

Номер на договора: 2011 - ERA - IP - 3



Education and Culture DG

Lifelong Learning Programme



ЦЕНТЪР
ЗА РАЗВИТИЕ
НА ЧОВЕШКИТЕ
РЕСУРСИ

New Bulgarian University

**INTENSIVE PROGRAMME: SPECIAL ABILITIES AND
TALENTS - PATTERNS OF COGNITIVE PROCESSES
IN PEOPLE WITH DISABILITIES**



НОВ БЪЛГАРСКИ УНИВЕРСИТЕТ
NEW BULGARIAN UNIVERSITY


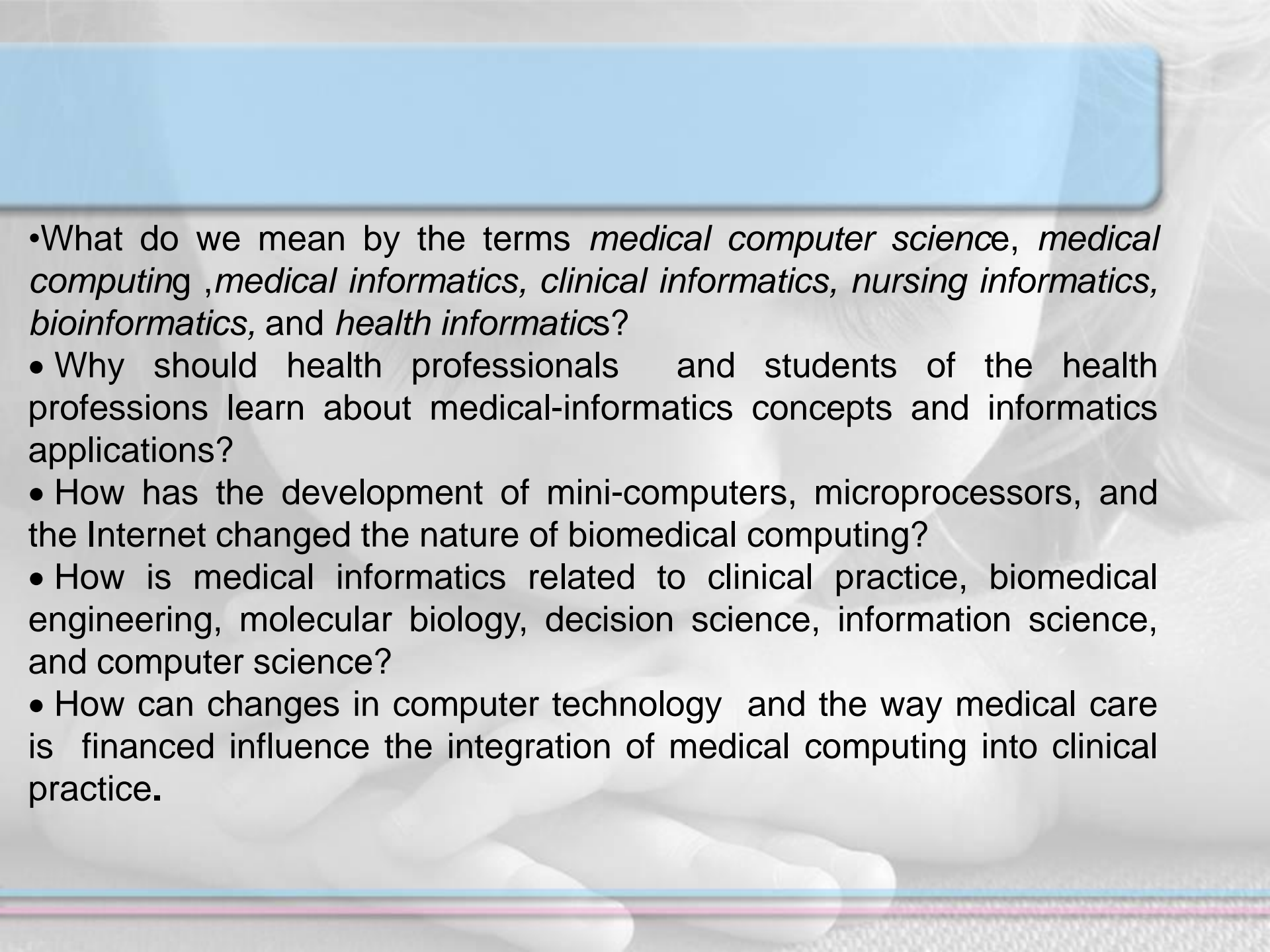
Information technologies and development disorders

Iliya Pendzhurov, PhD Polina Mihova, PhD
New Bulgarian University, Sofia, Bulgaria
penjurov@nbu.bg, pmihova@nbu.bg

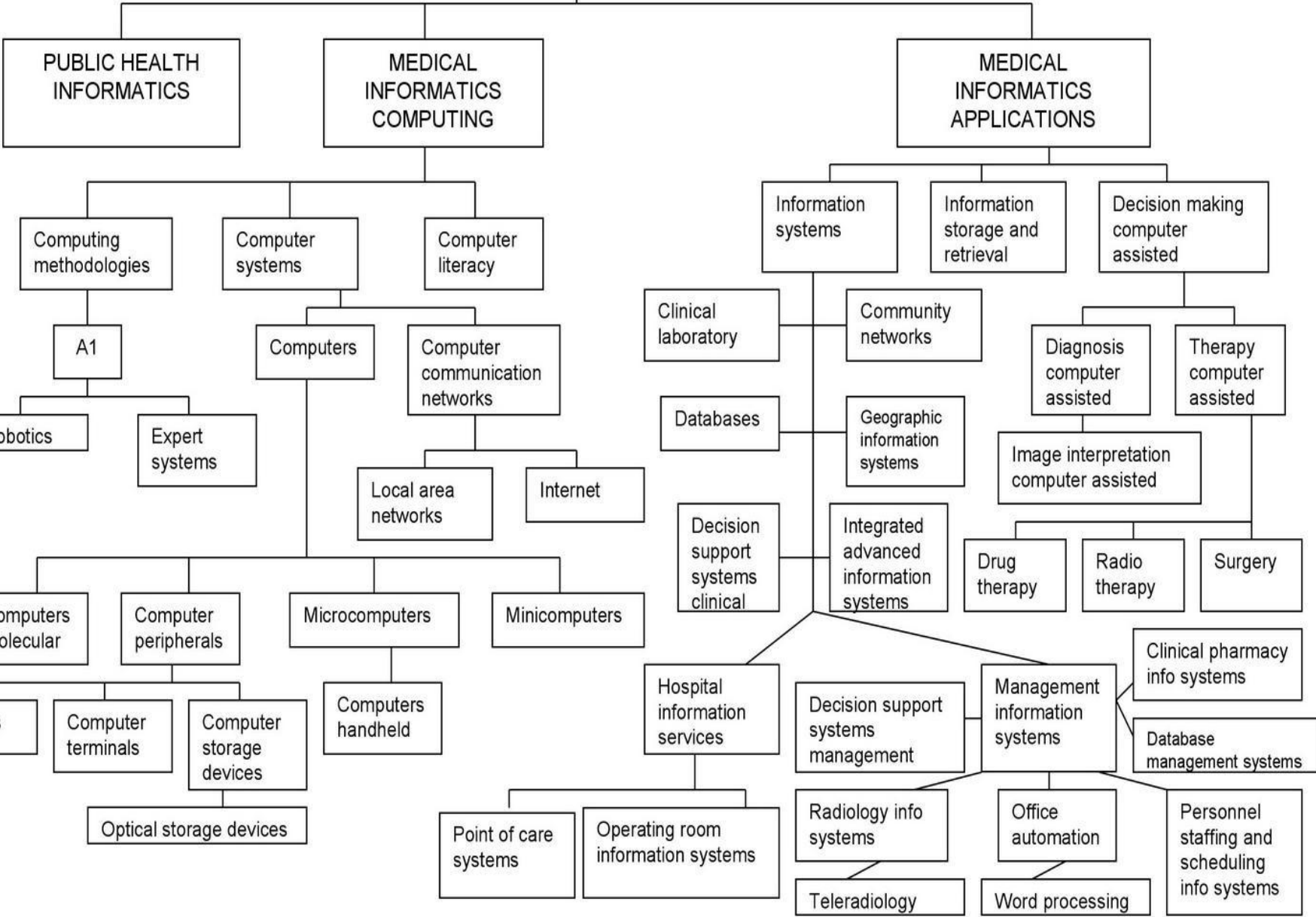
Definitions

“Information Technology is the use of hardware, software, services, and supporting infrastructure to manage and deliver information.”

”Information Technology is the acquisition, processing, storage and dissemination of vocal, pictorial, textual and numerical information by a microelectronics-based combination of computing and telecommunications”

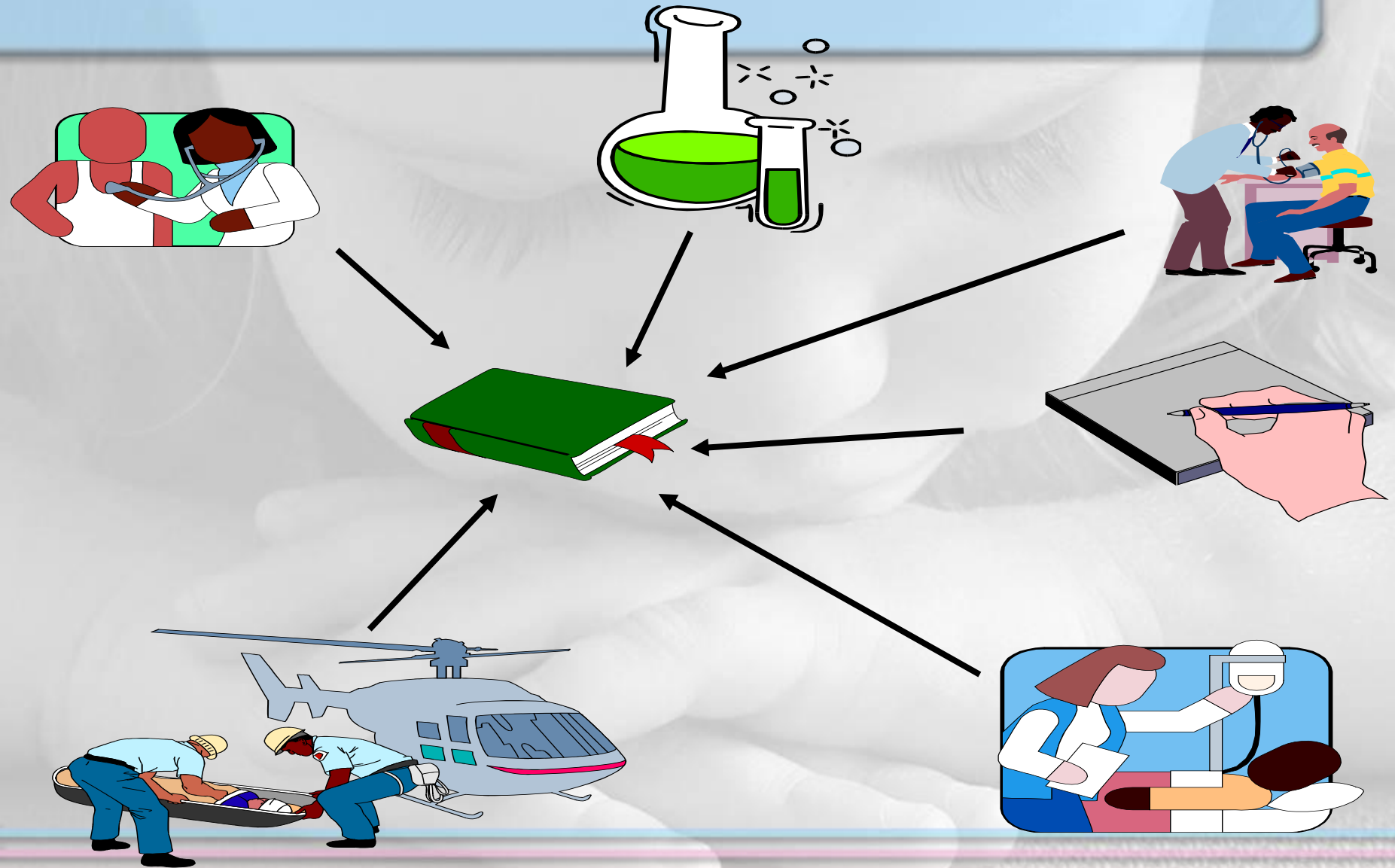
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- What do we mean by the terms *medical computer science*, *medical computing*, *medical informatics*, *clinical informatics*, *nursing informatics*, *bioinformatics*, and *health informatics*?
 - Why should health professionals and students of the health professions learn about medical-informatics concepts and informatics applications?
 - How has the development of mini-computers, microprocessors, and the Internet changed the nature of biomedical computing?
 - How is medical informatics related to clinical practice, biomedical engineering, molecular biology, decision science, information science, and computer science?
 - How can changes in computer technology and the way medical care is financed influence the integration of medical computing into clinical practice.

MEDICAL INFORMATICS

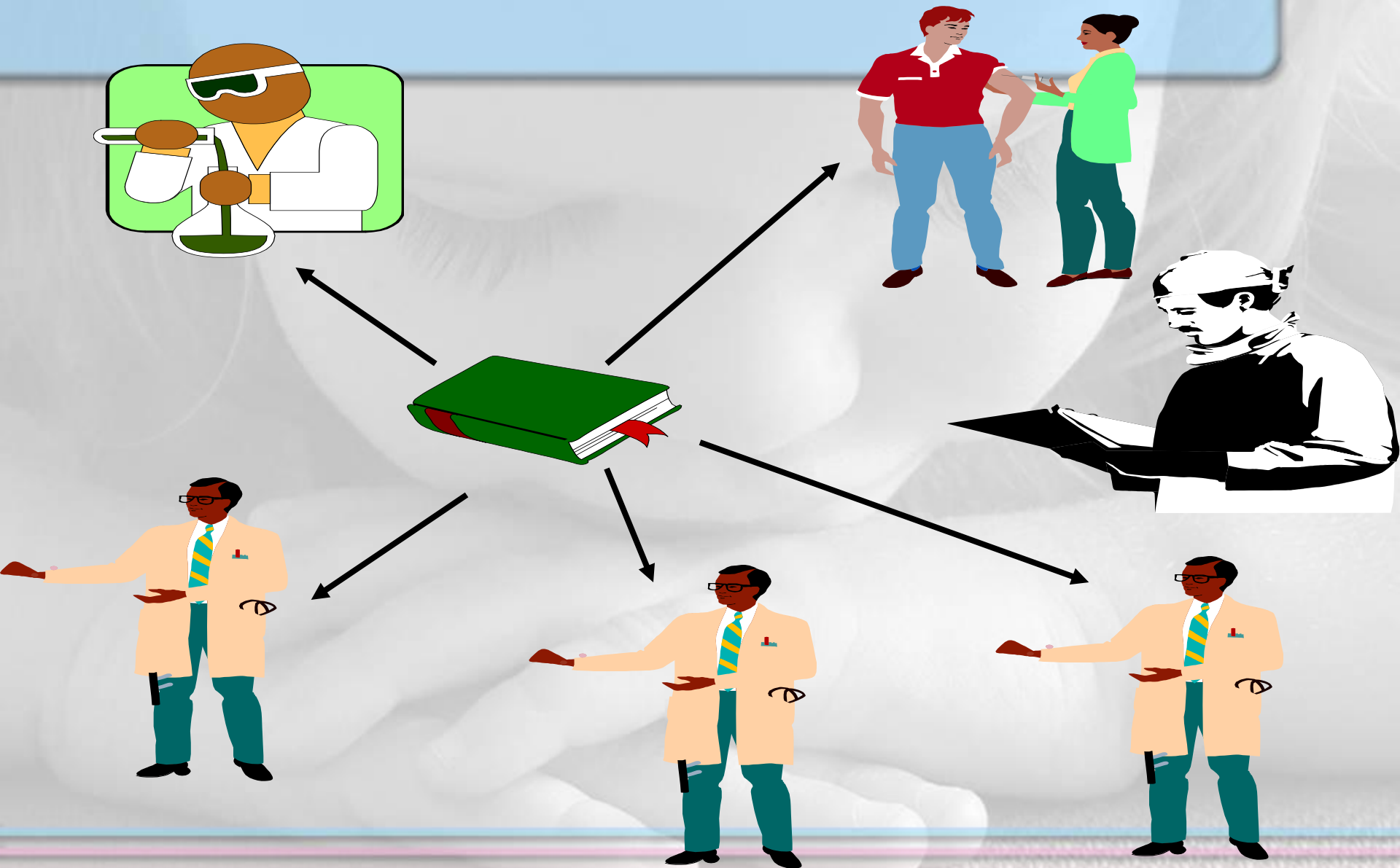


Inputs to the medical records

Traditional paper medical records



Outputs of the medical records



Conventional data collection...



Medical records



Data sheets



Hospital storage



Search storage(Long time)



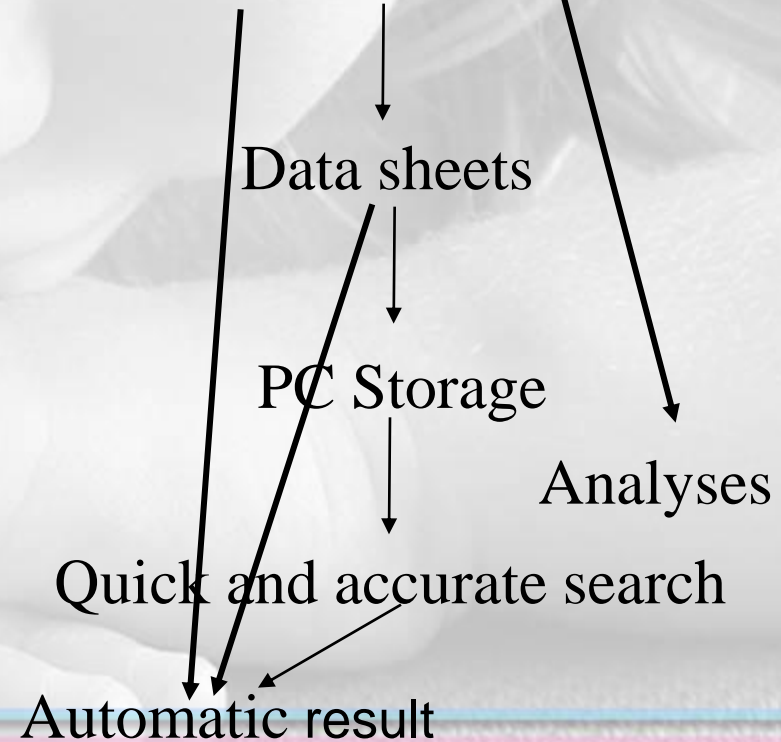
Write Results



How it should be!



Medical records systems



Advantages of information technologies

- Stored and protected information.
- Automated processes.
- Accessible.
- Confidential.
- Secure.
- Work remotely.
- Statistics

Some applications of Information Technologies

- Distance learning.
- Speech recognition.
- Simulations.
- Tools for disabled.
- Smart sensors.
- Health and medicine-ct, MRI, patient monitoring devices, microprocessors, pacemakers, distance surgery, device to control surgeons shaking, computerized gene mapping, protein modeling, telemedicine.
- Reducing paper loss.

Applications of Medical Informatics by NASA

to provide:

- Telemonitoring
 - people
 - environment
 - systems
- Tele-education
- Telecare
- Telescience



Telerehabilitation = *e-rehabilitation*

- Method of using information technology to provide rehabilitation services at a distance.
- Telerehab is the delivery of rehabilitation services over telecommunication networks and the internet.

History

- 1998 – “Born”
- 2001 – The first Web based internet application
- 2006 – First science article about getting profit from Telerehab

Benefits of Telerehab

- Improved access
- Distance work
- Reduced travel
- Efficiency
- Cost-effectiveness
- Continuum of Care
- Extend Provider Access
- Improved outcomes

How is it working?

- Most telerehabilitation is highly visual.
- Rich web page application.
- Using mobile technologies
- Speech recognition
- and so on...

Current projects

- Cognitive and Vocational Rehabilitation
- Prevention and Management of Secondary Conditions
- Communication Technology Assessment and Training
- Capacity Building

Focus area 1 : Cognitive and Vocational Rehabilitation

- R1 Reliability and validity of a remote neuropsychological assessment protocol
- D1 Developing mobile telerehabilitation applications for cognitive and vocational rehabilitation
- R2 Determining the efficacy of a mobile TR portal for delivery of cognitive and vocational rehabilitation

Focus area 2 : Prevention and Management of Secondary Conditions

- R3 A telerehabilitation enhanced wellness program in spina bifida
- R4 Telerehabilitation for self-management of chronic edema/lymphedema in individuals with mobility limitations

Focus Area 3: Communication Technology Assessment and Training

- D2 Development of TR tools for communications technology
- R5 Evaluation of remote AAC service delivery
- R6 Evaluation of remote computer access service delivery

Focus Area 4: Capacity Building

- D3 Technology implementation projects (TIPs)
- D4 Development of outcome measures and a uniform data set

Why using IT technologies in rehabilitation?

- At least six reasons
 - Safety
 - Effective, evidence based
 - Patient centered, patient values guide decisions
 - Timely, reduce waiting and delay
 - Efficient, avoid waste
 - Equitable, care doesn't vary by gender, ethnicity, etc

Considerations

Information systems for telecare and telerehabilitation must take into account three special considerations to meet this population's information needs effectively :

- 1) widely divergent pediatric subpopulations, as well as the unique physiology and diseases of children and special interventions for them;
- 2) connectivity and system integration at the community level, since it is imperative for pediatric practices and institutions to be connected closely to the public health authority and the schools; and
- 3) consumer health information that addresses the needs of the whole family.

Our project

Кое е излишното?



References

- <http://www.rerctr.pitt.edu/>
- <http://en.wikipedia.org/wiki/Telerehabilitation>
- <http://www.uq.edu.au/telerehabilitation/>
- <http://smallbusiness.chron.com/>
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Thank You for attention!

Q & A