

International Classification for Nursing Practice: Documenting Nursing Care and Client Outcomes

Introduction

In 1859, Florence Nightingale wrote the “very elements of nursing are all but unknown” (Nightingale as cited in Gordon, 1998, p. 2). More than 140 years later, the founder of the nursing profession might be surprised to discover that making nursing visible remains a huge challenge!

Yes, nurses have made progress, but there is still not enough quality information in Canada on who nurses are, what nurses do, to whom they provide care, what effect their interventions have on patient outcomes and how much these interventions cost. In order to plan effective health services delivery, nurses and other decision-makers need better information on the contribution of nurses to health outcomes of Canadians. The impact of nursing should be captured in national health care databases through the use of effective nursing classification systems.

This article will provide a basic overview of classification systems development in nursing and

highlight an international initiative designed to establish a common language for describing nursing practice.

Classification Systems: What Are They?

In order to collect, store, retrieve, analyze and communicate information about their practice, nurses require classification systems. “Classification is the ordering of entities into groups or classes on the basis of their similarity” (Gordon, 1998, p. 4). We classify things all the time in our complex world: a dog is classified under a group called animals; a poodle is further classified as a particular breed/type of dog. Imagine trying to find specific information if the newspaper “classified” ads were not organized into categories! In the field of informatics, classification systems play a critical role in systematically arranging data according to similar groups.

Classification systems are sometimes referred to as encoding systems, because standardized codes are assigned to each term within a classification system. If data are entered into a computer informa-

tion system using a classification system, a user can retrieve encoded data – depending on the completeness of the data entered and the software product being used.

Before things can be classified, however, the concepts have to be developed. In the case of health care delivery, the only concepts available up to the mid-20th century were medical concepts. Diseases were classified as early as the mid 1700s. In 1860, Florence Nightingale herself delivered a paper urging the classification of non-fatal conditions as well as causes of death. By 1893, the *International Classification of Diseases and Causes of Death* was being used and in 1946, the World Health Organization (WHO) assumed responsibility for reviewing and revising this system every 10 years (Gordon, 1998). The 10th revision, adapted for use in Canada, is called the *International Statistical Classification of Diseases and Related Health Problems – Canada* (ICD-10-CA) and is currently being implemented across the country.

Nursing theories and philosophies matured in the 1950s and interest in classifying nursing practice increased. National and international nursing organizations have moved forward the concept of classifications for nursing practice.

In Canada, the 1993 Nursing Minimum Data Set (NMDS) Conference, initiated by the Canadian Nurses Association (CNA), was the first step in developing a nursing minimum data set, now called Health Information: Nursing Components (HI:NC). These include data on client assessment, nursing

interventions and client outcomes, which are the basic elements – along with nursing resource use and nurse identifier – for classifying nursing practice. In 2000, CNA published *Collecting data to reflect nursing impact: A discussion paper*. This document provides an overview and comparison of major nursing classification systems and promotes testing the International Classification of Nursing Practice (ICNP®), developed by the International Council of Nurses (ICN), for use in Canada.

ANA Recognized Languages for Nursing

1. North American Nursing Diagnosis Association, Inc. (NANDA)
2. Nursing Interventions Classifications (NIC)
3. Home Health Care Classification (HHCC)
4. Omaha System
5. Nursing Outcomes Classification (NOC)
6. Nursing Management Minimum Data Set (NMMDS)
7. Patient Care Data Set (PCDS)
8. PeriOperative Nursing Data Set (PNDS)
9. SNOMED RT
10. Nursing Minimum Data Set (NMDS)
11. International Classification for Nursing Practice (ICNP®)
12. ABC codes developed by Alternative Link

Detailed information on each of these systems can be found on the Nursing Information and Data Set Evaluation Centre (NIDSECsm) home page at www.nursingworld.org/nidsec/classlst.htm.

The American Nurses Association (ANA) has developed criteria for evaluating nursing languages and recognizes the 12 classification systems presented below, many of which will be familiar to Canadian nurses.

Why Do Nurses Need Classification Systems?

Classification systems allow nursing data to be collected consistently using standardized languages to aggregate and compare data across and between sites. The inclusion of nursing data in health information systems is essential to support evidence-based decision-making by registered nurses (CNA, 2002). A coordinated system to collect, store and retrieve nursing data in Canada is critical for health human resource planning and to expand knowledge and research on determinants of quality nursing care (CNA, 2001a).

The benefits to nurses of effective nursing classification systems include those mentioned below.

What do Nursing Classification Systems do for Nurses?

- Provide a common language for describing nursing practice in order to communicate effectively to other nurses and health professionals;
- Facilitate analysis of patterns in nursing care and resource utilization, trends in the health needs of patients and outcomes of nursing care;
- Facilitate comparisons and the sharing of information on best practices between nurses;
- Support decisions of policy-makers and health care managers through the provision of nursing evidence and knowledge;
- Support accountability relationships; and
- Provide quality data to researchers to investigate key questions relating to nursing practice.

Implementation Considerations In Nursing

In order to achieve the above benefits, nurses must give common names and definitions to the objects of their practice and arrange them in a meaningful way. To quote ICN “If we cannot name it, we cannot control it, finance it, research it,

teach it or put it into public policy” (ICN, 1993, p. 2).

The first step is to clearly identify what information is needed and translate that into a data set. Connecting with experts through provincial/territorial and national nursing associations and informatics groups is essential to achieving this step. The next step is to select appropriate classification systems that will make it possible to collect the required information.

It is important to implement nursing classification systems that are compatible with health information systems already in use in Canada. With the need for integrated information systems and electronic health record (EHR) solutions, there is an increasing demand for classification systems that capture multidisciplinary as well as discipline-specific data. For example, the Canadian Classification of Health Interventions (CCI) was developed by the Canadian Institute for Health Information (CIHI) to be applicable across health disciplines and settings, and it is referred to as a discipline and setting-neutral classification.

Likewise, the ability of a classification system to cross-map to existing nursing terminologies is critical to comparing information across and within provincial/territorial, national and international borders.

Nursing classification systems also differ in their intended setting on the continuum of care (acute, home and long-term) and the elements they address: diagnoses (client assessment or status), interventions and outcomes.

Given the number of classification systems in existence today, where do nurses start? Table 1, adapted from *Collecting Data to Reflect Nursing Impact: A Discussion Paper* (CNA, 2000), compares several major classification systems in use today.

Table 1.
Comparison of Classification Systems

System	Developer/Year/Comments	Classification Systems for Each Element		
		Diagnosis	Intervention	Outcome
NANDA* (North American Nursing Diagnosis Association)	– NANDA, 1973, all settings			
OMAHA Classification System*	– Visiting Nurses Association & U.S. Dept. of Health, 1989-93 – Comprehensive system: community, public health, school health, home care, community clinics, institutional settings and acute care.	Problem Classification Scheme	Intervention Scheme	Problem Rating Scale for Outcomes
HHCC* (Home Health Care Classification)	– Virginia Saba et al., 1988-1991 – Home health care, ambulatory-care, long-term care facilities	Nursing Diagnosis System	Nursing Intervention Scheme	
NIC* (Nursing Intervention Classification); Iowa Intervention Project	– Large research team at University of Iowa, 1987 – Language is comprehensive and can be used by nurses in all settings.	*Linked with NANDA diagnoses		
NOC* (Nursing Outcomes Classification)	– University of Iowa, 1997, all settings			
ICNP* (International Classification for Nursing Practice) project	– International Council of Nurses, Geneva, 1993-96, all settings – Mapped the data elements of existing Nursing Classification Systems – Nursing outcomes can contribute nursing sensitive information to broader generic health outcome modules.			
ICD-10-CA	– Currently being implemented across Canada. – Dates vary by province/territory.	Diagnosis/health conditions		
CCI	– Currently being implemented across Canada – dates vary by province/territory			
SNOMED®	– SNOMED® International officially launched the next generation of its clinical reference terminology in 2000. – Currently, it is used primarily as a reference in Canada.	Clinical terms related to signs/symptoms/diagnosis/health conditions/interventions		

* Nursing specific

ICNP®

The International Classification of Nursing Practice (ICNP®), developed by ICN and in its Beta 2 phase, is a classification system with the potential to address many nursing classification issues.

The ICNP® is an informational tool to describe nursing practice and pro-

vides data representing nursing practice in comprehensive health information systems. The ICNP® can be used to make nursing practice visible in health information systems. Researchers, educators, managers and policy developers can use data from health information systems to identify nursing's contribution to

health care. The data can be used to assure quality or promote changes in nursing practice through education, management, policy and research. For more information visit the ICNP® web site at www.icn.ch/icnp.htm.

The elements of the ICNP® – Nursing Phenomena (nursing diagnoses), Nursing Actions (nursing interven-

tions) and Nursing Outcomes – are compatible with the HI:NC data elements identified by Canadian nurses.

The ICNP® was developed to allow cross-mapping of local terms and classifications currently being used by countries around the world. It is being used and tested in many countries, although Canada is not yet one of them. Theoretically, data collected in Canada using classifications such as ICD-10-CA and CCI should be able to be converted to equivalent codes in the ICNP® and vice-versa.

Like ICD-10-CA, the development of the ICNP® is a long-term project that will provide a structured terminology and a classification that can be used to describe and organize nursing data, which can in turn be integrated into multidisciplinary health information systems. In order for it to succeed, the ICNP® requires collaboration within Canada and among nations.

Privacy, Confidentiality And Security Of Health Information

Nurses have always recognized the importance of the protection of privacy, confidentiality and security of

personal health – and other – information. As classification systems are developed and implemented, issues related to privacy, confidentiality and security must be carefully addressed. CNA recommends that governments engage health care professionals and other stakeholders in the development of a national framework for the protection of personal health information. The framework must address Canadians' concerns regarding the potential misuse of personal information (CNA, 2001b).

Future Directions

Moving forward with the classification of nursing practice requires the commitment of many organizations and the support of nurses. Clearly, all nurses must play an active role in identifying their information needs. In order to develop robust and quality health information that effectively meets these needs, nurses with informatics expertise should be on international, national, provincial/territorial and local committees responsible for maintaining classification systems.

CNA and provincial/territorial nursing associations recognize leadership roles in advancing the classification of nursing practice. At a CNA

Nursing Informatics Strategy Session in February 2001, nurses from across the country identified that a critical first step is developing a culture in nursing that values nursing informatics as an integral part of quality nursing practice. CNA initiatives, such as this series of articles, are designed to help raise awareness among nurses who may not be directly involved in nursing informatics.

CNA will continue to advocate government collaborate with national and international organizations to ensure data about nursing practice is collected, stored, maintained and retrieved in broader health information systems. Only then will the elements of nursing become known and the contribution of nursing to the health of Canadians be visible.

Where Can I Get More Information?

- ✔ Watch CNA's web site! Articles on *nursing informatics* and the *electronic health record* are published on the web site (www.cna-nurses.ca) and an article on *nursing resource intensity* will be published in 2003. Also listed are several other resources on the topics of nursing informatics.
- ✔ Provincial/territorial nursing associations and the *Canadian Nursing Informatics Association*, listed on CNA's web site, are excellent sources for up-to-date information on nursing informatics. Many provinces/territories have active nursing informatics groups.
- ✔ You can find ongoing information on the ICNP®, including a dynamic release of the ICNP® Beta Version, at <http://www.icn.ch/icnp.htm>, the ICN web site.
- ✔ The American Nurses Association's *Nursing Information and Data Set Evaluation Center* (NIDSECSM) home page is located at <http://www.nursingworld.org/nidsec/classlst.htm>.

Canadian Nurses Association. (2002). *Position statement: Evidence-based decision-making and nursing practice*. Ottawa: Author.

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