MCCP	Online Orientation

Informatics & Technology in Healthcare

Technology allows people to have easier, quicker access
to information they need

INFORMATION MUST BE:

- ✓ **The Right information** – from
- ✓ **The Right person** – at
- ✓ **The Right time** – in
- ✓ **The Right place** – and in
- ✓ **The Right amount** – and also be
- ✓ **Accurate** – easily
- ✓ **Accessible** – and
- ✓ **Understandable** – to do **the Right job.**

Information Technology

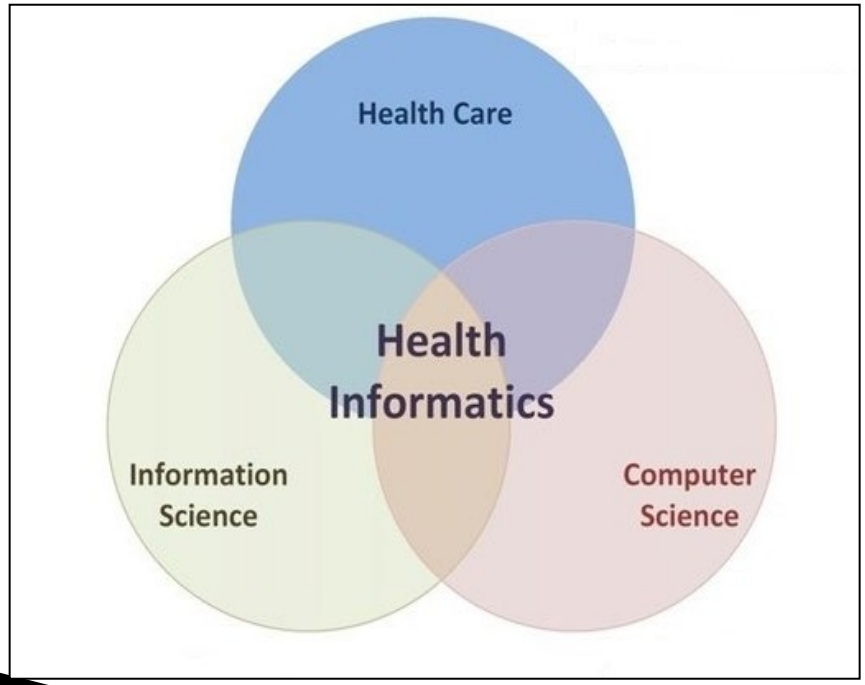
Any technology which processes and communicates data.

Includes:

- Computers
- Voice Recognition Software
- Data & Image Sensing Programs
- Communications Devices
- Graphics Devices
- Multi-media storage

Informatics & Technology in Healthcare

Healthcare Informatics is the integration of healthcare sciences, computer science, information science, and cognitive science to assist in the management of healthcare information



Goal of Healthcare Informatics

To utilize technology to organize, analyze, manage, and use information to improve the health of populations, communities, families, and individuals by optimizing information management & communication.

The Benefits of Healthcare Informatics

Improves the safety & efficiency of patient/resident care.

Increases time with the patient/resident and family by freeing the healthcare provider of non-value added activities.

Communicates & coordinates care with ALL other clinical disciplines

Coordinates transition of care

Manages ALL information related to the patient/resident care.

Brings evidence for decision making at the point of care.

Creates a better work environment for the healthcare providers.

Enhances workflow while being supported by the hospital's IT infrastructure.

Facilitates analysis of clinical data.

Application of Healthcare Information Technology

Healthcare Information Technology can be applied to all areas of practice:

Clinical Practice

Education

Research

Administration

Current Information Technologies

In Practice:

- Wireless devices: PDAs, Hand-held Computers, Smart phones
- Real-time equipment and supply location systems
- Delivery robots : meal delivery, lab deliveries
- Workflow management systems: automated census boards
- Wireless patient monitoring systems: prevention of falls
- Electronic medication administration with bar coding
- Electronic clinical documentation with clinical decision support capability
- Interactive patient systems: a digital platform for two-way communication and delivery of multimedia content at the bedside to assist in rendering care and educating patients

In Education:

- PC-based simulations; i.e., Healthstream software
- Virtual Patient Simulation
- Task Trainers
- Human Patient Simulation; i.e., Simman, Simbaby
- Standardized Patients (SP)
- Integrative systems

Current Information Technologies

In Research:

- Computerized literature searching- CINAHL, HINARI, Medline and Web sources
- The adoption of standardized language related to medical terms.
- The ability to find trends in aggregate data, that is data derived from large population groups-Statistical Software, SPSS .

In Administration:

- Automated staff scheduling
- E-mail for improved communication
- Cost analysis and finding trends for budget purposes
- Quality assurance and outcomes analysis

Automation of Documentation

Automated documentation provides:

Up-to-date and accurate information on each step of patient / resident care and is the *Power* behind safe, high-quality patient-centered care.

E.H.R. Core Components

Identified by the 2003 IOM Report

Health Information & Data: Electronic chart hold everything that is included within a paper chart.

Result Management: Ability to manage all test results (labs, X-ray reports).

Order Management: Prescriptions are written electronically to reduce medical errors. Orders are automatically generated.

Decision Support: Warnings/reminders to enhance clinical performance.

Electronic Communications & Connectivity: An interoperable system that is able to connect with multiple providers, the patient, labs, & hospitals in a secure manner.

Patient Support: Provide patients with educational material as well as the ability to enter data through home monitoring devices.

Administrative Processes: Improves the efficiency in scheduling appointments.

Reporting: Standardized system to produce reports that are demanded by state, federal, and local levels.

E.H.R. Advanced Features & Functions

Ancillary Systems: Information can be shared with multiple providers, the patient, labs, and hospitals in a secure manner

Clinical Data Repository: Full charting capabilities for healthcare providers.

Physician Documentation: Computerized physician order entry allows physicians to enter orders for medications, laboratory tests, procedures, and imaging studies

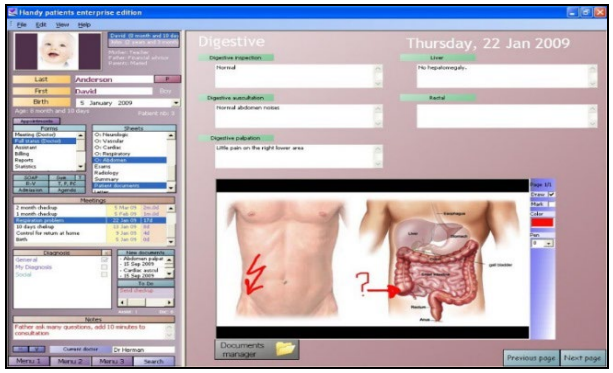
Bar-Coded Medications Administration (BCMA): use wrist bands with bar codes to identify patients and to check the medication to be administered against the information in pharmacy records.

Continuity of Care Document Transactions: Information can be shared across health care settings.

Decision Support:

- Basic decision support: alerts and reminders such as drug interactions or warnings for order duplications (e.g., ordering a chest x-ray when a current one is extant)
- Advanced decision support: protocols, advanced drug-related alerts, and aid in drug selection.

Electronic Health Record



With more complete patient information, healthcare providers improve their ability to make well-informed treatment decisions quickly and safely.

Ethical considerations in Information Technology

- Potential breaches in confidentiality via phone, fax and emails
  - HIPAA violations can be substantial depending on severity of violation
- Patient education materials from credible websites; i.e., MedlinePlus; WebMD; MayoClinic, etc.

Conclusion

Technology will play a leading role in the future of healthcare

National healthcare organizations support the need for healthcare providers to become computer literate and well-versed in the dynamics of informatics.

To thrive in the digital era, healthcare providers must engage in the rapidly advancing technology revolution.

EHR supports, drives, and sustains Evidenced-based Practice (EBP) within the care delivery area.

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