D61 Development of a Child Fatality Review Database for Maryland: A Practical Application of Forensic Medicine and Public Health Partnership

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After attending this presentation, attendees will understand the rationale for and methods employed by a forensic medicine-public health partnership in developing a statewide child fatality review database.

This presentation will impact the forensic community and/or humanity by helping members of the forensic community recognize the importance of their professional contributions to CFR as well as the benefits of using partnerships to create data systems and data sharing opportunities.

Multidisciplinary child fatality review (CFR) teams can make important contributions to understanding of sudden and unexpected child deaths, and aid efforts to prevent both unintentional (*accidental*) and intentional child injury (child abuse, shaken baby syndrome, etc). Although medical examiners and forensic investigators frequently contribute information and make valuable professional contributions to CFR teams, they have been slow to assume an advisory or coordinating role in the initiative. In Maryland, which has a statewide medical examiner system and an unfunded legislative mandate to establish CFR teams in all counties, the potential of partnership to enhance the quality of data available to CFR teams is being explored. This presentation will discuss the conceptual development and structure of the database.

Although much attention is paid to the development of data collection protocols for CFR, less attention has been given to the management, retrieval, and analysis of data. The quality, timeliness and accessibility of data determine their utility for systems improvement and development of prevention efforts (including policy). In developing a data system for Maryland, the State CFR Team and its Data Advisory Committee prioritized data content and data systems criteria. Data content criteria included: asking the right questions, identifying modifiable risk (and protective) factors, integration of multidisciplinary perspectives, data validation and completion, collection of CFR team management and decision making data, potential for analysis and application. Data system criteria included: protecting existence and sustainability of the database, limiting costs, limiting duplication of data collection, minimizing hardware and computer expertise required by each county, simplifying data sharing, maximizing potential to customize reports by county, data timeliness and protecting confidentiality.

The database is housed in the Office of the Chief Medical Examiner (OCME), because the partnership believed this to be the agency for which collection of high quality data on child death is a critical professional function. In addition, it is an agency that interacts on a regular basis with many agencies and organizations involved in child death investigation. OCME was in the process of building a new data system and had a strong record of partnership with public health and research organizations.

A core team was established to guide development of the database. This team includes the chief medical examiner; an assistant medical examiner with expertise in pediatric pathology, child abuse and CFR; the chief forensic investigator, a public health professional with expertise in CFR, injury prevention research, and policy development; a database development expert who is a Microsoft Certified Systems Engineer and active fire-fighter/EMT, and two graduate computer science students.

Database variables were developed using review of national CFR data recommendations, the literature on child death and injury, archived CFR case report materials, as well as state and local CFR team input. The database was created using a widely accepted standard of SQL Server (Microsoft Windows SQL). It utilizes a standard web-based client and a single-server base with multiple thin-net clients (who do not need individual hardware) to allow the counties of Maryland to access data for deaths occurring in their counties. For subpoena protection, the CFR database is a stand-alone component of the OCME data system. Case identification is in real-time but detailed OCME data (toxicology, autopsy findings, etc) are transferred into the CFR database later in the investigation. CFR teams may access these data during case reviews and are able to enter their additional review data directly into the CFR database. To facilitate use of data, pre-programmed child fatality reports - that can be customized for individual counties – are available as part of the database. To promote data accuracy and completion, extensive use is made of variable lists and directory trees. The database is designed to be userfriendly, and accessible via the internet, while addressing ethical challenges such as the preservation of confidentiality. Confidentiality is protected by using SQL authentication user-names and passwords; administrative protocols provide additional access control. The system is currently being pilot tested by a local CFR team in a large metropolitan county.

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