

Nursing Informatics Education

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Why Nursing Informatics Education is of particular importance?

1. Progress in **information and communication technology** is changing our societies.
2. Health, medical and nursing **knowledge is increasing** at such a phenomenal rate that we need a new information processing methodology and information technologies in order to keep up with it, store, organise and retrieve existing and new knowledge.
3. Significant **economic benefits** will be obtained from the use of information and communication technology to support health care.

Why Nursing Informatics Education is of particular importance?

4. The systematic application of information processing and information and communication technology, enhances the **quality of health care**.
5. Well-educated nursing professionals in nursing informatics are needed to systematically **process** information but also to **apply** the information and communication technology in an appropriate way.
6. Well-educated health care professionals world-wide are expected to raise the **quality and efficiency of health care**.

Definition

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

- - *IMIA-NI definition*

adopted August 1998, Seoul, Korea - -

Historical overview of Nursing Informatics

- University of New York at Buffalo: First Undergraduate Course in Nursing Informatics 1977.
- First Conference in use of Computer Technology and Nursing 1981
- First International Conference in Nursing Informatics at Harrogate, England 1982
- First Nursing participation at MEDINFO'83, Amsterdam

Historical overview of Nursing Informatics

- First Scientific Journal: Computers in Nursing 1984
- Beginning of Nursing Minimum Data Set 1985
- NANDA is introduced 1985
- Introduction to Informatics is introduced at Faculty of Nursing of the University of Athens 1987
- Master's in Nursing Informatics at University of Maryland and in Clinical Nursing Informatics at University of Utah 1989

Historical overview of Nursing Informatics

- American Nursing Association recognizes Nursing Informatics as a specialty of the nursing profession 1990
- International Classification of Nursing Practice (ICNP) is initiated 1991
- First Doctoral Programme in Nursing Informatics at University of Maryland 1991

Historical overview of Nursing Informatics

- Erasmus Master's course in Health Informatics starts at Faculty of Nursing, University of Athens 1991
- Telenursing, Telenurse, and Telenurse-ID European Projects Disseminate ICNP in Europe 1993, 1995, 1996-1999, respectively.
- Nightingale European Project develops Nursing Informatics curriculum 1996-2000.

University of Athens





University of Athens

- National And Kapodistrian University of Athens was the first University established in Greece in modern times (1837).
- It has grown to become the largest University in Greece with about 5000 professors and lecturers and about 70000 undergraduate and graduate students.

Faculty of Nursing

- It is dedicated to the study of Nursing Science which is one of the Health Sciences (Medicine, Dentistry, Nursing and Pharmacy).
- It is administrated, as the other departments of the University, by the General Assembly, the Executive Board and the Dean of the Faculty.
- It was first established as a department of the School of Medicine in the University of Athens in 1979.
- It is an independent faculty of the University of Athens from 1983.

Faculty of Nursing

- Department of Public Health
- Department of Basic Sciences
- Department of Surgical Nursing
- Department of Medical Nursing
- Department of Psychiatric Nursing

Health Informatics Laboratory (HIL)

- It is attached to the Faculty of Nursing of the University of Athens.
- It was established in 1987.
- It serves the undergraduate and postgraduate studies of most of the Schools of Health Sciences of the University of Athens.

Health Informatics Laboratory (HIL)

- It has a widely recognised reputation in the field of health informatics.
- It has been heavily involved in major European funded projects such as ERASMUS Inter-University Co-operation programmes and COMETT, Telematics, and Framework Programmes.
- It is involved as a national node in health informatics standardisation (CEN TC/251).

HIL participation to European research projects

- TELENURSING, TELENURSE, TELENURSE-ID
- HEALTHLINE
- WISECare (Nursing Oncology)
- NIGHTINGALE (Nursing Informatics Education)
- IT-EDUCTRA (Health Informatics Training)
- Coast, Coaster (Development of educational S/W tools in health sciences education)
- Comett II Health Info
- Erasmus MSc

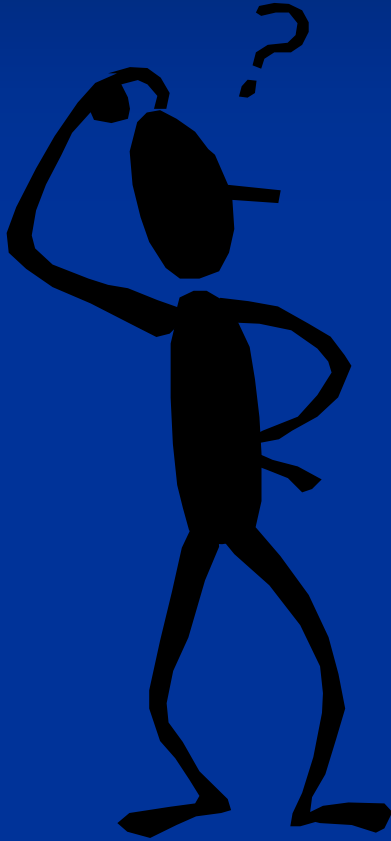
The NIGHTINGALE Project

Nursing
Informatics:
Generic
High-Level
Training in
Informatics for
Nurses;
General
Applications for
Learning and
Education

NURSING INFORMATICS: GENERIC HIGH-LEVEL TRAINING IN INFORMATICS FOR NURSES;

The NIGHTINGALE Project

GENERAL APPLICATIONS FOR LEARNING AND EDUCATION



The problem :

Curricula and training material focused in Nursing Informatics was very limited, therefore, there was a lack in the training of one of the largest users group of the health care professionals, the nurses, in using Informatics and Telematics technologies.

NURSING INFORMATICS: GENERIC HIGH-LEVEL TRAINING IN INFORMATICS FOR NURSES;

The NIGHTINGALE Project

GENERAL APPLICATIONS FOR LEARNING AND EDUCATION



The European solution :

The development and the implementation of curriculum in the multi-disciplinary field of Nursing Informatics by consensus process at all levels of Nursing Education and Training, in order to educate and train in a harmonising way nurses across Europe in the Nursing Informatics field.

NURSING INFORMATICS: GENERIC HIGH-LEVEL TRAINING IN INFORMATICS FOR NURSES;

The NIGHTINGALE Project

GENERAL APPLICATIONS FOR LEARNING AND EDUCATION



University of Athens

GREECE

HISCOM BV

THE NETHERLANDS

Danish Institute for Health and Nursing Research

DENMARK

Institute of Informatics & Financial Management

PORTUGAL

United Medical & Dental Schools

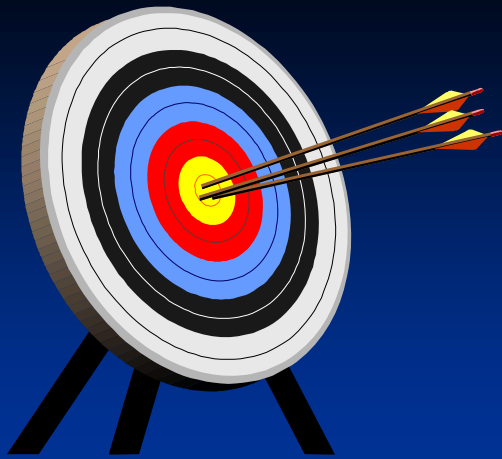
UNITED KINGDOM

EXODUS SA

GREECE

Catholic University of Leuven

BELGIUM



NURSING INFORMATICS: GENERIC HIGH-LEVEL TRAINING IN INFORMATICS FOR NURSES;
The NIGHTINGALE Project
GENERAL APPLICATIONS FOR LEARNING AND EDUCATION



NIGHTINGALE Objectives

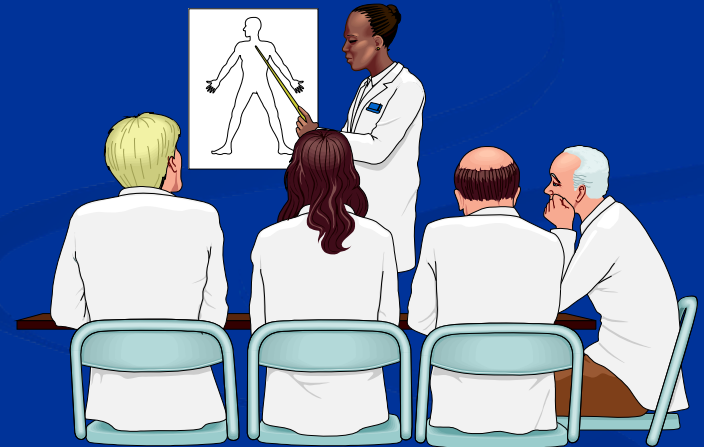
- ➔ • To survey the existing situation in Nursing Informatics in Europe and register the running courses.
- ➔ • To investigate the status of the Nursing Curricula related to Informatics courses across Europe and identify the patterns.
- ➔ • To organise a series of User Workshops to study and identify the User Needs and comment on the results of the previous items.
- ➔ • To organise Workshops of Nursing Information Systems providers in order to identify the needs of training in Nursing Informatics.
- ➔ • To develop curricula in Nursing Informatics for nurses employed at health care organisations, for students studying Nursing in Nursing schools, Colleges or Universities.
- ➔ • To verify and demonstrate the curriculum development approach in Nursing Informatics at various institutional sites and hospitals.
- ➔ • To integrate the multimedia educational and training approaches in Nursing Informatics.



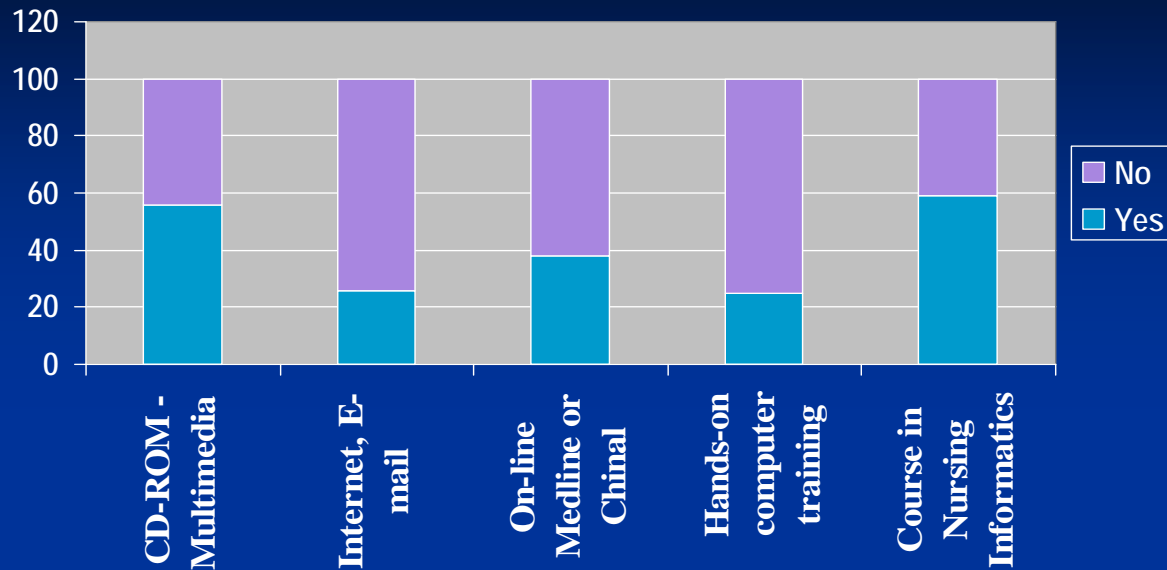
Nursing Informatics Educational Status Across Europe – D 4.1

Objectives

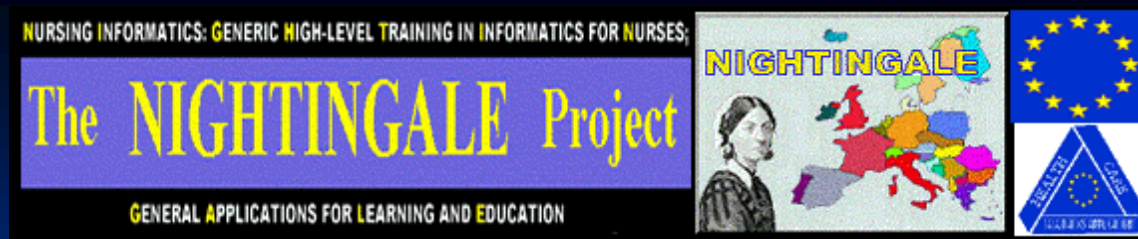
- To identify nursing schools that already have a Nursing Informatics curricula
- To specify Specialised or advanced education in Nursing Informatics



Conclusions in nursing informatics educational status



- There are large differences in hardware infrastructure going from 1 PC for all nursing students to 60 PCs linked in a network environment.
 - CD-ROM and multimedia facilities are available in 56% of the nursing schools.
 - Internet, E-mail and WWW- services are available in 26% of the nursing schools.
 - 38% of the nursing schools subscribe to on-line services as medline or CINAHL.
 - 25% of the nursing organise hands-on computer training.
- These classes vary from 4 to 40 hours/year.
- 59% of the nursing schools have an identifiable course in nursing informatics in the basic nursing education curriculum.



Curriculum in Nursing Informatics - D 5.1

Deliverable 5.1 - Curriculum in Nursing Informatics - aimed at lifting this barrier that prevents nurses from acquiring necessary knowledge and skills to tackle the challenge of integrating technology in to their work. This was achieved by determining the content, structure, aim and objectives, implementation methodologies and expected results of a complete Nursing Informatics curriculum that is specifically targeted towards covering the needs of nurses taking in mind the diversity and multi-dimensional character of this profession.

The Nursing Informatics Curriculum provided the basis for all other educational and training activities like the development of courseware material that used in conjunction with the curriculum will boost knowledge around Nursing Informatics among nurses in Europe.

**Undergraduate and postgraduate
education in Health Informatics
in the Faculty of Nursing of the
University of Athens**

Undergraduate Courses

- Introduction to Informatics
- Health Informatics
- Electronic Patient Record
- Nursing Information Systems

Nightingale Textbook in Health Informatics

Textbook in Health Informatics' covers subjects addressed in the overall field of Health Informatics.

A number of issues particular to nursing will also be reviewed. It will give its reader an overview of Health Informatics, starting with an introduction to Health Care. 'Classification and Management in Nursing Information Technology' is discussed, as is the 'Nursing Minimum Data Set'.

The introduction also deals with Health Concepts, an Introduction to Nursing Science and The International Classification for Nursing Practice (ICNP).



Textbook in Health Informatics

Textbook of Health Informatics continues with an Information Technology Aspects' section. In this section important aspects of Nursing Informatics and Nursing Information Systems are discussed, like

- Data Protection and Confidentiality
- Telecare Service for Nurses
- Data Analysis Methods and Classification Methods.

Textbook in Health Informatics

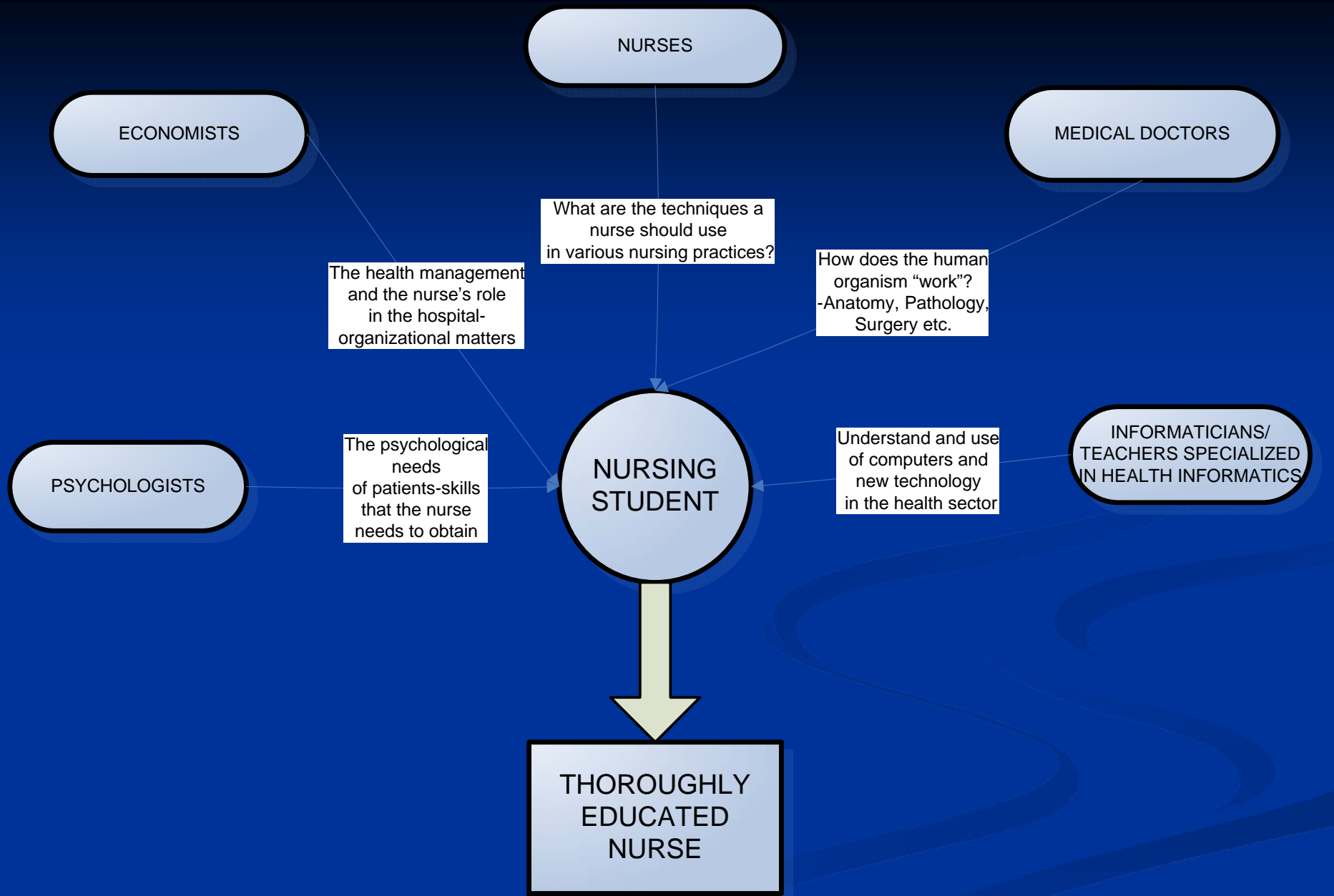
The last section of the book deals with the organizational impact of health informatics.

Major topics are:

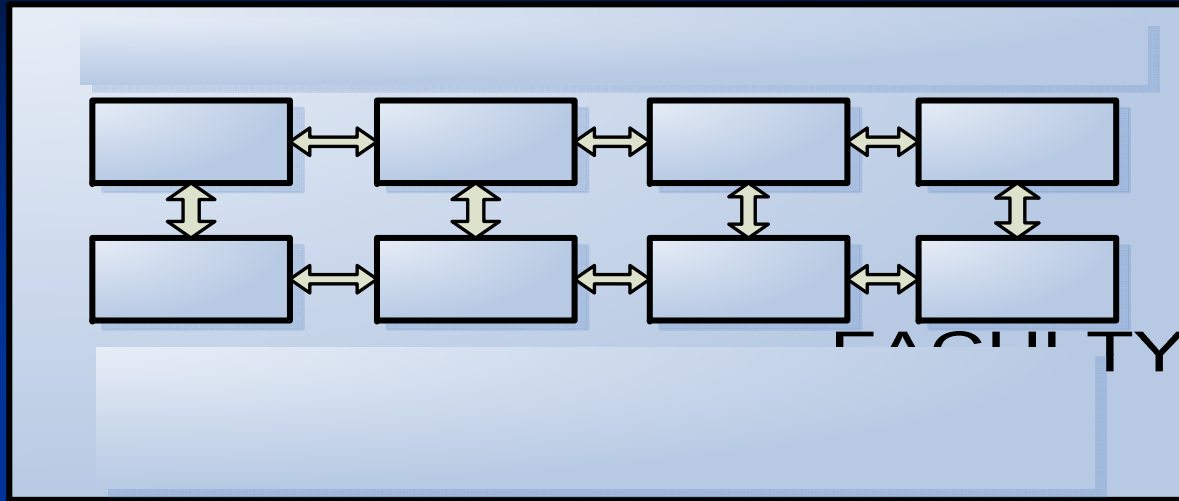
- Impacts of Communications
- Information and Technology on Organizations
- Impact in Nursing Environment
- Quality Assurance and Communication among Nurses and Healthcare Professionals.

Master's Course in Health Informatics

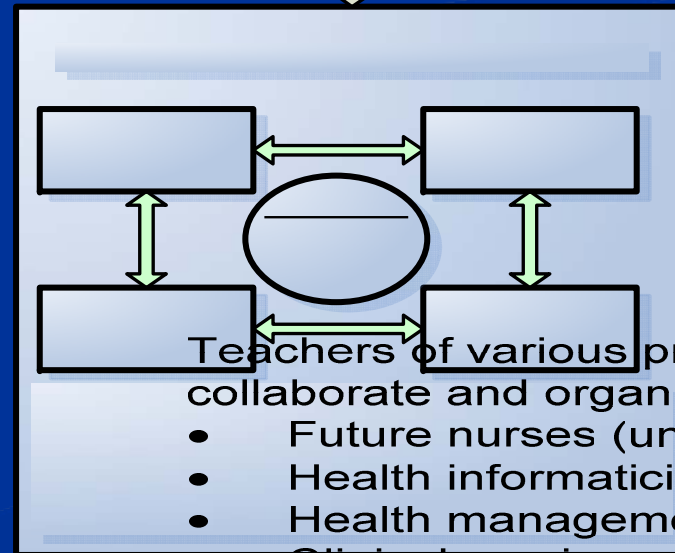
- INTRODUCTION TO HEALTH INFORMATICS
- INTRODUCTION TO HEALTH SCIENCES
- HOSPITAL INFORMATION SYSTEMS - NIS
- DATABASES
- RESEARCH METHODOLOGY
- SECURITY OF HEALTH INFORMATION
- METHODOLOGIES OF DEVELOPING INFORMATION SYSTEM
- MANAGEMENT OF HEALTH CARE SYSTEMS
- NETWORKS
- ELECTRONIC PATIENT RECORDS
- ADMINISTRATION OF HEALTH TECHNOLOGY - BIOMEDICAL TECHNOLOGY
- KNOWLEDGE TECHNOLOGY - ARTIFICIAL INTELLIGENCE
- LANGUAGE TECHNOLOGY FOR THE HEALTH SCIENCES
- OBJECT ORIENTED PROGRAMMING - JAVA
- ANALYSIS OF BIOMEDICAL SIGNALS
- TELEMEDICINE



INTERPROFESSIONALISM IN THE FACULTY OF NURSING



FACULTY OF NURSING



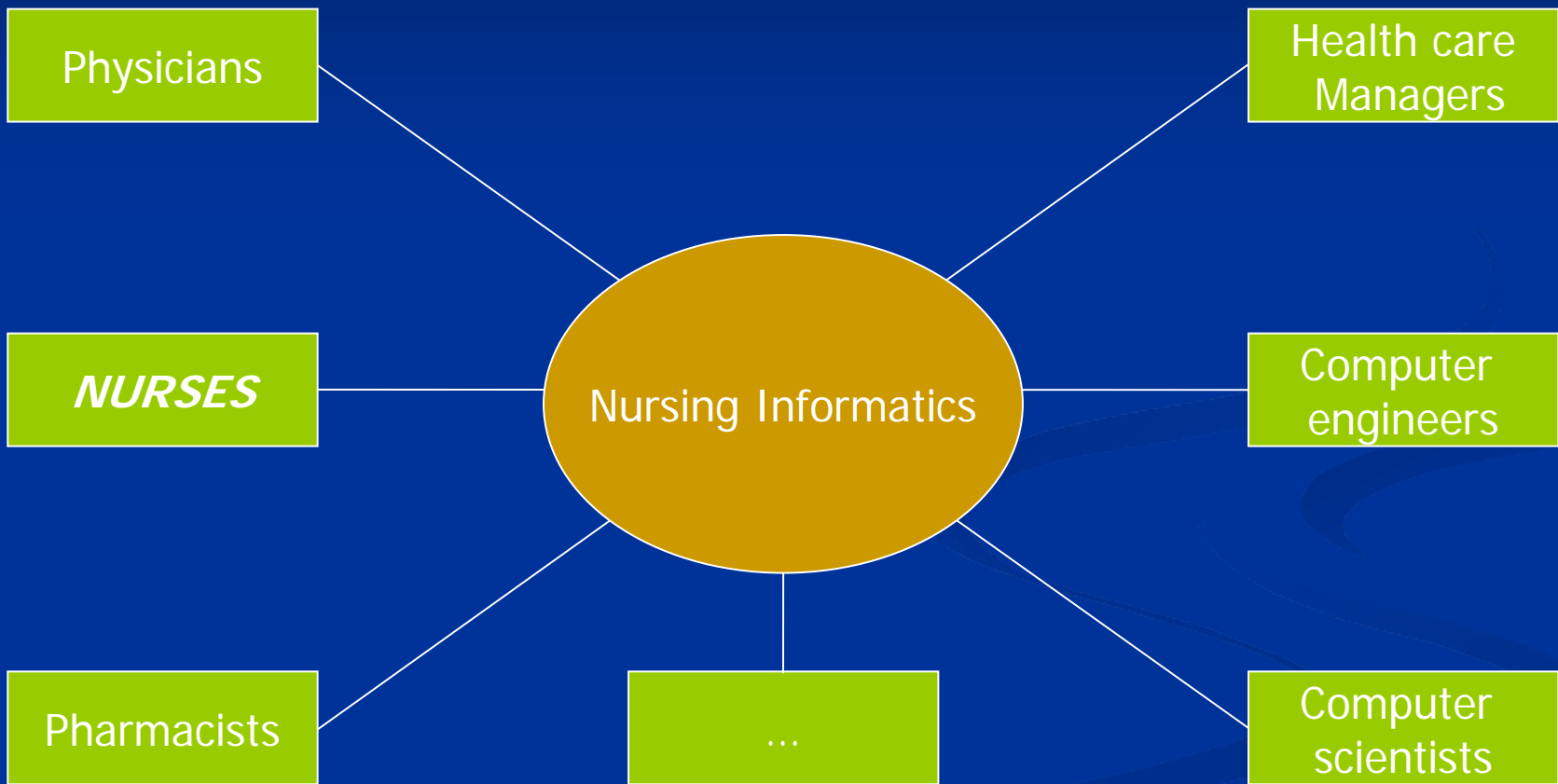
Teachers of various professions in the Faculty of Nursing collaborate and organize a structured teaching program for:

- Future nurses (undergraduate level)
- Health informaticians (post-graduate)
- Health management students (post-graduate)
- Clinical nursing specialization students
- Public Health and Community Nursing students

Medical Doctors

Sociologists

NURSING INFORMATICS: PROFESSIONS INVOLVED



What Does It Take to Be a Nursing Informatician (1/3)

- Basic computer skills, such as the ability to use common software applications (e.g. word processing, spreadsheets, database and educational software)
- Skills in accessing electronic sources of information and retrieving information relevant to nursing
- An understanding of nursing, information science and systems theory in clinical and management decision-making

What Does It Take to Be a Nursing Informatician (2/3)

- Proficiency in organizational and group dynamics
- A comprehensive understanding of the interrelationship between people, organizations, information, technology, nursing and health care delivery
- Ability to assess real and potential problems related to communication, accessibility, availability and use of information for decision-making

What Does It Take to Be a Nursing Informatician (3/3)

- Ability to evaluate cost risks in relation to benefits or effectiveness
- Skills in managing change

EFMI & IMIA activities

- IMIA Special Interest Group in Nursing Informatics
Every three year NI Conference
NI2009 28 June - 1 July, 2009 in Helsinki, Finland
- IMIA WG1 Education
- EFMI Working Group NURSIE
- EFMI Working Group EDU
At every MIE Conference there are
Nursing Informatics Sessions
MIE2008 26-28 May, 2008 in Goteborg, Sweden

IMIA Educational Recommendations Task Force

1st Meeting

Brisbane, Australia
23rd August, 2007

Overview

- IMIA Recommendations have been worked out in 1996-1999
- New core of knowledge has been developed since
 - New domains
 - New environment
 - New requirements

Task Force

- IMIA Board decision on establishing Task Force
Apr. 2007
- Members
- Reinhold Haux, William Hersh, Elske Ammenwerth, Heimar Marin, Graham Wright, KC Lun, Arie Hasman, Fernando Martin, George Demiris, Evelyn Hovenga, John Mantas

Tasks

- Section 1 - Introduction (**Bill**, John)
- Section 2 – General Considerations (**John**, George, Elske, Graham)
- Section 3 – Learning Outcomes (**Elske**, Fernando, Heimar, John, Bill, all)
- Section 4 – Courses as part of (**Evelyn**, Heimar, John)
- Section 5 – Courses Dedicated (**George**, Heimar, Graham, Bill, John)
- Section 6 – Continuous Education (**Evelyn**, Bill)
- Section 7 – Other Recommendations (**Bill**, Elske, Graham)
- Section 8 – IMIA Support (**Elske**, Evelyn)
- Section 9 – Information Exchange (**Bill**, John)
- Section 10 – Conclusion (**John**)
- Additional Sections (Competencies Section : **Bill**, George, Evelyn)
- References (by all)
- Knowledge IMIA Map (**Graham**)
- Strategy & Vision of IMIA (Reinhold, **Fernando**)

- *Reviewers (Arie, KC, Reinhold)*
- *VP WGs (Peter)*

Timeframe

- First revision of sections 20th of December, 2007
- Review 20th of January, 2008
- Second Revision of sections 29th of February, 2008
- Review 31st of March, 2008
- Aggregation & Discussion among TF 20th of April, 2008
- Dissemination to IMIA WG1 and Academic Partners, WG chairs, IMIA GA members
- Feedback – TF approval 15th of May, 2008
- Submission of Draft Version to IMIA Board (info VP) and IMIA GA 25 May 2008. (Sweden) for final approval subject to IMIA WG1 Final approval
- Disseminate final version in August 2008
- IMIA WG1 Final approval (Argentina October 2008)

In Conclusion

- 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.

- The time that nursing informatics was the discipline that existed to just educate nurses in using computers to facilitate other professions has already passed away
- Nursing Informatics is focusing NOW on gathering and processing information to create knowledge and by knowledge we mean ...

...NURSING KNOWLEDGE

Thank You!