). NCHS would create the data transfer specifications for a representative state transfer application programming interface and conduct the pilots to ensure the appropriate processing of relevant data between all three systems. Completion of this project would set the specifications for ME/C software interfaces going forward to ensure that ME/C data are made available in a consistent, scalable, and secure manner. If successful, the interface would be made available to a range of individuals and organizations, including public health officials (CDC), medical experts, law enforcement, forensic experts, and researchers.
    - At the end of these proto-type projects, CDC will have:
        - A representative state transfer (RESTful) application programming interface (API) for mortality data
        - Drug Data Export Schema
        - Drug Data Import Schema
        - Tested API interface with to the state-based electronic death registration system and at least one additional reporting system (e.g., National Violent Death Reporting web system, including the SUDORs module for drug overdose deaths)
        - An ability to query securely mortality data (e.g., toxicology data) for public health and public safety needs

- **Project 2: Increasing standardization of coding deaths involving opioids on the death certificate**
  - o DUIP/NCIPC funded a 1-year cooperative agreement with Association of State and Territorial Health Officials (ASTHO) in FY17 to engage state and local health departments to develop and test draft guidance to improve drug specificity on death certificates, which in turn will support NCHS in disseminating national guidance. Feedback on draft guidance developed by NCHS was obtained in August 2017 from key stakeholders through a meeting funded by NCIPC. Activities will allow CDC and its project partners to field test this guidance and ensure that it will foster practice improvement across jurisdictions that have diverse death investigation infrastructures. To this end ASTHO will involve end-users in opportunities to provide feedback to CDC on the draft guidance; engage a limited number of states in opportunities to test the guidance; then disseminate lessons learned to states to strengthen their abilities to improve drug specificity on death certificates. This project supports interoperability by fostering consistent collection of drug overdose information.
  - o At the end of this project, NCHS and DUIP will have contributed to ME/C reporting of specific drugs contributing to overdose deaths in a few states as well as improved guidance to support continued improvements. Specific deliverables are:
    - By June 30, 2018, ASTHO will develop and implement strategies to engage key stakeholders to both provide feedback for and field test materials developed by CDC to improve drug specificity on death certificates in select states.
    - By June 30, 2018, ASTHO will disseminate current best practice to state health department and cross sector partners involved in improving drug specificity on death certificates, as informed by CDC, individual experts and state application in the field. ASTHO will utilize its Tier 2 (ASTHO membership) and Tier 3 (national audiences) technical assistance model to provide information to key stakeholders to both directly improve reporting and to strengthen data to practice infrastructure in states.

3.0 Additional Projects Conducted by NCHS

Project 3: Identifying common data elements shared across ME/C systems

- o NCHS is working to identify data elements that are common and shared across ME/C systems and develop scenarios under which ME/C offices report similar data elements to public health and public safety data requestors. Working collaboratively with federal, state, and local organizations that routinely request mortality data to identify, this project will identify the:
  - Common data elements being requested of ME/Cs;
  - Scenarios under which real-time data sharing would support ME/C needs as well as the needs of data requestors; and
  - Areas where working with standards development organizations can help strengthen ME/C data systems and infrastructure
- o The outcomes of this project will be:
  - A report of common data elements that are routinely reported to one or more data requestor
  - Defined scenarios where more standardized and automated mechanisms could make data exchange from ME/C offices more efficient and timely.

NCHS has provided staff time to work with the ME/C organizations, Department of Justice, Department of Transportation, and others interested in improving the exchange of information with ME/Cs. Funding for a percentage of staff time, travel, meetings, etc. is provided through a competitive award from the Office of Public Health Preparedness and Response ($250,000) to build the momentum to achieve the specified outcomes.

Project 4: Specifications for development and utilization of application programming interfaces (APIs) to promote interoperability

- o NCHS has awarded a contract to the Georgia Tech University Research Institute (GRTI) to develop the specifications for how application programming interfaces (APIs) could be developed and utilized to promote interoperability and reusability to obtain better efficiencies in collecting timely, accurate, and usable data from ME/C case management systems.
- o In essence, we will be demonstrating how advances in hardware, software, and network technologies (including an application programming interface gateway) can enhance ME/C electronic case management systems to allow for automated, real-time data exchange. Using APIs, this project seeks to demonstrate how to:
    - Provide ME/Cs the information they need to make sound cause-of-death determinations[1] based on data that are already available in structured electronic formats (e.g., electronic health records,[2] toxicology lab information systems, prescription drug monitoring program databases, and other ME/C case management systems);
    - Promote the adoption of interoperable and scalable data collection systems that support ME/Cs' workflow and ease their administrative reporting requirements.

The outcomes of this project will be:

- Assessment of the ME/C systems' capabilities, functionality, and architecture
- Development of defined scenarios within CDC where API gateways will advance mortality reporting
- Development of a scalable approach for developing RESTful APIs for mortality data
- Development of a testing framework with specifications for publishing APIs and consuming discoverable APIs

- NCHS is paying for this contract ($181,000) through funds from the CDC Office of Public Health Preparedness and Response. The period of performance for this contract is 12 months.

4.0 Proposed New Collaborative Activities between NCIPC and NCHS
- **Implementation Plan for Electronic Reporting of ME/C data on Drug Overdose Including Toxicology**
    - o DUIP/NCIPC will support multiple states funded through the ESOOS program with additional FY18 or FY19 funding (amount and number of states to be determined based on budget availability). This additional funding will support creation of an implementation plan and pilot to enhance electronic reporting of ME/C data on overdose deaths involving opioids with a focus on rapidly collecting toxicology data. Implementation plans will be consistent with core ME/C reporting standards developed by NCHS as part of an ongoing FY18 project (*see NCHS response for more details*) and outline clear plans to share automatically core NCHS data

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[1] To determine cause and manner of death, many sources of information are taken into account: information gathered at or shortly after the time of death (such as medical records, prescription drug history, findings from the death scene, witness statements, etc.); autopsy findings and results of other examinations of the body (e.g., needle biopsies, evaluation of body fluids, CT scans and other radiographic techniques); and biomarkers, toxicology results, and other findings from laboratory tests. All of the available sources of information need to be interpreted in light of each other; no one piece of information on its own can provide a definitive diagnosis. The challenge to medical certifiers is that information from each source is provided intermittently, if at all, and the burden falls on them to pull and link the data, recognize patterns, and determine what happened.

[2] Many autopsies are performed "blind", without information from the decedent's medical history. Over the last several years, the healthcare industry has defined and is the process of coalescing behind standard data models and open interfaces that allow authorized individuals to obtain specific and detailed health information on individual patients. CDC should work with the ME/C community to define a common bundle of health information needed for their investigations and to explore the use of HL7 FHIR to send this information to ME/C case management systems, so that the ME/C has immediate access to the decedent's health information.

elements and toxicology data in electronic format with NCHS and DUIP. This planning is critical to provide time to integrate new NCHS standards and identify challenges and opportunities to inform future funding of pilot or scale-up efforts. As part of the current SUDORS funding, some states are collaborating with ME/C to speed up electronic reporting of suspected opioid overdose deaths. These lessons learned will also contribute to this project.

o At the end of this project we will have:
- Implementation plans for states that include cost estimates, work plans including detailed plans for incorporating toxicology data electronically, estimates of anticipated improvements in timeliness, and description of anticipated challenges/opportunities.
- A description of lessons learned and tools that can inform planning in other states.