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WEEK 1 – INTRODUCTION

BASICS OF INFORMATION SYSTEMS-1

Info system is made up of –

- Data
- Functions
- People (Users)
- Technology – collect, process, store and provide output the info needed by org

BASICS OF INFORMATION SYSTEMS-2

IS used by every function of org (resource planning, decision making, forecasting, coordination and operations)

- Functional Area IS – IS for specific functional areas (HR, accounting, marketing)
- Specialised / departmental IS

BASICS OF INFORMATION SYSTEMS-3

Advantages of IS

- High speed, high volume computations
- Vast amounts of data interpret quickly and efficiently
- Automate – semi automatic and manual processes
- Communication and collaboration (inter/ intra hospitals)
- Storage – huge amount of data that is easy to access

TYPES OF CARE

AMBULATORY CARE (CLINIC/PRACTICE)

No overnight stay (outpatient)

Single chart maintained – having all info like test results, notes for each visit updated in the same chart

Central element of chart – **physician's exam note**

ACUTE CARE (HOSPITAL)

Overnight/ longer stay (inpatient)

New chart every time patient is admitted – **Patient ID** used to link – comprehensive chart

Central element – physician's **orders** and nurses **notes** with patient **response**

SUBACUTE CARE

Patients whose nursing needs – less frequent and intensive. Includes (3 types)-

REHABILITATION

Inpatient | addiction therapy, occupational therapy, physical medicine

LONG TERM CARE

Inpatient less intense than acute care | Length of stay **> 30 days** | nursing homes, residential care facilities

HOME CARE

Healthcare provided at **patient's home**

HEALTHCARE INFO SYSTEMS

CLINICAL IS

Health related info to help in patient care

EXAMPLES OF CLINICAL APPS

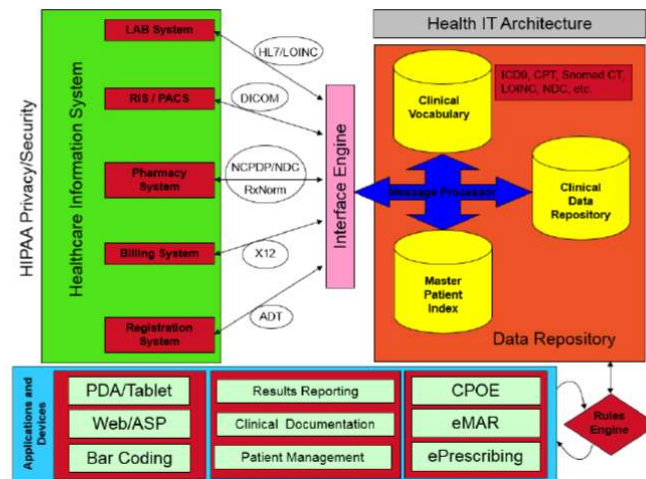
- Specialised IS – laboratory, radiology, pharmacy
- Other – Electronic medical record (EMR), Telemedicine, Telehealth, Rehab service doc

ADMINISTRATIVE IS

Administrative or financial data | support management functions and general operations of the org

EXAMPLES OF ADMINISTRATIVE APPS

- Patient admin systems – scheduling, billing, discharge, admission
- Financial management systems – accounts payable, payroll, personnel management



Components of IS

Different levels of healthcare IS – Department level -> hospital -> district -> state -> national

WRONG WITH HEALTHCARE?

Fragmentation – leads to miscommunication and errors | duplicate testing

Data storage – data stored in many ways and locations (tacit knowledge, paper, silos within firewalls) | inaccurate, incomplete or unclear

Education – continuous education a challenge

HEALTHCARE IS HELP?

- Provide data needed in the exam room
- Clinical decision support – evidence based care
- Prevention and patient education
- Patient satisfaction
- Documentation process
- Communication – coordinate care delivery
- Manage busy workflows
- Long distance patient care
- Reduce cost of care

WEEK 2 – CLINICAL INFO SYSTEMS | DATA STANDARDS | EHR/PHR

COMPUTERIZED PHYSICIAN ORDER ENTRY (CPOE)

- Replace paper-based ordering system
- Electronically write orders, medication administration record, review changes made by successive personnel
- Alerts for unsafe order | duplicate drug therapy | suggest less expensive and alternate choices

ELECTRONIC MEDICATION ADMINISTRATION RECORD (EMAR)

- Automatically document the admin of medication into EHR tech using RFID, sensors