



Embracing Canadian Nursing Informatics: Peering through An Ethical and Philosophical Lens

June Kaminski RN MSN PhD(c)
President, CNIA
Vice President Programs, Xi Eta

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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” (Staggers & Bagley-Thompson, 2002, p. 262).



The goal of nursing informatics.

is to improve the health of populations, communities, families, and individuals by optimizing information management and communication. This includes the use of information and technology in the direct provision of care, in establishing effective administrative systems, in managing and delivering educational experiences, in supporting lifelong learning, and in supporting nursing research” (CNIA, 2003, p. 1).



Ethics are critical...

- In Privacy & Confidentiality
- In Competencies
- In E-health and Telenursing
- In Ergonomics & Asepsis
- In Networking
- In End User Acceptance
- In National & Local Initiatives



Through a Lens..

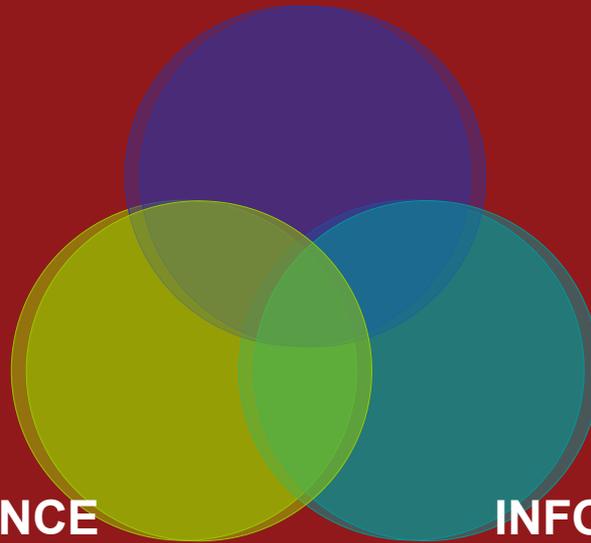
Of Primary Health Care

- Accessibility
- Inter-sectoral Collaboration
- Public Participation
- Health Promotion
- Appropriate Technology



NURSING INFORMATICS TRIAD

NURSING SCIENCE



COMPUTER SCIENCE

INFORMATION SCIENCE



Nursing Informatics is critical to Health Care

- Nurses comprise the largest group of health providers
- Nurses spend the most time in direct care of clients = a critical position to influence Health Informatics



DATA – INFORMATION - KNOWLEDGE

- Health and nursing information science is the study of how **health care data** is acquired, communicated, stored, and managed, and how it is processed into **information and knowledge**.



Information systems....

....used in health care include the **people, structures, processes, and manual as well as automated tools** that collect, store, interpret, transform, and report practice and management information.



Nursing knowledge....

....is derived from the practice of nursing science. It represents the rules, relationships, and experiences by which data becomes information. Using their knowledge, nurses synthesize information so that the patterns, relationships, and themes are identified,



Nursing wisdom....

-is knowing when and how to use knowledge. It develops through praxis, and requires knowledge, values, and nursing experience coupled with reflection on one's own practice



Privacy, Security, Confidentiality

- Protected by Policies & Procedures
- Security refers to technological, organizational, or administrative processes designed to protect data systems from unwarranted access, disclosures, modification, or destruction.

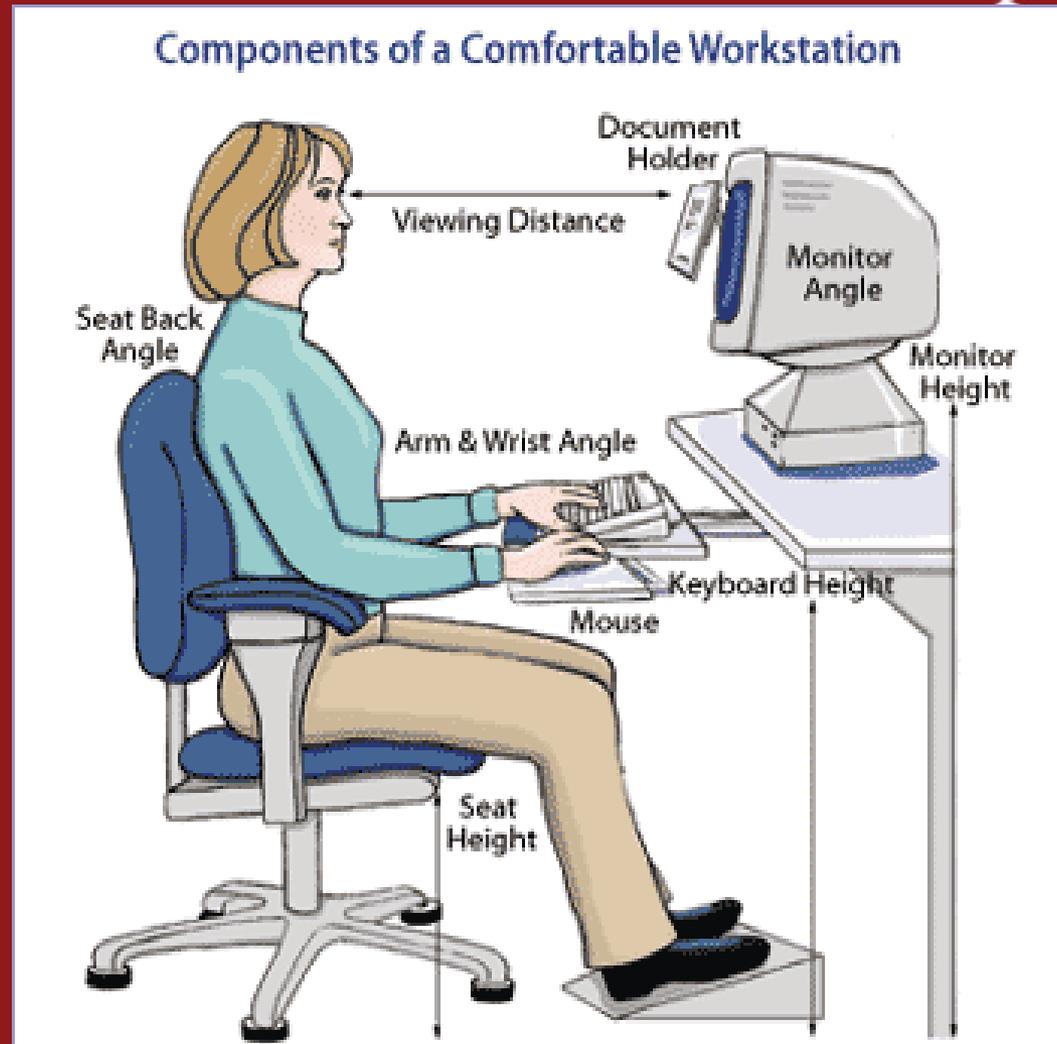


Ergonomics.....

- comes from the Latin **ergos** (to work) and **nomos** (knowledge).
- the science of using knowledge of work activities and the human body's limitations to structuring work environments, or "fitting the work to the worker".



Computer Station Ergonomics



ASEPSIS AND COMPUTERS

Research studies suggest that computers in the hospital workplace can be prime habitats for various fungi, bacteria, and other microorganisms including “superbugs” like MSRA.

- a. What activities do you think are the biggest culprits for promoting the growth of these harmful microorganisms?
- b. What can nurses do to protect their clients from computer-transmitted infections?
- c. Who is responsible for cleaning computer and mobile equipment in your employing agency or workplace?

The Art of Nursing Informatics



- ❖ **Caring and Use of Technology**
- ❖ **Holistic assessment and planning**
- ❖ **Aesthetics and a Phenomenological Approach**

CARING AND USE OF TECHNOLOGY

- The relationship between computer literacy, technological competence and a nurse's ability to care is congruent for quality nursing practice.



Caring and Literacy

Computer literacy represents a proactive response to technology which enhances caring in nursing



Holistic assessment and planning

- The world of the screen is fast becoming a constant reality within health care – how do nurses counteract the potential distancing and rupturing of relations with clients that can occur?
- How can nurses use technologies in ways that actually allow more embodied time and presence with clients?



Aesthetics & a Phenomenological Approach

- What do we need to do differently when nurses must transpose their presence, empathy and professionalism through the circuitry and visual displays of a ICT machine?
- The nurse is still “present” and perceived as situated within the health care interaction by the client, albeit through electronic means



How are Presence & Caring Conveyed?



Engaging with a “Virtual” client

- While engaging with the virtual representation of a client, the nurse must strive to envision and experience the client's three dimensional body and being in order to accurately advise, assess, diagnose, and interact fully and dynamically.
- This perceiving must occur within a virtual network environment, where both body-sense and body-awareness are combined with digital information.



Telehealth and Telenursing



Tele-health practices not only call for nurses to reconceptualize presence, place, and bodies in nursing, but also to explore how these practices threaten to displace nursing. It is imperative for any nurse who engages in telenursing to be aware of this, and to ensure that network exchanges with their clients reflect dynamic, personable caring and attentiveness, even when the interactions occur via ICT mediums.

**WHAT CAN NURSES DO
TO ENSURE THIS?**

Nursing Roles in E-health

E-health is a client-centered World Wide Web-based network where clients and health care providers collaborate through ICT mediums to research, seek, manage, deliver, refer, arrange, and consult with others about health related information and concerns



E-health Case Scenario

Janet, a 43 year old mother and business owner was diagnosed with rheumatoid arthritis six months ago. She sought medical treatment for her condition but has experienced little relief with conventional treatment. She begins to seek further information from other sources beyond her family doctor, including internet resources. Recently she decided to initiate an online support and information group to explore treatments and experiences with other people with arthritis.



Questions to Ask...

- ❖ What roles could nurses adopt to support Janet in her endeavor?
- ❖ What could nurses offer this new community of clients that they could not organize themselves?
- ❖ What ethical considerations come to mind when reviewing this scenario?



Nursing Roles in E-health

- health advisors
- Internet guides to help clients select reliable information resources
- support group liaisons
- web information providers
- Nurses need to be involved in the design and implementation of E-health portals and programs that provide the best possible experience for health care clients.



Client Education Roles for Nurses

- Facilitative partnership with client
- Enablers, supporting self care and autonomy
- Coaching, informing and explaining
- Helping clients to generate alternatives
- Guiding clients to think issues through
- Validating the client's reality.
- Nursing Informatics can help to personalize and customize client teaching



Networking and ICTs

- **Client focused networks** - telenursing, e-health, and client support networks
- **Work related networks** - virtual work and virtual social networks
- **Learning and research networks** - communities of practice



Networking Exercise

Consider how networking with experts and other professionals could help you to cultivate nursing informatics competencies and knowledge, and how to apply these within your area of practice.



Future of Networking

Also, consider how you see the role of nurses evolving as more and more client initiated networks, e-health initiatives, and networking access become the norm.



Nursing Informatics Competencies

- ❖ **Strategies:** in-service training, intranet ready modules, access to online resources, and opportunities for continuing education.
- ❖ **Barriers** to achieving NI competencies in the workplace include restricted access to training and training systems for nurses and nursing students, few leaders and educators with NI skills, and limited empirical support for the contributions ICT can or will realistically make to nursing and patient outcomes" (p. 6).



Competency Levels

- Beginner, entry or **user** level
- Intermediate or **modifier** level
- Advanced or **innovator** level



All three levels demonstrate Competencies:

- ❖ the use of information and communication technology (*technical competencies*)
- ❖ the use of automated information in a professional context (*utility competencies*)
- ❖ decision-making with respect to planning for and using both the technology and information (*leadership competencies*).



User Level Competencies

- "User" level of competency indicates nurses who demonstrate core nursing informatics competencies. This level includes practicing nurses, nursing administration, nurse researchers and educators. In most taxonomy, this is the basic level that **ALL** nurses should minimally demonstrate, no matter what area of practice he or she works in.

Modifier Level Competencies

A "Modifier" level of competency indicates nurses who demonstrate intermediate nursing informatics competencies. This level includes practicing nurses, nursing administration, nurse researchers and educators who have mastered basic skills and use technology in inventive ways in their practice.



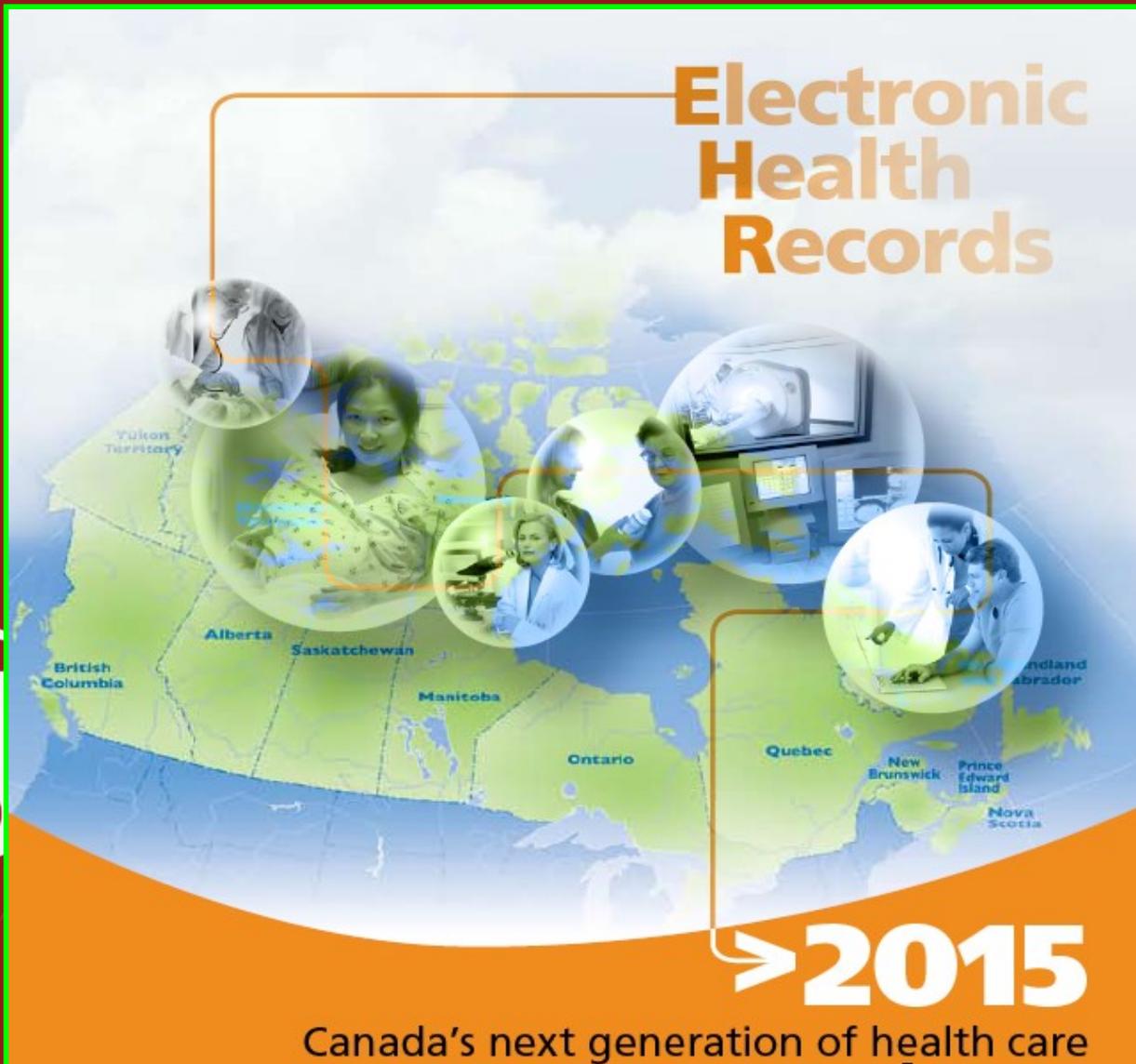
Innovator Level of Competencies

- An "Innovator" level of competency indicates nurses who demonstrate advanced and specialized nursing informatics competencies. This level includes practicing nurses, nursing administration, nurse researchers and educators who have mastered expert skills and use technology in design, plan and coordinate the use of technologies and informatics theory in nursing.



Canada Infoway

Electronic Health Records



➤ **2015**

Canada's next generation of health care

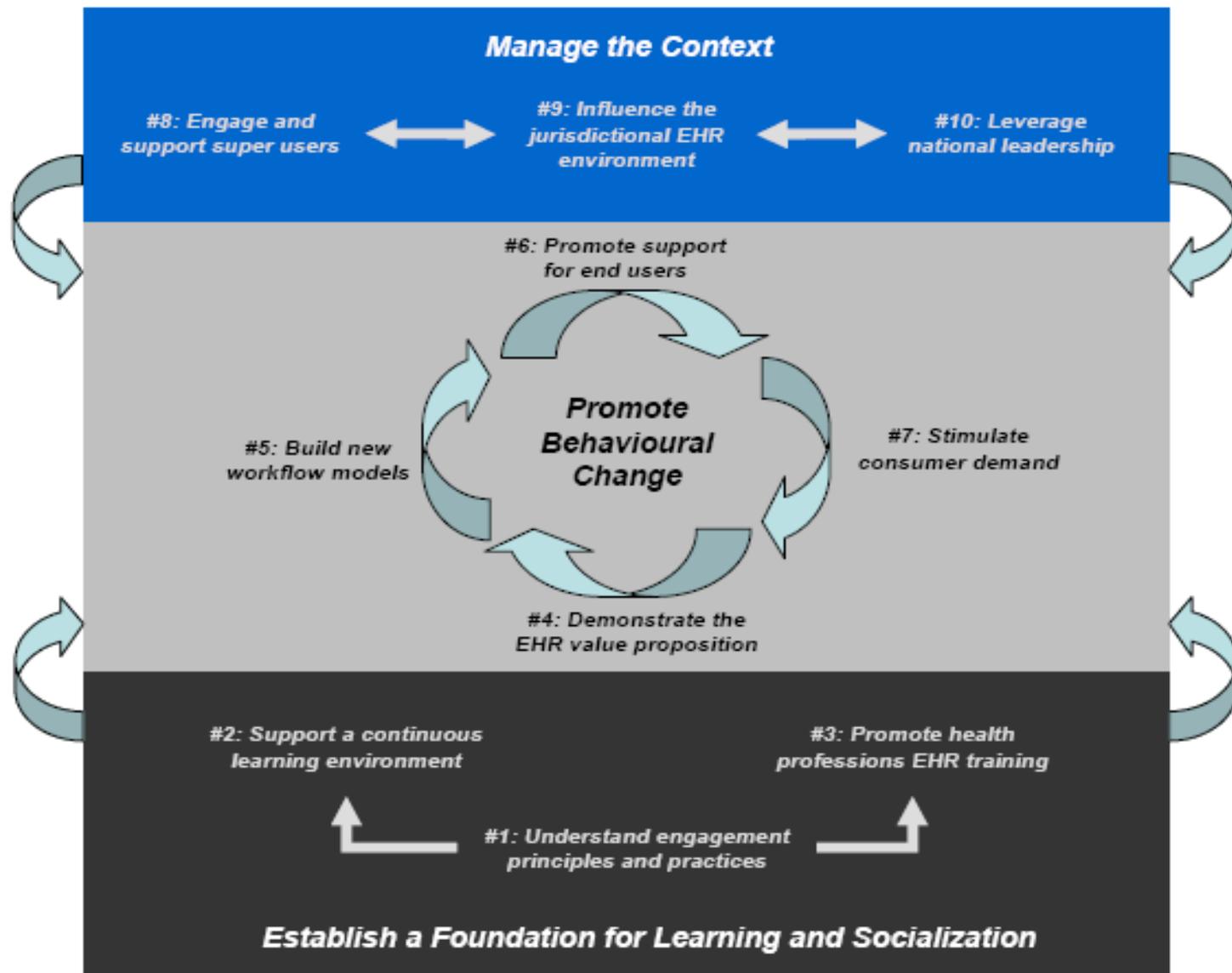
End User Acceptance Strategy

- Four person expert clinician team formed in 2006 including Dr Lynn Nagle, founding CNIA President to address acceptance of health information technology such as EHRs by end users: e.g. doctors, nurses, pharmacists, etc.

GOAL: to provide advice on technology adoption challenges faced by healthcare providers.



THE END USER ACCEPTANCE STRATEGY AND PROJECTS



The End User Acceptance Strategy is built around three broad strategic themes and ten specific Projects.

COACH

- The COACH Board of Directors has engaged in a comprehensive strategic planning process and developed a new **Strategic Plan** to cover the period from April 2008 to April 2011. A key element of the plan is the COACH Vision:

***Taking Health Informatics
Mainstream***

<http://coachorg.com/%5Cdownloads%5CCOACH%20Strategic%20Plan%20Final-Jan%202010.pdf>

CNA – NURSE ONE

<http://www.nurseone.ca/>

E Nursing Strategy



NurseONE

**The Canadian Nurses
Portal**

New 2008 Code of Ethics

Maintaining privacy and confidentiality

Nurses recognize the importance of privacy and confidentiality and safeguard personal, family and community information obtained in the context of a professional relationship.



CNA E-Nursing Strategy

The Canadian Nurses Association calls on nurses in all areas of practice to work with our health-care partners in ongoing partnerships that ensure nursing will make its best contribution to the future health-care of Canadians. We must all work toward a health-care system in Canada that uses ICT optimally and effectively to provide the highest quality of care possible.

Canadian Nursing Informatics Association

- Canadian Journal of Nursing Informatics
- <http://cniac.ca/journal/journal.html>



- CNIA Member Community
- <http://cniac.ca/membersonly/>
- Next Conference: Fall 2009

CNIA Member Community

try another color: try another fontsize: 60% 70% 80% 90%



Members Community

[CJNI Journal](#) | [Do You Belong?](#) | [Recommended Resources](#)

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The mission of the CNIA is to be the voice for Nursing Informatics in Canada. The CNIA is the culmination of efforts to catalyze the emergence of a new national association of nurse informaticians. Please note: This community is only open to current CNIA members. If you are a member, please create an account - then you will be able to view and participate in activities within this members area. If you are not a member, Join Us!

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Lynn Nagle & Kathryn Hannah receive CNA Centennial 100 Awards!

Sun, 09/07/2008 - 20:24 — June Kaminski



We are delighted to announce that the CNIA nominee, our own Founding President, Dr. Lynn Nagle has been awarded top recognition by being named one of the Canadian Nurses' Associations' Centennial 100 Award recipients. "The Centennial Awards are a one-time award created to celebrate 100 exceptional registered nurses whose personal and professional contributions have made an outstanding and significant impact on the nursing profession." (CNA Centennial Awards Introduction).

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New Publications

- [Everything I Know About Informatics, I Didn't Learn in Nursing School](#)
- [Cultivating informatics competencies in a community of practice](#)
- [Are Medical Informatics and Nursing Informatics Distinct Disciplines?](#)
- [Health Professionals' Views of Informatics Education](#)
- [Nursing Informatics and the Foundation of Knowledge](#)

<http://www.cnia.ca/membersonly/>

Electronic Health Record (EHR)...

a longitudinal electronic record of patient health information generated by one or more encounters in any care delivery setting. Included in this information are patient demographics, progress notes, problems, medications, vital signs, past medical history, immunizations, laboratory data and radiology reports.



EHRs....

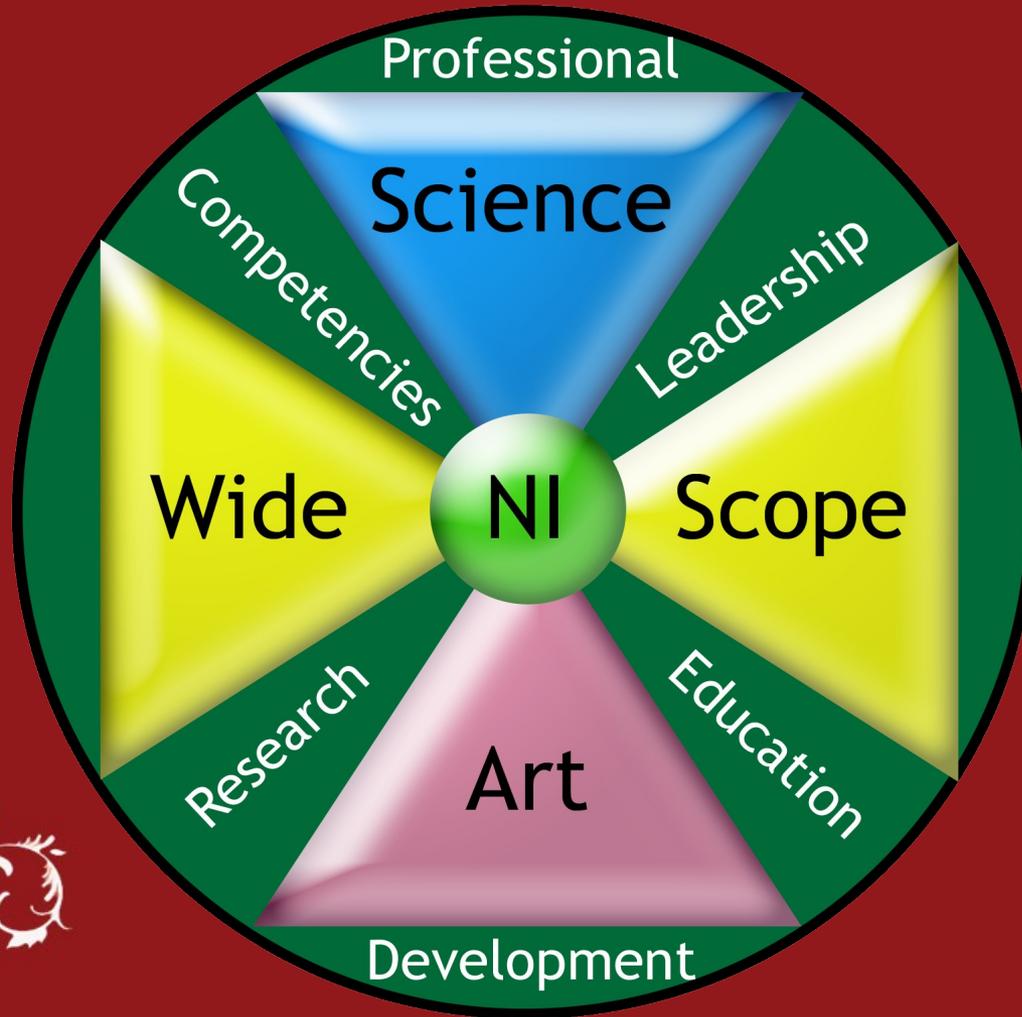
The EHR has the ability to generate a complete record of a clinical patient encounter, as well as supporting other care-related activities directly or indirectly via interface - including evidence-based decision support, quality management, and outcomes reporting



Simulations, Multimedia, Virtual Reality

- **Simulation Labs** common in Schools of Nursing and some agencies for orientation or skill development
- **Multimedia** augments learning, sharing, and communication
- **Virtual Reality and Games** – are being explored for health education and simulation e.g. <http://www.gamesforhealth.org/>

Evolving the Field



NNursing Informatics 101 Model

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