

# The Future for Nurses in Health Informatics

**Dr. Laila Akhu-Zaheya**

**NUR 308**

# Outline

- **Introduction**
- **Visions of the Future**
- **New Roles for Nurses in Nursing & Healthcare Informatics**
- **Role of Professional Associations**
  - **Multidisciplinary Professional Associations**
  - **Nursing Professional Organizations**
- **Summery**

# Introduction

- Since we have entered the new millennium, the emphasis on health informatics has been increasingly growing.
- The focus of development, which was initially on hardware, has moved to an emphasis on application software that enables caregivers to provide people with the best possible health services.

# Introduction

- This new information-rich environment also contains new & powerful tools that enable caregivers & care recipients alike to seek & use information to make health-affecting decisions & to generate new health knowledge.

# Visions of the Future

- Haux (1998) defined a vision for medical informatics that rests on 10 aims.
- Ball et al. (1997) explored the implications of these aims for the nursing profession.

# Aim 1

## Diagnostics—the Visible Human Body.

- Remote access to high-quality digital images supports new modes of care delivery. These images can be minimized, ensure access to specialists, & create new requirements for coordinating & managing care.
- Other influential developments include the incorporation of images of various types into electronic patient records.
- Many of these advances have already taken place & continue to enhance the information available to caregivers, including nurses; & they affect the ways in which caregivers deliver care.

## **Aim 2:**

### **Therapy: Medical Intervention With Little Strain On Patient**

- Noninvasive diagnostics & minimally invasive surgery are growing significantly.
- These advances affect nurses involved in the procedure.
- When combined with other forces, they also affect nurse's involvement throughout the care process, influencing factors such as limiting the number of hospital days & changing the role of the hospital-based nurses.

# Aim 3:

## Therapy Simulation.

- Nurse educators have been leaders in using simulation-based training for their students, offering simulation laboratories to teach basic skills.
- Further development of simulation technologies will allow nurses to refine advanced skills.



## Aim 4:

# Early Recognition & Prevention

- Today, increasing numbers of nurse practitioners are providing primary care, & nurse-managed clinics are becoming the mechanism for delivering affordable primary care.
- Both trends suggest that nursing will become responsible for patient education, working with patients to develop health behaviors that prevent illness & promote wellness.
- Use of the Internet & new functions, such as information prescriptions, are putting more & more tools into the hands of healthcare providers.

## Aim 5:

### Compensating For Physical Handicaps.

- Devices used on an ongoing basis by patients tend ultimately to involve nursing in their support as a daily living skill.
- Teaching these skills has long been the concern of nursing.
- New informatics applications in this area will require a new level of knowledge & sophistication among nursing staff.
- To accomplish these goals, a revolution needs to occur in the nursing curriculum.
- Each nurse must have a comfort level with enabling technologies, which is not present today.

## **Aim 6:**

### **Health Consulting: The Informed Patient.**

- Patient education is receiving new attention.
- Multimedia programs, videotapes, CDs, & DVDs guide patients when they are deciding on interventions for their condition.
- As more health-related information becomes available to consumers via the Internet, patients definitely need guidance for evaluating & using this information.
- Nursing has often provided this guidance in the past & will increasingly continue to do so as counselors & teachers of patients & clients.

# Aim 7:

## Health Reporting

- To date, public health has relied on retrospective reports to control disease.
- Today the information infrastructure offers the capability to intervene in a timelier manner.
- We have yet to realize the benefits that can result from large-scale data providing population-based health statistics.
- Nursing will play a role in using & understanding outcomes information to improve the management & quality of care.

## Aim 8:

### Enterprise Information Systems.

- Nurses have long been the frontline users of information systems in healthcare.
- Nurses will continue to be at the hub of patient care—even when are functioning in a telehealth/telemedicine setting.
- Clinical informatics must focus on making information tools an integral component of the care process.
- Increasingly, technology will need to support health professionals including nurses in a wide variety of settings.

# Aim 9:

## Medical Documentation.

- Movement toward the (EHR) continues in developed countries
- Several projects, organizations, & other initiatives - both national & international - are all having a major impact on electronic nursing documentation.
- All these activities are improving nursing documentation & thereby enhancing the visibility of the nursing contribution to patient care.
- Data protection & patient confidentiality remain key critical issues.

## **Aim 10:**

### **Comprehensive Documentation Of Medical Knowledge & Knowledge-based Decisions For Case Management**

- Patient safety has moved to the top of the list as an initiative that is key to the future of nursing.
- New ethical considerations will arise as we move to the future.
- How will knowledge-based systems affect issues of clinical judgment & responsibility?
- Clearly the nursing profession must address these issues, in both concept & practice

# Nursing must play a major role in taking these goals into consideration:

- **Goal 1:** Inform clinical practice. This goal focuses largely on efforts to bring electronic health records directly into clinical practice.
- **Goal 2:** Interconnect clinicians. This allows information to be portable & to move with consumers from one point of care to another.
- **Goal 3:** Personalize care. Consumer-centric information helps individuals manage their own wellness & assists with their personal healthcare decisions.



- **Goal 4**: Improve population health. It improves capacity for public health monitoring, quality of care measurement, & bringing research advances more quickly into medical practice.
- Making these efforts meaningful to the nursing profession will require extensive lobbying by nurses to increase the awareness of policy makers of the importance of nursing content in the HIT initiatives to achieve the goals
- Moreover, a major change will be required in nursing education. This means diffusing nursing informatics training throughout the nursing curriculum rather than in isolated fashion.
- Training

- Nursing informatics continues to evolve within the context of health informatics, nurses can & should contribute in the areas of research, education, administration, & practice.
- In the area of research, nurses with appropriate preparation are already participating in developmental projects
- All the major developers & vendors of computerized health information systems employ nurses as consultants, advisors, systems engineers, systems analysts, or programmers.
- Major research initiatives, led by nurse researchers, are underway to study the use of the Internet & the World Wide Web for delivery of patient care or education.

# New Roles for Nurses in Nursing and Healthcare Informatics

- Most recently, nurses are developing information management methods & tools for use in transforming health & nursing data into information.
- Nurses are actively involved in developing & evaluating computer hardware, software, & multimedia materials in educational institutions & at organizations that provide patient care.

# Continue....

- In the future, nurse researchers should be initiating studies of the ergonomic & change management issues associated with the use of information technologies in nursing practice & nursing education.
- Nurse administrators require computer skills, informatics skills, & informatics knowledge to fulfill their roles.
- Nurse administrators should also be prepared to promote & support their organizations' implementation of systems that foster patient safety & quality nursing practice.
- Nurses should be able to select systems that help in the management of patients & staff, such as nursing documentation systems

# Continue..

- A general understanding is needed between nurses & information specialists regarding the functions & limitations of computers & the dynamic nature of nursing to select flexible hardware & design-satisfactory computer programs
- In the area of practice, nurses have traditionally been the interface between the consumer & the healthcare system. In the application of nursing informatics, nurses with baccalaureate or master's degree preparation can & should participate in the selection & implementation of systems.

# Continue....

- Nurses must facilitates the business process design (or redesign) to use information & information systems with the maximum degree of effectiveness & efficiency
- Nurses must know that caution when designing & implementing any information system is essential.
- In the area of education, nurses are & should continue to be the trainers for nurses & students using new or upgraded applications software

# Continue...

- The goal of these new roles for nurses is to create patient-centered, enterprise health information systems that meet the needs of the consumer for use in healthcare agencies & institutions.

# Role of Professional Associations

- Professional associations fulfill the vital function of facilitating the exchange of current information on informatics developments.
- Individuals involved in the health informatics field are more than willing to welcome “new blood” with fresh ideas. They are also more than eager to expound on their ideas to new listeners.
- Professional associations should provide a forum for the communication & exchange of ideas.
- Professional associations also publish newsletters, journals, & conference proceedings to accelerate wide dissemination of information about new information management methods, technology, & software & their use & applications.



# Role of Professional Associations

- Nurses with interest & expertise in health informatics should seek membership in three types of organization.
- **The first** is affiliation with multidisciplinary associations whose focus is health informatics. The purpose of membership in this type of organization is to maintain & expand expertise in health informatics.
- **The second** type of organizational membership is maintenance of affiliations with nursing professional organizations. This membership should be maintained for the dual purpose of providing leadership & sharing ideas & information about health informatics in the nursing community.
- **The third** type of affiliation is membership in vendor-sponsored user groups.

# Multidisciplinary Professional Associations

## 1. American Medical Informatics Association (AMIA)

- It offers a variety of activities.
  - Conducting scientific, technical, & educational meetings
  - Publishing & disseminating reports & other documents independently & in the professional literature
  - Stimulating, sponsoring, & conducting research into the application & evaluation of technologic systems as they apply to healthcare & medical science

# Multidisciplinary Professional Associations

## 2. Healthcare Information & Management Systems Society (HIMSS).

- HIMSS is one of the healthcare industry's leading membership organizations & is exclusively focused on promoting the optimal use of healthcare information technology & management systems for the betterment of healthcare.

# Nursing Professional Organizations

- The importance of this type of membership is in the obligation of professionals to share their expertise & knowledge with colleagues.
- The banding together of nurses with expertise in nursing informatics in national nursing organizations raises other members' awareness of this aspect of nursing.

# Nursing Professional Organizations

## 1. The Canadian Nursing Informatics Association (CNIA, 2005)

- Its mission is to be the voice for nursing informatics in Canada.
- The goals of CNIA are as follows:
  - To provide nursing leadership for the development of nursing/health informatics in Canada
  - To establish national networking opportunities for nurse informaticians
  - To facilitate informatics educational opportunities for all nurses in Canada
  - To engage in international nursing informatics initiatives
  - To act as a nursing advisory group in matters of nursing & health informatics
  - To expand awareness of nursing informatics to all nurses & the healthcare community

# summery

- Nurses find professional organizations valuable for the positive impact they provide on the information processing aspects of their profession.
- Participation in organizations—multidisciplinary, nursing, vendor sponsored— is highly recommended.