Nosology work: one step beyond the medical record department

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Abstract
This article discusses the role of the nosologist/health information management (HIM) professional in a venue one step beyond the hospital’s medical record department. It provides a glimpse of the role of the HIM professional at a statistical government agency, the National Center for Health Statistics (NCHS) in the United States, and focuses primarily on the collaborative work that is performed by the HIM professional at NCHS. The challenges presented in survey coding will be discussed, while practical examples of how we have chosen to improve the data collection, data processing and data reporting processes will also be addressed.

Introduction
Health information management (HIM) professionals in the US have many career options available to them today. According to the US Bureau of Labor Statistics, information technology is one of the 20 fastest-growing occupations in the US, and thus HIM professionals can expect to be in high demand as the health sector expands into the new century (American Health Information Management Association 2004).

Today’s HIM professionals are in a field that places them right where the expanding arena of health care meets the cutting edge of technology. By collecting, maintaining, and analysing health information, they are important contributors to the delivery of high quality care, the implementation of data policy, and the many decisions associated with health care planning. As the US moves closer to implementing an electronic medical record system with its associated infrastructure, opportunities for the HIM professional will be unlimited.

HIM professionals serve the health care industry and the public by managing, analysing and utilising data vital for patient care, and by making it accessible to health care providers when it is needed most. They are the experts on patient data that doctors, nurses and other providers rely on to perform their jobs. In addition to this critical work, US HIM professionals work as congressional lobbyists, private consultants, technological specialists, and International Classification of Disease Ninth Revision (ICD-9-CM) coding experts.

The purpose of this article is to describe the role of a nosologist/HIM professional working within a US federal statistical agency, the Centers for Disease Control and Prevention’s National Center for Health Statistics (NCHS). It provides a brief overview of NCHS along with a description of NCHS’s provider- and establishment-based surveys and describes some key activities of interest to HIM professionals.

The health statistics compiled by NCHS are used to document the health status of the population and of important subgroups, as well as to identify disparities in health status and the use of health care by race or ethnicity, socioeconomic status, region, and other population characteristics. The statistics also describe patients’ experiences with the health care system, monitor trends in health status and health care delivery, identify health problems and support biomedical and health services (National Center for Health Statistics n.d. a).

NCHS designs and maintains a wide range of data systems and activities through a broad-based program of ongoing and special studies, including household interview surveys, examination surveys, surveys of health care providers, and collection of statistics on birth and death in partnership with State government (National Center for Health Statistics n.d. a). Among its data systems are a family of surveys known collectively as the National Health Care Survey (NHCS) (National Center for Health Statistics n.d. b). The NHCS surveys collect data from health care providers, facilities and establishments to describe characteristics of the health care system, the patients who receive health care services, and the content of the health care encounter. Key NHCS survey components include:

- National Ambulatory Medical Care Survey (NAMCS)
- National Hospital Ambulatory Medical Care Survey (NHAMCS)
- National Hospital Discharge Survey (NHDS)
- National Survey of Ambulatory Surgery (NSAS)
- National Nursing Home Survey (NNHS)
- National Home and Hospice Care Survey (NHHCS)

Each survey is based on a national probability, multi-stage sampling design of health care providers, followed by a sample of patient encounters. Data are collected directly from the establishments using their records. The surveys capture information on characteristics of health care encounters, including patient demographics, expected source of payment, diagnoses, tests and services provided, and disposition of care. They also collect information on characteristics of the health care establishments, including staffing, services offered, managed care participation, and government financing of services. Because these surveys collect data from medical records rather than from patients themselves, their clinical scope and detail is greater than that of many other surveys. Thus, the role of the nosologist/HIM professional is of particular importance to these surveys.

National Center for Health Statistics and the National Health Care Survey

CDC’s National Center for Health Statistics is a federal statistical agency housed within the US Department of Health and Human Services. It is the nation’s principal health statistics agency and compiles statistical information to guide actions and strategies to improve the health of the people in the US and to guide the development of health care policy.
The role of HIM professionals in the National Health Care Survey and the research process

The component surveys of the NHCS are complementary, meaning that to the extent possible they collect similar information using common variable definitions and coding schemes. Data are collected via manual data abstraction, computerised personal interviews of facility staff using medical records and automated data from abstracting services, health care facilities, and state hospital associations.

The primary role of the NHCS HIM professional is to provide expertise on the use of survey coding systems. Within the six NHCS component surveys, diagnoses are captured and coded using the International Classification of Diseases 9th Revision (ICD-9-CM). The nosologist on staff provides expert ICD-9-CM advice on all matters related to survey coding. In addition, the NHCS nosologist provides expertise on an NCHS-developed classification system that is used for the ambulatory care surveys (NAMCS and NHAMCS) to code the patient’s principal reason for the visit. ‘A Reason for Visit Classification for Ambulatory Care’ (RVC) is a classification scheme developed by NCHS and used for over 20 years to code patient complaints or reasons for seeking care. It is divided into eight modules or groups of reasons and includes all the reasons for which patients see their health care providers. This includes symptoms, follow-up for prior diagnoses, routine examinations and screening, treatment for conditions and operations, various therapies, and injuries. When questions arise about the coding scheme or the need arises for new codes, the nosologist uses her medical record science expertise to resolve these issues (Schneider et al. 1979).

During the data collection phase of the surveys, the nosologist plays a critical role in facilitating data quality. Training materials are designed for field staff to assist them with issues such as illegible handwriting, the use of medical abbreviations, misspelled diagnoses, procedures and medications, and inconsistent information or general information about where to locate the requested variables in the medical record. Another critical role for the nosologist for the data collection phase is to conduct training sessions for field staff in medical abstraction techniques and medical terminology and to be available to answer questions during the data collection process.

During data processing, the nosologist plays an equally critical role in data quality. Once the data are abstracted, diagnoses are assigned using the ICD-9-CM and the RVC classification code sets. The unresolved problems encountered at the time of data collection thus become the same problems for the coders who are responsible for determining the final code selection. The HIM professional and other staff members work closely with the coding staff, ensuring that they have the most up-to-date guidelines to assist them with making difficult coding decisions with data that may be ambiguous, incomplete or ill-defined.

During data analysis, the nosologist provides technical consultation on coding issues to survey analysts, statisticians, and computer programmers. The nosologist is called upon to translate broad requests for information into specific coding specifications that will produce meaningful data analysis. This HIM professional also serves as an educator to those unfamiliar with medical record science.

Thus, the HIM professional provides a critical interface between data collection, processing, and analysis, assisting staff to ensure data quality and to translate data into information.

The broader role of the HIM professional at the National Center for Health Statistics

NCHS and the Centers for Medicare and Medicaid Services (CMS) are the US governmental agencies responsible for overseeing all changes and modifications to the ICD-9-CM (National Center for Health Statistics n.d. c). Recognising that ICD-9-CM is a dynamic statistical tool that must be flexible to meet expanding classification needs, three HIM professionals at NCHS work collaboratively with HIM professionals from CMS, HIM professionals in other governmental and non-governmental agencies, and other interested parties through a formalised process for updating, changing and maintaining the ICD-9-CM.

The ICD-9-CM Coordination and Maintenance (C&M) Committee was created as a forum for proposals to update ICD-9-CM; currently, the committee meets twice a year. Although the ICD-9-CM C&M Committee is a federal committee, suggestions for modifications come from both the public and private sectors and are discussed in an open forum.

The ICD-9-CM Coordination and Maintenance Committee’s role is advisory and is co-chaired by one representative from NCHS and one representative from CMS. Responsibility for the maintenance of the ICD-9-CM is divided between the two agencies, with classification of diagnosis (volumes 1 and 2) by NCHS and of procedures (volume 3) by CMS (National Center for Health Statistics n.d. d). Interested parties are asked to submit recommendations for modification prior to a scheduled meeting. Proposals for a new code should include a description of the code being requested, and rationale for why the new code is needed. These meetings are open to the public; comments are encouraged both at the meetings and in writing after the meeting. No final decisions are made at the C&M meetings.

All recommendations and comments are carefully reviewed and evaluated before any final decisions are made. The HIM professionals at NCHS discuss the feasibility of all new code requests and modifications, taking into consideration all comments. Each team member brings to the discussions various levels of expertise in medical science, medical coding, as well as knowledge of ICD-9-CM coding guidelines and rules. After many lengthy discussions and deliberations, and when consensus has been reached, group decisions are made as to the proper code assignments for those requests that will be considered for inclusion into ICD-9-CM. The recommendations from the HIM professionals pertaining to diagnoses are submitted to the Director of NCHS, who makes the final decision, while those pertaining to the procedures are made by the Administrator of CMS.
Conclusion

In the US, HIM is a vital component of the health care delivery system. Based on one’s skills, education and interest, HIM professionals occupy a diverse span of careers. The option to pursue a career as HIM director in the hospital medical record department is available, as well as the opportunity to work in non-traditional roles beyond the usual hospital venue. HIM professionals in statistical systems direct or actively participate in all phases of data collection, data integration, analysis of health data, dissemination of information, and management of information related to survey development and research.

The Health Information Managers at NCHS perform their functions several steps beyond the origination of the medical record, but are actively involved in the decision making processes that pertain to how the data in the record are collected, processed, and reported. NCHS HIM professionals, along with other key people at various health organisations, play an important role in setting national standards and in implementing official guidelines for the ICD-9-CM code set. Official standards and guidelines serve as the template for various health agencies that collect and classify health data throughout the US, thereby ensuring some consistency and uniformity in data collection, data processing and data reporting processes.

Despite the many efforts that go into ensuring that standards and guidelines are implemented, we still face many dilemmas and challenges during the data collection, data processing, and data reporting stages which can often be linked to three major problem areas: poor medical record documentation, incomplete medical abstraction and ambiguous medical coding guidelines. Efforts to improve these processes include providing continuous educational training sessions, maintaining and revising training materials on a regular basis, and establishing and maintaining collaborative working relationships both within and outside NCHS.

In our efforts to collect, process, and report the most reliable and accurate data, NCHS requests that staff members (ie, physicians, nurses, etc.) at the participating health care settings assume the responsibility for abstracting the required data from the medical record. While this requirement ensures data integrity and allows for less ambiguity, the author of the medical documentation actively participates in the abstracting process infrequently; therefore, the data are often collected one step beyond the original intent. It then becomes incumbent upon those at the remaining levels to ensure data integrity by appropriately applying guidelines that have been provided. This process at NCHS has proven to be successful.

Health data can be manipulated in several ways to demonstrate one result or another. It is therefore crucial that the interpretation of the analysis and results of the health data starts with HIM professionals. NCHS HIM professionals and other analytical staff members work collaboratively with persons involved in the data collection, data processing, data reporting, and data analysis to make certain that data integrity is not comprised as it moves through the various levels of completion. The goal of the HIM professional is to ensure that the data are properly collected, organised and displayed in a manner that meets the needs of the data users. In relation to developing and revising guidelines, continuous education and effective team building has proven to be successful in publishing reliable data at the National Center for Health Statistics. Presenting reliable data that have been funneled through many stages beyond the medical record department comes with many challenges; however, the knowledge, technical skills, and expertise of today’s HIM professional are unlimited and very useful in performing the nosology work which takes place one step beyond the medical record department.

Reference

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