G89 Accuracy of Death Certification and Medical Examiner Notification in Nova Scotia

Kelly A. Dakin Hache, MD, PhD, Anatomical Pathology, Dalhousie University, 5788 University Avenue, Halifax, Nova Scotia B3H 2Y9, Canada; Petra A. Rahaman, Forensic Science-Biology, University of Toronto, 107 Linnsmore Crescent, Toronto, Ontario M4J 4K5, Canada; and Matthew J. Bowes, MD, Nova Scotia Medical Examiner Service, 5670 Spring Garden Road, Suite 701, Halifax, Nova Scotia B3J 1H7, Canada*

After attending this presentation, attendees will gain an appreciation of the spectrum of problems associated with errors in death certification and medical examiner notification.

This presentation will impact the forensic community and/or humanity by providing the framework for assessing and designing interventions to improve the accuracy of death certification. Improvements in the accuracy of death certification have important implications for accuracy of Vital Statistics, basic science research, public health policy, and civil/criminal law implementation. Most importantly, the accuracy of death certification is important for families, in terms of peace of mind and insurance claims.

Background: Information from Vital Statistics is an important resource utilized by clinical researchers, public health authorities, and officials of the Department of Justice. Major errors in death certification have been identified among physicians in academic institutions, as well as among officials in coroner systems.[1,2] At the very least, the accuracy of this information has implications for basic medical research, public health policy, and civil/criminal law. Most importantly, the accurate certification of death has important implications for the families of the decedent in terms of peace of mind and insurance claims. As such, it is important to assess and to design interventions to improve the accuracy of death certification on both a regional and national scale.

Hypothesis: The role of the Medical Examiner Service (MES) is to determine the cause and manner of death in circumstances defined by the Fatality Investigations Act (FIA). Under the terms if the FIA, all citizens have the obligation to report a death, although most commonly this is a member of a law enforcement agency or a physician. Despite established guidelines for reporting, physicians often miss cases. There are likely two components contributing to the numbers missed cases.

1. Non-compliance with the established reporting guidelines (not sure when to report)
2. Inaccurate certification of death (not sure how to accurately assign cause or manner of death)

Objectives: The objectives of this study are threefold: 1) to determine the proportion of cases missed during a two year period (2004- 2005); 2) to determine the mechanisms by which these cases were ultimately identified; and 3) to determine why these cases were originally missed as medical examiner cases.

Methods: All available case files from the Nova Scotia Medical Examiner Service over a two-year period (January 1, 2004 to December 31, 2005) were reviewed and those classed as “missed cases” were included in the study. The nature of the missed cases was documented with respect to the original certification of cause and manner of death, the final certification of cause and manner of death, the mechanism by which the cases are identified as a “missed case,” as well as various epidemiological aspects of the cases. The results were evaluated using descriptive statistical techniques.

Results: The total number of medical examiner cases for the study period is 1516 (742 cases in 2004 and 774 cases in 2005). Of these, the “missed cases” made up 11% of the total number of cases investigated (total 167 missed cases: 80 cases in 2004 and 87 cases in 2005). The mechanisms by which “missed cases” are identified include cremation approval 56% (93 cases), Vital Statistics 28% (46 cases), hospital personnel 6% (10 cases), Trauma Registry 4% (7 cases), physicians 3% (5 cases), family of decedent 1% (2 cases), policing agency 1% (2 cases), and other 1% (2 cases). In 22% of cases (37 cases) the physician classified the death as unnatural, yet failed to notify the medical examiner service. In 59% of cases (99 cases), the physician misclassified the case as natural when the manner was accidental.

Conclusions: Both non-compliance with the established reporting guidelines (not sure when to report) and inaccurate certification of death (not sure how to accurately assign cause or manner of death) contribute to the numbers of “missed cases.” This study shows that 11% of medical examiner cases are originally “missed,” and are discovered by a variety of mechanisms. This number represents the “tip of the iceberg” in that a significant proportion of “missed” deaths are detected by cremation approval. It is worth noting that burial in Nova Scotia does not require approval by the Nova Scotia Medical Examiner System.

References:

1 Pritt, BS, Hardin NJ, Richmond JA, Shapiro SL. Death Certification Error at an Academic Institution. Arch Pathol Lab Med. 2005; 129: 1476- 1479.

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2. Parai, JL, Kreiger, N, Tomlinson G, Adlaf EM. The Validity of the Certification of Manner of Death by Ontario Coroners. Ann Epidemiol. 2006 (article in press).

Death Certification, Notification of Medical Examiner Service, Missed Cases

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