



Role of information technology in nursing profession

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Content :

- ❖ **Introduction .**
- ❖ **What is the computer .**
- ❖ **Definition of information technology .**
- ❖ **Role of information technology in nursing practice .**
- ❖ **Use of computer in hospital and community .**
- ❖ **How can information technology help .**
- ❖ **Advantages of information technology .**

Objectives :

- ❖ **By the end of this lecture the student will be able to :**
- **Define computer and information technology .**
- **Explain the role of information technology in nursing profession .**
- **Discuss how can information technology help .**
- **List the uses of computer in hospital and community .**
- **List the advantages of information technology .**

Introduction :

- **In today healthcare system , information technology is the foundation of the future , healthcare modernization is the best visualized if we compare how we were thirty years ago and where we are today .**
- **The need for improvement was the driving force behind the evolution of computers in healthcare .patient care has become a primary focus in the development of new concepts and knowledge in healthcare technology .**

Count ...

- **Technological development in clinical applications is current trend in healthcare and it will continue to play a major role for years to come .**
- **Healthcare information technology began with the computer in the early 1970s and did not see a broad acceptance until individual computers were made available at the end of the decade .**

Count ...

- **Some of automated systems began with radiology , pharmacy and laboratory . This beginning then began to be adopted in other clinical departments .**

What is the computer ?

- **Greatest advancement in information processing since printing press .**
- **First in late 1950s and early 1960s .**

Count ...

- **Input device = keyboard,, touch screen monitor, optical scanner, mouse, light pen .**
- **CPU = “brains” of the computer, internal memory unit, control unit .**
- **Output = printer, video display , other forms of output.**

Information technology :

- **Is the use of computers to store , retrieve , transmit and manipulate data and sending information .**

Realities ...

- **Health care more expensive .**
- **Growing awareness .**
- **Lifestyle changes .**
- **Expanding medical knowledge and more information .**
- **Big country with poor coordination .**

IT services :

1. **Community**
2. **Hospital**
3. **Research & education**

How can IT help?

- 1. Information faster, easier & cheaper .**
- 2. Improve decision making and Provide support.**
- 3. Promote information exchange amongst professionals.**
- 4. Enhance effectiveness of health institutions.**
- 5. Not limited to information sharing.**

Count ...

- 6. Maximize use of resources & knowledge .**
- 7. Timely and effective delivery of service.**
- 8. Cost reduction (eg less paper) .**
- 9. Emergency knowledge delivery .**

Use of computers in hospital and community

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- **The use of information and communication technologies has become widespread in the health care sector.**
 - **Allowed nurses and doctors to work more efficiently with patients and each other .**
 - **Computers have helped nurses and doctors keep track of various items ranging from work schedules to patient's scheduled appointments.**

Hospital use :

- 1. First used to simplify accounting procedures and administration .**
- 2. Word processing .**
- 3. Documentation .**
- 4. Communicating .**
- 5. Maintaining financial records .**

Count ...

- 6. Scheduling & tracking .**
- 7. Performing & reporting diagnostic tests .**
- 8. Discharge .**

9. patients care and Monitoring



10. Clinical decision support systems

The screenshot shows the Vista CPRS interface for patient JOHN DOE (DOB: Jan 1, 1950). The system is used by Payne, Thomas H. The patient's chart includes several sections:

- Active Problems:** Hematuria, Tobacco Use Disorder, CAD, Peripheral Vascular Disease, Osteoarthritis, Disease, prostate.
- Allergies / Adverse Reactions:** Sulfa Allergy.
- Postings:** Advance Directive Progress Note Template, Allergies.
- Active Medications:** Verapamil Hcl 180mg Sa Tab (Active), Prazosin Hcl 2mg Cap (Suspended), Aspirin 325mg Ec Tab (Active), Amitriptyline Hcl 50mg Tab (Active), Acetamin 300mg/Codeine 30mg Tab (Active).
- Clinical Reminders:** Alcohol Use Screen (Due Date: Jan 24,00), Depression Screening Exam (Due Date: Jan 24,00), Fecal Occult Blood Test (Due Date: Jan 24,00), Influenza Vaccine (Due Date: Oct 13,99).
- Recent Lab Results:** Cbc Blood Sp Lb #1036833 (Jan 24,00).
- Vitals:** P 81 (Oct 04,99), BP 108/81 (Oct 04,99), HT 70.5 in (Aug 09,99), WT 179 lb (179, Aug 09,99), WT 194 lb (87.3, Oct 04,99).
- Appointments / Visits / Admissions:** Feb 14,00 11:00 Gimc - Payne,Thomas (39013), Jan 03,00 11:00 Gimc - Payne,Thomas (39013).

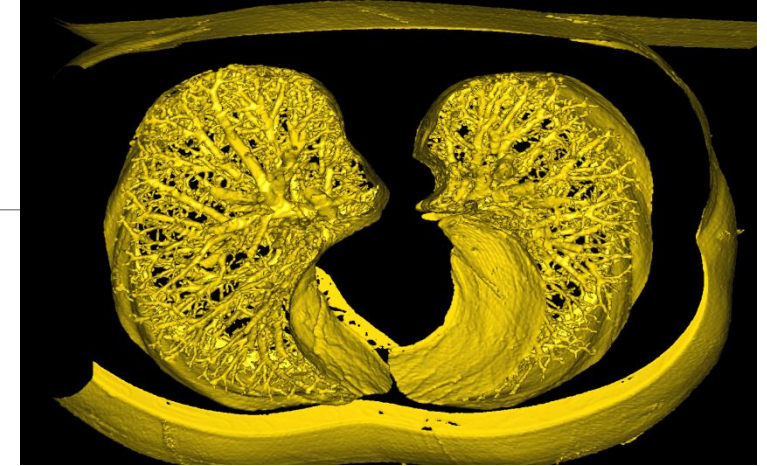
A pop-up window titled "Fecal Occult Blood Test Jan 24,00" displays the following text:

Current recommendations are that patients 50 and older have fecal occult blood testing annually.
No Hx of colorectal cancer on file - presumed no Hx.
Final Frequency and Age Range used: 1 year for ages 50 and older.

The interface includes a menu bar (File, Edit, View, Tools, Help) and a navigation bar at the bottom (Cover Sheet, Problems, Meds, Orders, Notes, Consults, D/C Summ, Labs, Reports).

11. Diagnostics :

- Computer-based diagnostic tests
- Analyzing blood tests
- ECG computerized interpretation systems
- Computerized tomography (CT) scanner
- Magnetic resonance imaging (MRI)
- Ultrasonography



12. Computer aided surgery

- improved skills
- pre-surgery planning
- new techniques testing



Workstation

- **Accessible.**
- **Confidential.**
- **Secure.**
- **Acceptable to clinicians and patients.**
- **Integrated .**



Handheld computers



Community health :

- 1. Better access = equitable health care (telenursing, telemedicine) .**
- 2. Public education (eg multimedia campaigns , patient networks).**

Count ...

- 3. Information exchange (eg decision making) which is quicker .**
- 4. Reduce time wastage and transport cost .**

Advantages of IT :

1. Can reach large populations .
2. Flexible .
3. Interactive .
4. Cheap .

Any questions ????

