

Nursing Terminology Summit Conferences Promote Data Standards

A NANDA representative attends the Nursing Terminology Summit held each summer at Vanderbilt University, Nashville, TN. This conference promotes the development and use of data standards. Given the advances being made in healthcare informatics and infrastructure development, such work is fundamental to nursing terminology implementation. I attended the July 2003 conference. Participants requested the Steering Committee to write a statement that summarizes the work of the Summit for the nursing profession and provides a brief overview of the role and function of the major standards organizations that impact nursing. The following represents their report.

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Health Care Data Standards

As electronic communications and data storage become increasingly the norm in health care, as in other aspects of life, national and international efforts around the world are seeking to establish a robust infrastructure for healthcare information. A key component of this infrastructure is healthcare data standards. These standards, with proper security to protect private information, will make it possible for healthcare providers to share information for the patient's benefit, even when the information is in a different site or a different computer system. Use of such standards will increase patient safety, promote quality improvement, and facilitate clinical research based on patient care records. Standards for data and other aspects of information systems will also make it easier to track information for public health purposes—for early detection of disease outbreaks, for example, or for assessing effectiveness of a health promotion initiative.

The standards will affect all aspects of health care—medicine, nursing, dentistry, veterinary practice, ancillary services, administration, payment, and public health. Health care data standards are developed and recognized through independent, voluntary organizations. Some prominent ones include:

- The International Standards Organization (ISO), which uses democratic processes to establish worldwide standards for everything from photographic film to health care terminology. Technical Committee 215 of ISO is responsible for health care data standards.
- Technical Committee 251 of the European Standards Committee (Comité Européen de Normalisation, or CEN), which sets standards for health information in the European Union;
- Health Level 7 (HL7), which sets standards for electronic messages about all types of health information;
- The Systematic Nomenclature of Medicine Clinical Terms (SNOMED CT), a division of the College of American Pathologists, which represents health care concepts and the relationships among them;

- Logical Observation Identifier Names and Codes (LOINC), which sets standards for identifying laboratory tests and other clinical observations.

Reference Terminology: An Essential Standard

Among the many kinds of standards for healthcare data, an important one is “reference terminology.” Usually when nurses refer to “standardized language,” they mean the verbal expressions used in documents or computer systems to communicate among themselves and with other healthcare providers about nursing care. “Reference terminology,” by contrast, refers to the concepts and relationships necessary to define something (such as a nursing diagnosis or action), presented according to some formal set of rules about how to depict the concepts and relationships in models. In much the same way as a sentence diagram depicts the roles and relationships of the words in an English sentence, a reference terminology model shows how the defining components of a nursing diagnosis or action relate to one another. In both cases, the diagram or model removes ambiguity that may be present in the more usual vernacular expression.

Just as no one would want to read a paragraph composed of diagrammed sentences, no human would want to read a health record composed entirely of modeled reference terminology. Computers, however, can be programmed to be quite good at reading reference terminology. In fact, they can process reference terminology more accurately and “understand” its meaning better than they can everyday language. For this reason, many sets of terms that are used widely in health care—including, among others, ICD codes, CPT codes used in the United States to record medical procedures, and nursing languages recognized by the American Nurses Association—have been “modeled” within SNOMED Clinical Terms. In computer systems used to process health information for the National Health Service in the United Kingdom and increasingly for those in the United States, humans will use familiar language on the screens to record and communicate, while SNOMED CT will operate behind the scenes to be sure that computer systems “understand” and process the information correctly.

Promoting Reference Terminology for Nursing: The Summit Conferences

To get the standards right, each professional discipline must set the standards for the information its practitioners collect and record in providing or managing patient care or public health services. A series of Nursing Terminology Summit Conferences held annually since 1999 at Vanderbilt University in Nashville, Tennessee, USA, has promoted and contributed to standards for nursing information not only in the United States but internationally.

In the late 1990s there were many competing sets of terms proposed as possible standards for recording nursing information, but they were recognized to be incompatible and overlapping. Even worse, there was no way to integrate these terms with the information physicians and others use in caring for patients. Furthermore, relatively few nurses participated in the voluntary organizations that were developing standards for healthcare information. If nursing information were to play a visible role in improving the quality of care, controlling costs, and enhancing public health, nursing would have to get more deeply involved in the standards process.

The Nursing Terminology Summit Conferences were conceived as a way to bring together those working on nursing terminology with other experts in standards development to share knowledge, develop collaboration, and solve problems that required their combined expertise. In addition to registration fees paid by participants, funding has come from U.S. government grants, contributions from professional associations, and donations from companies that create and sell computer-based information systems for health care.

These invitational working conferences are limited to a maximum of 40 participants, all of whom are leaders in nursing terminology or standards development. The small size of the conference has helped participants to develop trust in one another and to create an environment in which it is safe to be wrong and to argue—critical factors for tackling difficult problems. The participants come from the Americas, Europe, Asia, and Australia.

The Summit Conferences are structured to include updates on major initiatives, education about tools and methods for standards development, and collaborative work on formal reference terminology development, implementation, and use. In 2003 participants explored the use of HL7 tools and methods for testing and implementing terminology. Since terminology standards must interact with other types of health informatics standards to support semantic interoperability, the 2003 participants also examined the relationship between terminologies and architectures for clinical documents and electronic health records, as well as the ability of such architectures to support nursing practice and evaluation. In addition, participants identified unresolved questions in the definitions and models of reference terminology for nursing.

Since 1999, work at the Summit Conferences has contributed substantially to the final draft standard model for nursing terminology accepted at the International Standards Organization (ISO). In addition, collaboration at the Summit Conferences has supported the integration of nursing terminology standards with general health care information standards, including those of CEN, HL7, LOINC, and SNOMED. Many of these standards have been adopted or recommended for adoption by national governments for use in their health systems. Nurses are now leading a number of efforts within the major national and international standards organizations.

Those are exciting changes in only four years. The Summit Conferences came about at a time when many forces were converging to promote standards for health care information. Participants bring to each Summit Conference their expert knowledge about one or more standards initiatives. Together they struggle for enlightenment and consensus on solutions to problems that are key to progress. From each Summit Conference they take new understanding back to the terminology development, systems development, or research projects that are their primary work. No doubt nursing terminology standards would develop if there were no Summit Conferences. Participants believe, though, that progress has been faster and surer because of their work together at the Summit.

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