Position Statement

The Role of the Registered Nurse in Health Informatics

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Approved by the College and Association of Registered Nurses of Alberta (CARNA)
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# Table of Contents

- CARNA POSITION .................................................................................................................. 2
- IMPLICATIONS ...................................................................................................................... 3
- BACKGROUND ....................................................................................................................... 4
- RECOMMENDED READING .................................................................................................. 8
- REFERENCES ......................................................................................................................... 9
The purpose of this position statement is to provide guidance to registered nurses in Alberta about their role in health informatics.

**CARNAPosition**

The College and Association of Registered Nurses of Alberta (CARNAPosition) believes that the integration of information and communication technologies (ICT) and health informatics into nursing practice and health environments has, and will continue to have, a profound impact on nursing roles. The benefits of health informatics to registered nurses are affirmed in the profession’s ongoing efforts to refine its requirements for information in the areas of practice, education, administration and research. Basic health informatics and information management concepts are fundamental in order for registered nurses to practice evidence-based nursing, provide quality client care and maintain client safety.

To that end, in 2007 CARNAPosition endorsed the Canadian Nurses Association (CNA) Position Statement *Nursing Information and Knowledge Management* (CNA, 2006b). Specifically, CARNAPosition supports the CNA position that:

- information management and ICT are integral to nursing practice
- registered nurses should advocate and lead in implementing the collection, storage, retrieval and use of nursing care data to generate information on patient outcomes
- registered nurses should advocate for data standards and promote adoption in Canada of one clinical care terminology with the capacity to represent client health data and the clinical practice of all health-care providers
- registered nurses should advocate for a client-centred pan-Canadian electronic health record

CARNAPosition firmly supports the active engagement of registered nurses and the inclusion of nursing input at all stages of the life cycle of information and communication technology in health and nursing environments. Registered nurses need to be involved in all aspects of planning, development, adoption, selection, implementation and evaluation of health information and information systems in order to ensure a positive impact of information management on the quality of client care and on client safety.

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1 The term ‘client’ can refer to patients, residents, families, groups, communities and populations.
In order to ensure that nursing’s information requirements are met, CARNA recognizes the importance of roles for registered nurses in nursing informatics and health informatics. CARNA encourages the active participation of registered nurses in all roles (nursing care, management, administration, education and research) in data and information management within health-care systems at the local, provincial and national levels. Furthermore, CARNA endorses the principles of access, competence and participation recommended in the CNA e-Nursing Strategy (CNA, 2006a) as guidance for registered nurses and employers.

Finally, CARNA takes the position that evaluation and value of health-care services and health care in general are enabled by the collection of information that can be compared at an aggregate level. This information is useful to researchers and policy-makers in examining how well the system is performing in meeting the health-care needs of Albertans. Therefore, to ensure supportive, informative and productive outcomes for nursing practice from the use of health informatics in multidisciplinary, collaborative care environments, it is critical that information about the nursing contribution to client care be represented in the regional, provincial and pan-Canadian EHRs as well as provincial and national databases, such as those maintained by the Canadian Institute for Health Information (CIHI).

**Implications**

To achieve the position, CARNA believes that formal education in nursing should prepare registered nurses with:

- the appropriate information management competencies for knowledge-based practice (CARNA, 2005), which are:
  - 2.1 uses various data collection approaches appropriate to the situation to complete client assessment
  - 2.8 uses information and other technology to support nursing practice
- a working knowledge of the International Classification of Nursing Practice® (ICNP®, 2008)
- a working knowledge of health informatics encompassing nursing informatics (Nagle, 2003)
In addition, CARNA expects that registered nurses in Alberta will take responsibility for their own continuing professional development. In that context, registered nurses must take the initiative to increase their knowledge of basic health informatics and information management concepts in order to practice evidence based nursing, provide quality client care and maintain client safety. Therefore, practising registered nurses should:

- seek opportunities to acquire basic information management concepts and skills, computer concepts and skills (using such resources as: Health Informatics Training System (HITS) education modules provided on NurseOne, http://www.nurseone.ca; Canadian Nursing Informatics Association, http://www.cnia.ca; or through COACH, Canada’s Health Informatics Association http://www.coachorg.com)

- develop working familiarity with standardized nursing terminology (ICNP®, 2008) and clinical terminology (SNOMED-CT) so that common language can be used for describing nursing practice and enable comparison of nursing data across clinical populations, settings, geographical areas and time

- identify and address nursing information issues that affect the role of the registered nurse

- promote a positive integration of health information and communication technology into an organization’s chosen nursing care delivery model

- seek access to staff development programs that permit registered nurses to acquire skills that enable them to use the information system specific to their organization

- actively participate in committees dealing with the development, implementation and maintenance of health information and communication technology initiatives at the local, provincial and national levels

**Background**

The phrase ‘health informatics’ was coined by Mandil (1989) and the term is still used to refer to the use of information and communication technology, including both hardware and software, in combination with information management concepts and methods to support the delivery of health care. Health informatics is the umbrella term encompassing medical informatics, nursing informatics, dental informatics and pharmacy informatics, among others. Health informatics focuses attention on the recipient of care (client) rather than on the professional discipline of the caregiver. Health information
systems and health information and communication technology (ICT) are used synonymously to refer to those collected information and communication technologies that are used in support of the management and delivery of health services.

Historically in Canada, literally every study of health-care services, including such significant Canadian works as the Hall Commission (Royal Commission on Health Services, 1964) and the Lalonde Report (Lalonde, 1974), has pointed out the importance of good information to manage health-care systems. Overarching concern about the effectiveness and efficiency of the Canadian health-care systems, beginning in the mid 1980s, led to a growing recognition that health information in Canada was an issue that needed to be addressed. During the decade between approximately 1990 and 2000, the need for better information with which to manage the health-care system in Canada became an increasing national priority and a consistent theme of the various federal and provincial studies, forums and national commissions that reviewed the Canadian health system. The result was the creation of the CIHI with its mandate to provide “essential data and analysis on Canada’s health system and the health of Canadians.” (CIHI, 2008.)

In the decade from approximately 1998-2008, there was increasing emphasis on access to health services and patient safety. Thus, the health of Canadians and electronic health records (EHRs) drew increasing attention, resulting in the creation of the Canada Health Infoway (Infoway). Infoway is a not-for-profit organization funded by the federal government to collaborate with the provinces and territories by facilitating and investing in EHR projects. Collectively, the EHR projects contribute to the development of a network of EHR systems, enabling efficient communication between health-care professionals and bringing a deeper understanding of patients’ requirements for care (Canada Health Infoway, 2008).

In parallel with these developments, the understanding of nursing informatics evolved from an initial emphasis on the technology, through a broader more conceptual understanding to a role-based understanding. Nevertheless, a consensus has emerged on a common definition derived by Staggers and Bagley Thompson (2002) based on their critical analysis of past definitions. Their revised definition, which follows, is the most widely accepted definition:

“Nursing Informatics is a specialty that integrates nursing science, computer science and information science to manage and communicate data, information and knowledge in nursing practice. Nursing informatics facilitates the integration of data, information and knowledge to support patients, nurses and other providers in
their decision making in all roles and settings. This support is accomplished through the use of information structures, information processes and information technology.” (p. 255)

At the same time, the International Council of Nurses (ICN), with the support of its member countries, developed the International Classification for Nursing Practice (ICNP®). ICNP® is a unified nursing language system. It is a compositional terminology for nursing practice that facilitates the development of and the cross-mapping among local terms and existing terminologies (ICN, 2008). ICNP® is used as a reference language to link all of the disparate nursing terminologies and languages that have proliferated around the world but particularly in the United States. The AARN (predecessor of CARNA) was the first provincial nursing jurisdiction in Canada to endorse ICNP® (AARN, 1997). In January 2003, the CNA also endorsed the use of ICNP® in Canada.

Most recently in Canada, Infoway has committed to SNOMED-CT as the preferred language for documentation of client information in the EHR. Because of the foresight of the ICN and those responsible for ICNP®, efforts are now underway at the International Health Terminologies Standards Development Organization (IHTSDO), which owns SNOMED-CT, to use ICNP® to guide the inclusion of nursing terms and concepts within SNOMED-CT.

The clear message from CNA in their e-Nursing Strategy (CNA, 2006a) is that information and communication technologies (ICT) cannot be an add-on, but rather ICT and health informatics are an essential and integral part of health care and nursing practice. The three key elements identified by CNA for successful integration of ICT in nursing are to increase:

- nurses’ access – nurses must have access in the workplace to information and ICT
- nurses’ competence – nurses must have the necessary skills and abilities to use information and ICT in their practice to support clinical judgment and decision making
- nurses’ participation – nurses’ insights are essential to ensure that the right ICT tools are selected and implemented in health organizations to achieve maximum patient benefit

As of 2009, one of the accepted assumptions in the competencies and blueprint document for the Canadian Registered Nurse Examination (Canadian Registered Nurse
Examination Competencies, 2009) is that the entry-level registered nurse uses information and communication technologies to interpret, organize and utilize data to affect nursing practice, improve client outcomes and contribute to knowledge development in nursing.
Recommended Reading

For a background discussion about the use of informatics in health care and nursing, readers are encouraged to refer to:


6. Any of the authoritative books in the field such as:

References

Alberta Association of Registered Nurses. (1997, January). That the AARN endorse the work of the ICN in developing the International Classification of Nursing Practice ICNP. Provincial Council Meeting, Motion 15. Edmonton, AB: Author.


