The Overview of Nursing Informatics

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Nursing Profession has Transformed

Content

- What is information technology?
- Definitions
- Current trends
- The needs for nursing informatics
- Benefit of nursing informatics
- What do nursing informatics do?
- Transforming Nursing Practice through Technology & Informatics.

What is Information technology?

- Any technology which processes and communicates data, includes:
  - computers, voice, data and image sensing and communications devices, graphics devices, multi-media storage, etc.
  - pen, paper, telephones and fax machines

Definitions

- **1989—Graves and Corcoran defined <u>Nursing Informatics</u> as**

  - "**Computer science**, **information science**, and **nursing science** combined to assist in the management and processing of nursing data, information and knowledge to support the practice of nursing and the delivery of nursing care."

Nursing Informatics Defined

- Nursing informatics is the <mark>integration</mark> of <u>nursing</u>, <u>its information</u>, and <u>information management</u> with <u>information processing</u> and communication technology, to support the health of people world wide.

- International Medical Informatics Association – Nursing Informatics Special Interest Group (IMIA-NI),adopted August 1998, Seoul, Korea

New Definition - ANA

- "Nursing Informatics is a specialty that integrates nursing science, computer science, and information science to manage and communicate date, 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."

  - ANA (2001). 17

Current Trends

- 1996—Turley defined Nursing Informatics as the intersection point with Nursing Science, Computer Science and Information Science.

- 1995—Graves et al, began to incorporate knowledge as a product of the sciences into the definition.

How it all began….

- Late 1960's first computer systems were implemented in hospitals
- Computer nurses began to appear in hospitals
  - Excellent clinicians
  - Technically curious and willing to try new things

Nursing Informatics: The Emerging Field

- In all types of health care organizations, nursing is the hub of the information flow. Developing the science and technology of nursing informatics will enhance the information available to nurses for   clinical practice, management, education, and research and will
  facilitate the role of nurses as communicators."

  -Patricia F. Brennan (1996),
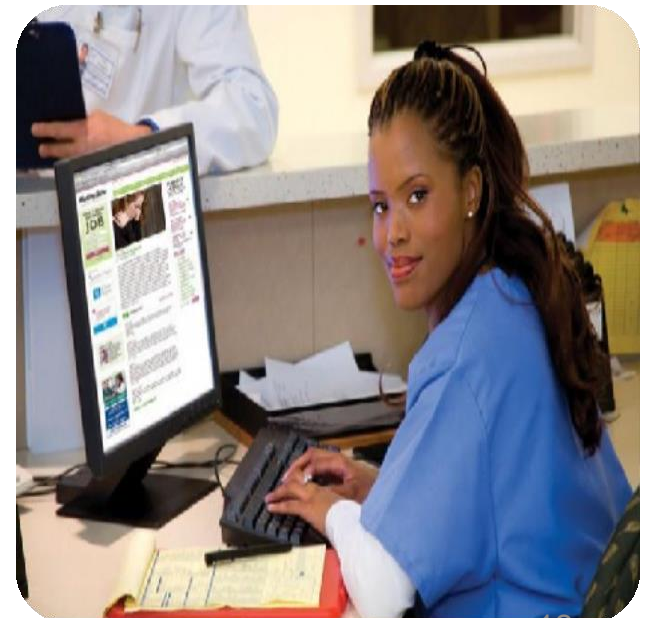 *American Medical Informatics Association*

Nursing Informatics:

- Nursing informatics can be applied to model the human processing of data, information, and knowledge within a computer system in order to automate the processing of nursing data to information and the transformation of nursing information to nursing knowledge.

Nursing Informatics is Nursing!

- NI is was recognized as a specialty by the ANA in 1992 1st Scope and Standards of Nursing Informatics Practice published
- •Meets Panniers and Gassert's (1996) attributes
- of a specialty in nursing
- A differentiated practice
- A defined research program
- Organizational representation
- Educational programs
- A credentialing mechanism

Who Should Become a Nurse Informaticist?

- You do not have to be a computer expert to consider a career as a nurse informaticist. Everyone must start somewhere. If you see the computer as a problem-solving tool instead of an inconvenience, then you are a prime candidate to be a nurse informaticist **(Bridges, 2007).**

Nurse Informaticist? Works with WWW support

- In education, the nurse informaticist works with online, hybrid, and web supported courses. This may include putting courses up on the internet and assisting faculty with determining what should go on the web support sites.

Need for Nursing Informatics:

- . "In the current Information Age, the doubling of knowledge every five years and the increased specialization of knowledge make it imperative that nurses have access to the latest scientific information to assist in the delivery of high quality care," (Hudgings, 1992,).
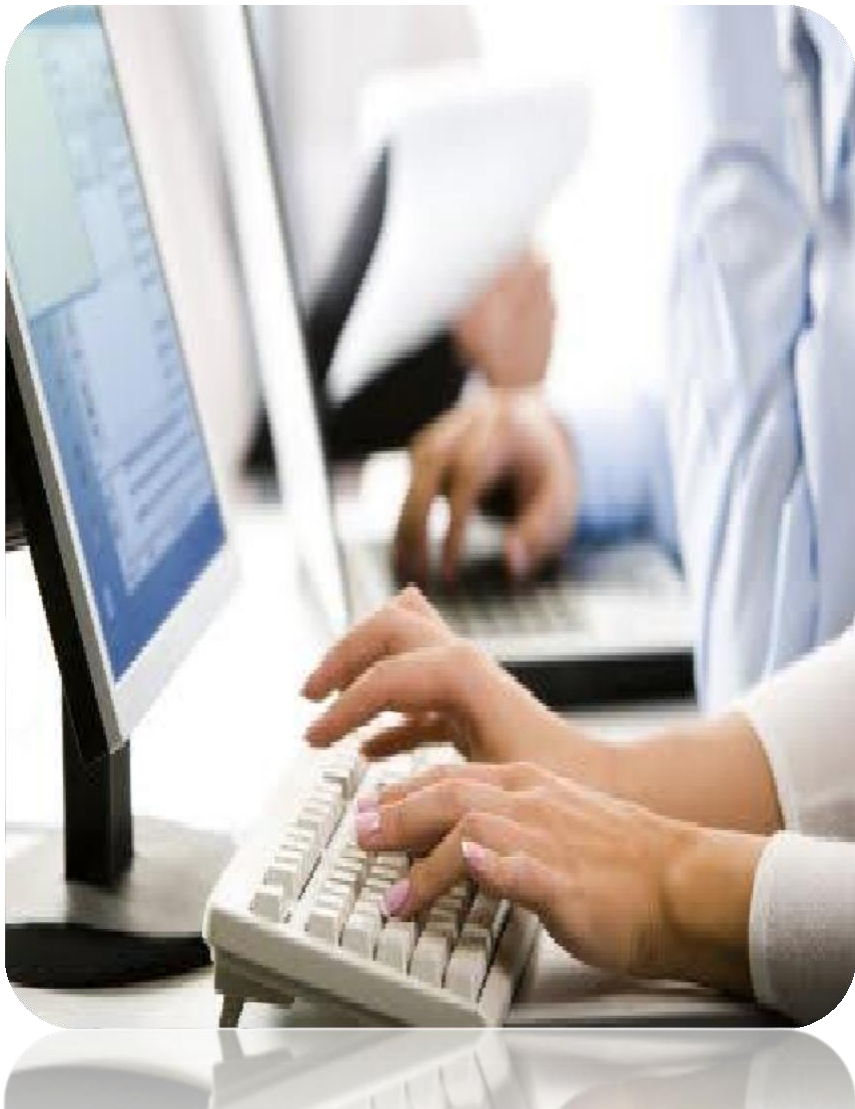
Nursing Informatics:

- 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.

Knowledge is exploding and Patients are demanding

The Benefits of Nursing Informatics

- In the practice of professional nursing

- In the delivery of patient care in the healthcare continuum

Nursing Process

- Communicate & coordinates care with ALL other clinical disciplines

- – Coordinate discharge planning, education & teaching, transition of care

- – Manages ALL information related to the nursing process and patient

Automation of Documentation

- Why automate documentation – not only for nursing but for all of patient care?

- **Up-to-date, accurate information of each step of the Nursing Process is the *Power* behind safe, high quality patient-centered care!**

What Does a Nurse Informaticist Do?

- Nurse informaticists, also known as nurse informatics specialists, are specially trained to help manage, interpret and communicate the vital medical data and information that flows into and out of doctor's offices, hospitals, clinics and other health care facility computer systems. Nurse informaticists usually work in the information systems department of a health care setting, and they are skilled in three primary areas: computer science, information technology and nursing science

What Does a Nurse Informaticist Do?

- They may also make recommendations as to how to improve the processes and uses of computer programs in order to improve patient outcomes. For this reason, many nurse informaticists work as consultants.

What Does a Nurse Informaticists Do?

- Other nurse informaticists work in an administrative capacity, and contribute to decision-making on medical information technology. Some nurse informaticists educate nurses on how to effectively enter medical information into a computer system, as well as **train nurses how to use new technology.**

Information/Database Management

- Understand database architecture—how data is stored and accessed
- Nursing structure
  - Nomenclature/vocabulary
  - Taxonomies and Coding Schemes
    - ICD-P, CPT
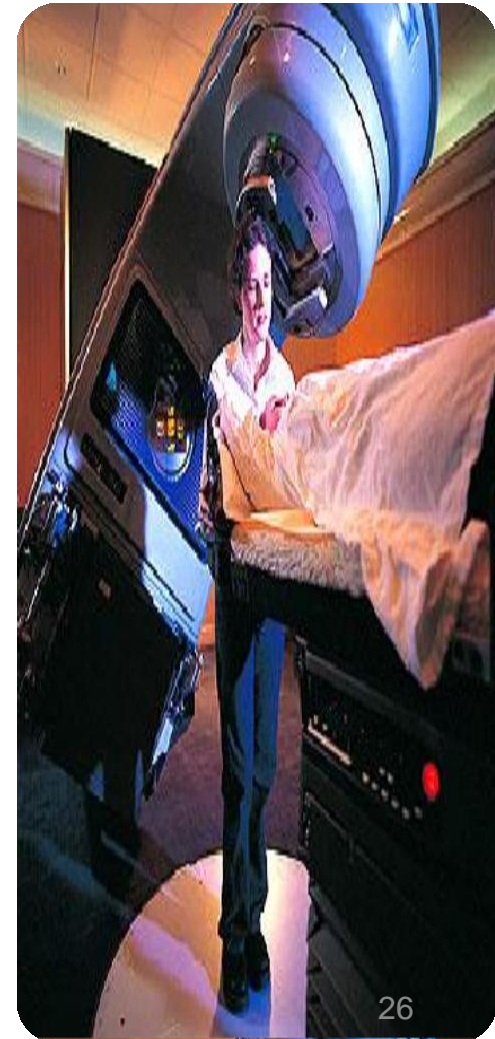 - Nursing Minimum Data Sets
    - NIC,NOC, NANDA,

Computer Technology

- Understanding of the actual technology Networks
  - Personal computers
  - Portable devices
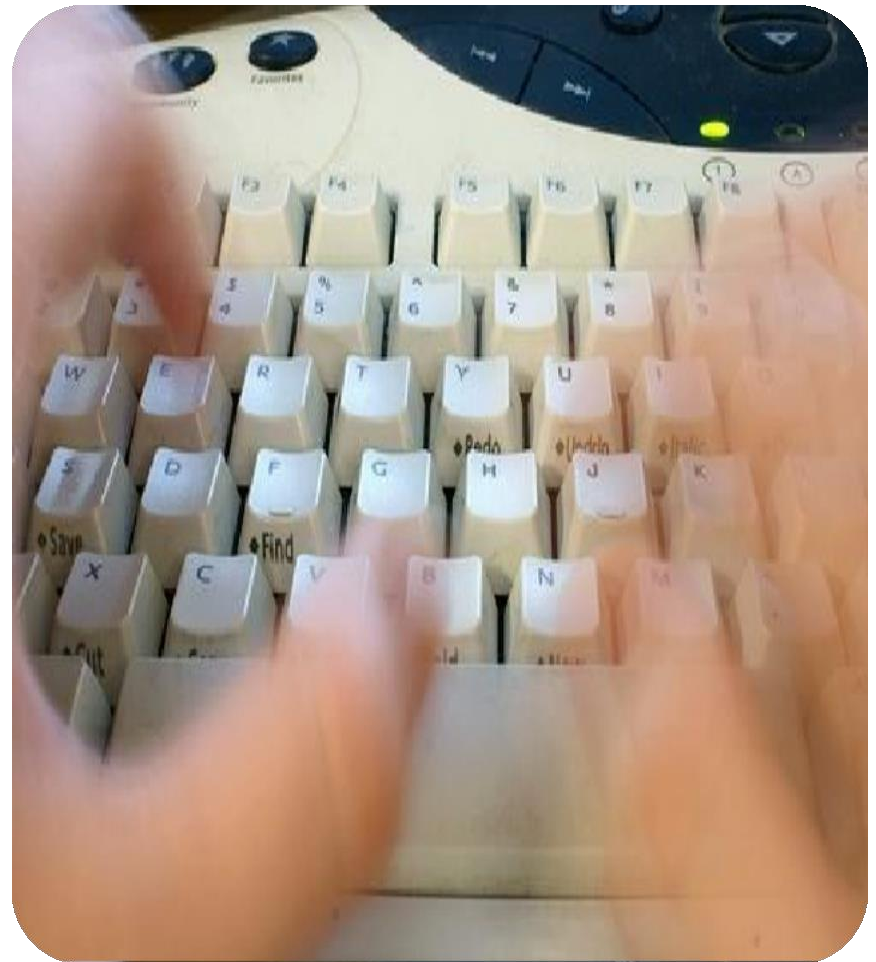 - Operating systems
  - Software

Exam Focus Areas

- System Analysis and Design
- System Implementation and Support
- System Testing and Evaluation
- Human Factors
- Computer Technology
- Information/Database Management
- Professional Practice/Trends and Issues
- Theories

Automation of Documentation

- **Why automate documentation – not only for nursing but for all of patient care?**

- **Up-to-date, accurate information of each step of the Nursing Process is the *Power* behind safe, high quality patient-centered care**

Successful implementation of Information Automation

- **Systems requires**
- Well designed systems that support Nursing
- Process within the culture of an organization
- and/or specific care providers
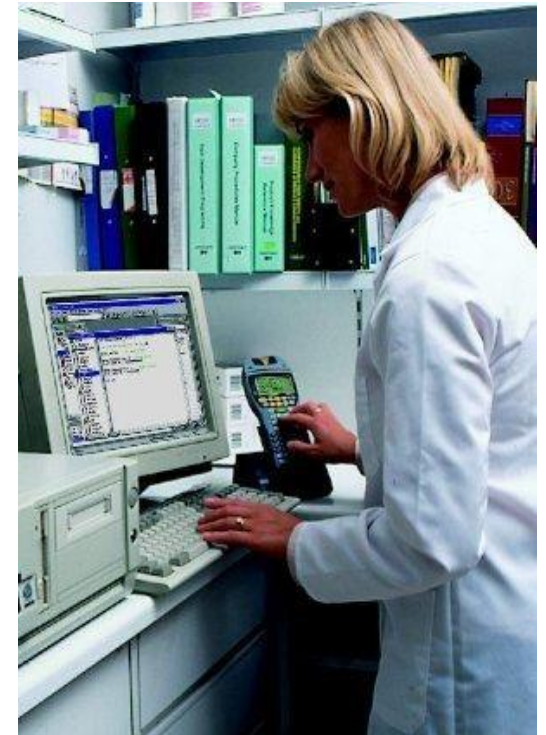
 Acceptance & integration of information systems

- into the regular workflow of nursing process &
- patient care

 Resources that can support the above

The Value of Nurse Informaticists

- Support nursing work processes using technology

- Design systems to match clinical workflows

  - Telehealth
  - Home health
  - Ambulatory care
  - Long-term care
  - Acute care – all specialties
  - Outpatient settings
  - Software development
  - Redesign work flows

The Value of Nurse Informaticists

- Increase the accuracy and completeness
- of nursing documentation
- • Improve the nurse's workflow
- – Eliminate redundant documentation
- • Automate the collection and reuse of nursing data
- • Facilitate analysis of clinical data
- – JCAHO indicators, Core Measures, federal or state
- mandated data and facility specific data

The Benefits of Nurse Informaticists

- Nurse Informaticists promote and facilitate

Access to resources and references for nurses and the entire interdisciplinary team in both clinical and administrative settings Change

The Benefits of Nurse Informaticists

- Benefits for nurses and the interdisciplinary team:
- Support for their mission to deliver high quality, evidence-based care Support for better service by facilitating true interdisciplinary care
- **Promotes improvement in key relationships with**
- physicians
- peers
- interdisciplinary care team members
- patients
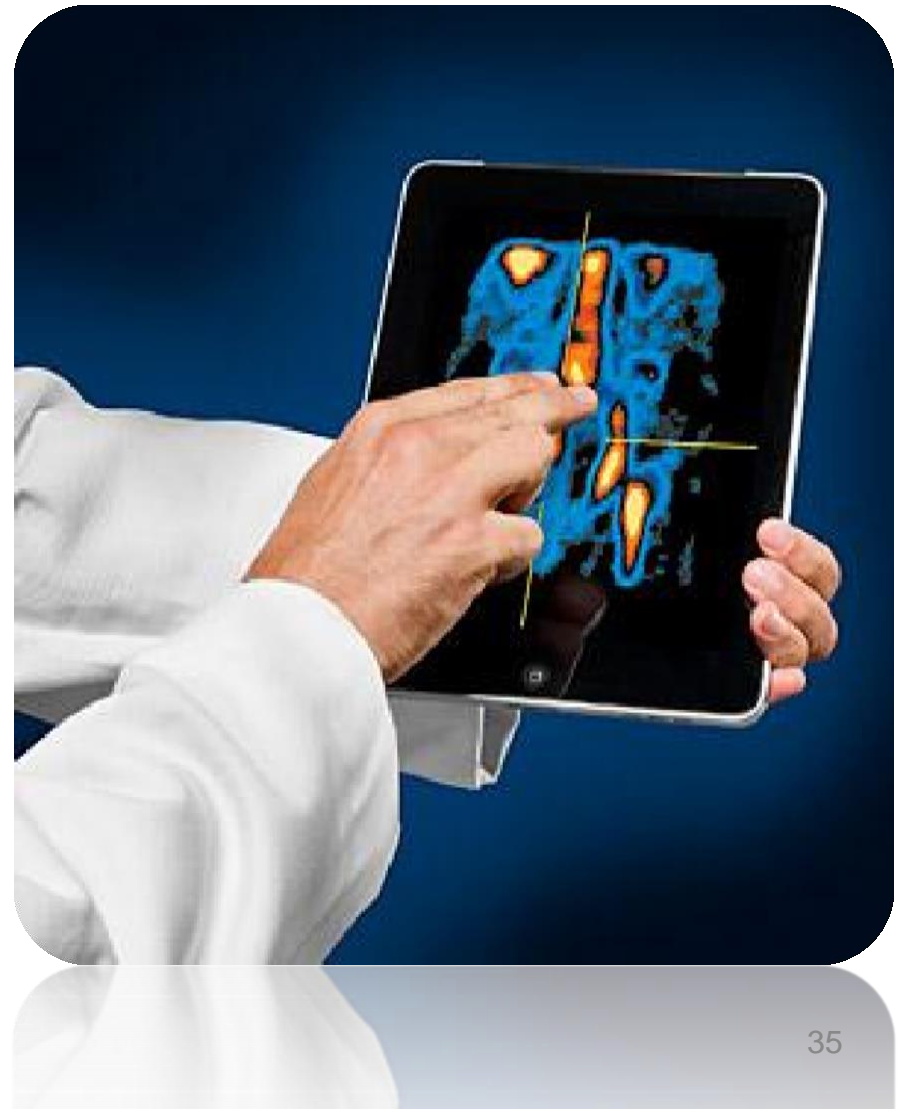- families

The Benefits of Nurse Informaticists

- Benefits in the administrative setting

- Support for cost savings and productivity goals

- Facilitate change management

What Does the Nurse Informaticist Do?

- The role of the nurse informaticist is partially dependent on the place of employment. In acute and long term care, the role is to be a liaison between the IT department and nursing. This nurse assists in choosing the appropriate system for electronic health records and then works with the nursing staff to use the system in providing patient care.

The Many Roles of a Nurse Informaticist

- Vendors

- Acute care - Hospital Systems

- Consultant

- Education/Research

- Long-term care

- Ambulatory

- Home care

The Many Roles of a Nurse Informaticist

- Hospital Systems Analyst – Support/Implement Systems

Directors/Managers of Nursing Informatics

Project Managers

CIO (Chief Information Officer)

Transforming Nursing Practice through Technology & Informatics

- Partner with nurse executives to lead technology changes.

- Support the development of informatics departments.

- Foster the evolution of the Chief Nursing Informatics Officer role.

- Transform nursing education to include informatics competencies and demonstrable behaviors at all levels of academic preparation

The changing role of Nursing

- Software Implementation
- Software/System Solution Selection
- Process Improvement
- Project Management

The Many Roles of a Nurse Informaticist

- Other - Education/Research
- Compilation/Analysis of Data Public Policy Government HealthCare IT initiative

  Insurance organizations

Patients are keen to know more about their Problem
Are we well Equipped

References

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- http://www.allianceni.org
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- http://www.nursingworld.org
- American Nurses Credentialing Center
- http://www.nursecredentialing.org/
- CPHIMS http://himss.org/ASP/certificationHome.asp
- HIMSS Nursing Informatics Community
- http://www.himss.org/ni