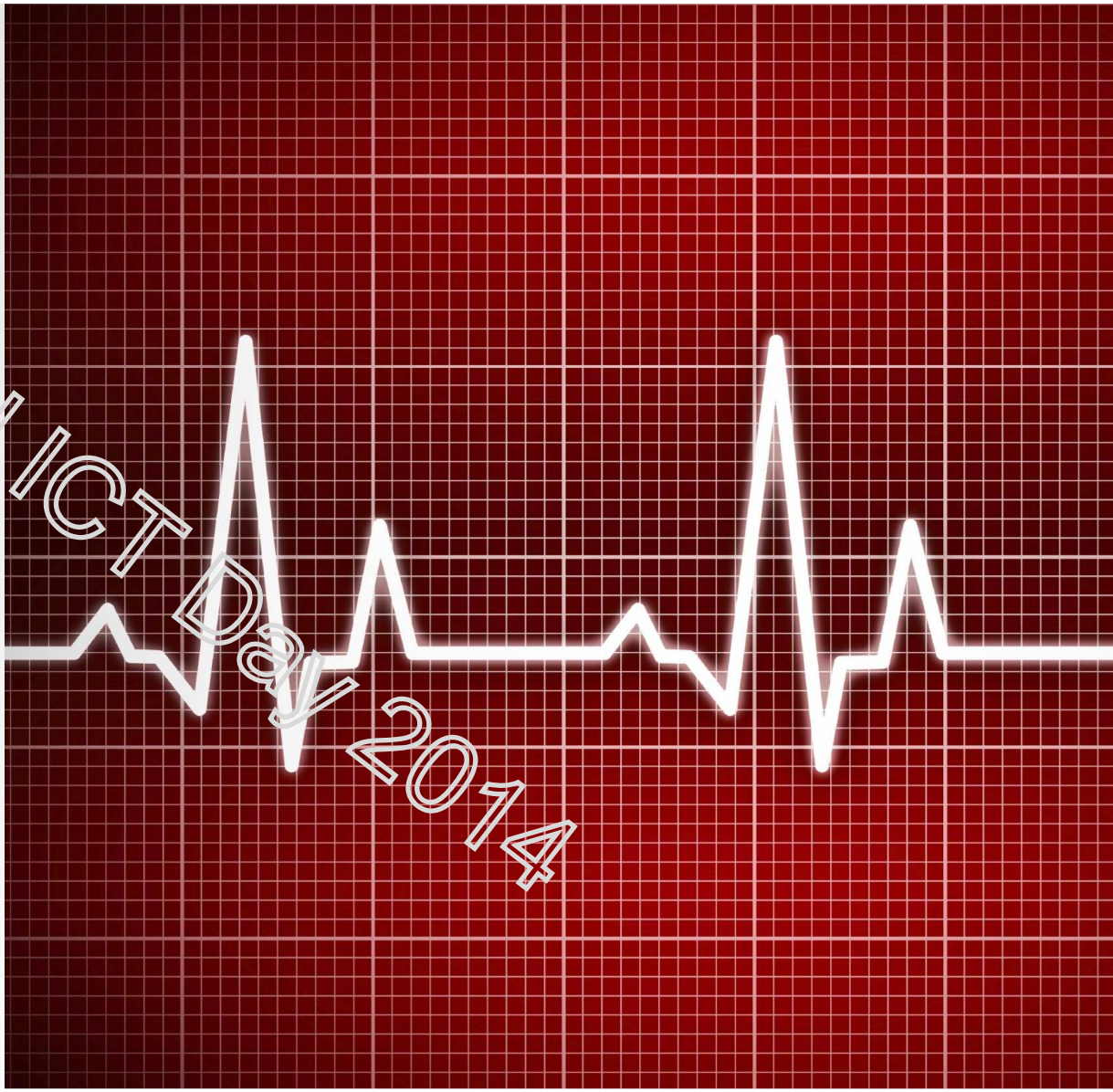
Health Management Information Systems - HMIS



PRIVATE SECTOR HOSPITALS – TRENDS, CHALLENGES, OPPORTUNITIES, FUTURE AND IMPLICATIONS

Dr. Ashraf Salameh

Introduction

- The regions, nations, and communities of the developing world face a wide variety of health-related challenges.
- Health systems addressing those challenges are struggling with limited resources and capability.
- So, having reliable data on the performance of different parts of the health system is the only way to devise, execute, and measure health interventions.
- Successful strengthening of health systems will require relevant, timely, and accurate information on the performance of the health system itself. The goal of a health information system (HIS) is to provide that information.

ICT in Health

- To provide optimal care, healthcare institutions need timely patient information from various sources at the point-of-care, and need a comprehensive, complete and fully functional system to fulfil all these needs (WHO 2003).
- ICT is defined as a tool that facilitates communication, processing and transmission of information and sharing knowledge by electronic means.
- ICT has helped to improve the delivery of health care in a number of ways;
  - Telemedicine
  - E-health,
  - health systems

- Used to assist the overall management of the health care facility through information about diseases and information about patient care in terms of record keeping of patient information, accounting, HR management, asset management, stock management and knowledge management.
- Information, primarily about patients, in a way that it is correct, pertinent and up to date, accessible to the right persons at the right location in a usable format.
- Knowledge, primarily about diseases — also about drug actions and adverse effects-to support diagnosis and therapy.
- Information about the quality of patient care and hospital performance and costs.

Healthcare information systems Types

- **Hospital Information System (AKA hospital information management system or clinical information system)**

Health Information System

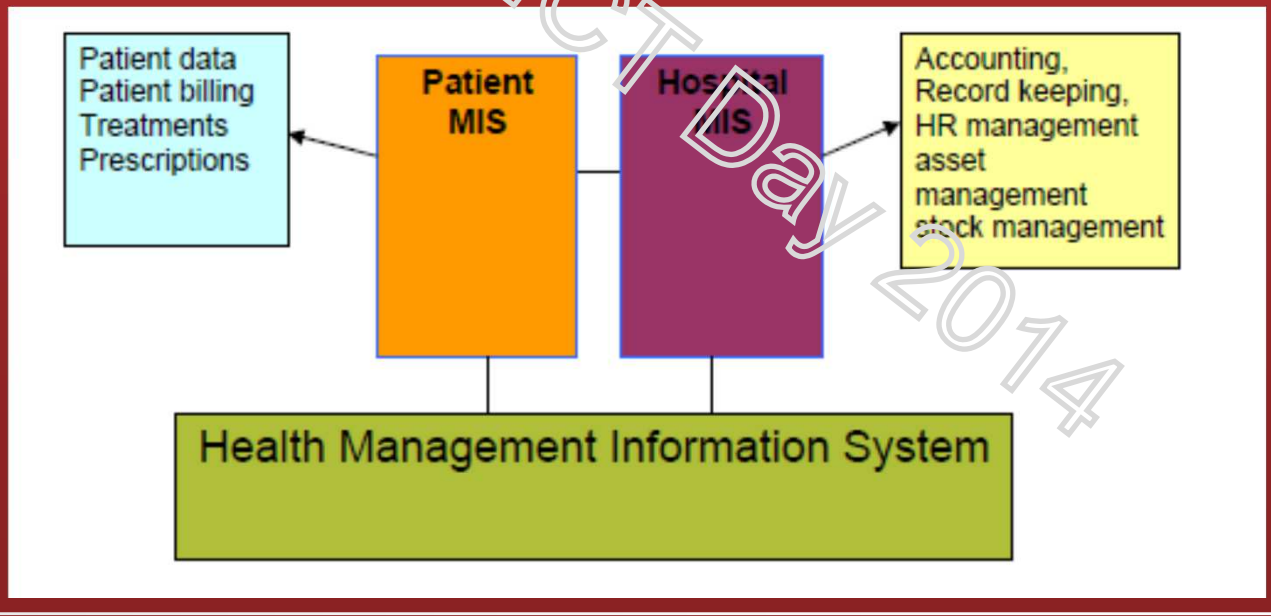
- Systems used to collect, analyze, retain, retrieve and evaluate health information. Also, incorporate all the data needed by policy makers, clinicians and health service users to improve and protect population health.
- A health information system usually describes one of these several separate subsystems containing data:
  - Disease surveillance and outbreak notification.
  - Data generated through household surveys.
  - Registration of vital events and censuses (births, deaths and causes of death).
  - Data collection based on patient and service records and reporting from community health workers, health workers and health facilities.
  - Program-specific monitoring and evaluation (for example for TB, HIV/AIDS, and EPI).
  - Administration and resource management (including budget, personnel, and supplies).

Healthcare information systems Types

- **Health Information System or health management information systems**
- Hospital Information System

What We Need

HMIS; BECAUSE IT CAN BE ON A DISTRICT OR NATIONAL LEVEL AND CONSISTS OF DATA FOR POLICY AND STRATEGY ITS MAIN GOAL IS TO PROVIDE TIMELY AND ACCURATE INFORMATION LEADING TO BETTER HEALTH CARE PLANNING AND IMPROVED DIAGNOSIS AND MORE PATIENTS GETTING ACCESS TO HEALTH SERVICES FOR AN ENTIRE COUNTRY.



Drivers of High Dynamic Demand of HMIS

- **Role of private-sector health care** will keep increasing, requiring informed HMISs by private practitioners, facilities, and insurers.
- **Economic development** will change the profile of disease challenges, in which chronic conditions increase in importance even while infectious diseases remain a threat.
- **Globalization** will continue to drain skilled medical and IT talent away from health systems serving the poor, necessitating sustainable health information systems in extremely low resource environments.
- **Urbanization** will draw talent and resources away from rural environments where a disproportionate number of the poor still live. The data collected by community-based health care workers operating in rural settings, if communicated to an HIS, will allow rural health needs to be more clearly understood.

Healthcare MIS Trends

Several important trends are evident that health data is used to not only inform policy but to improve care at the point of service.

- Better information management tools at the local level.
- Data capture through routine business operations.
- Identification of the minimum essential data sets.
- Growth of specialized technology and providers.
- Mobile devices become a key enabler for HIS.
- Early experience yields enthusiasm and skepticism around HIS.

Issues arising with the introduction of an HMIS

- A framework was built based on the most important success factors of successfully introducing HMIS in Europe and the United States as well as in developing countries.
- Each factor consists of several issues which need to be addressed for successful implementation of an information system based on ICT into an organization.
- The success rate of a project is **80%** dependent on the development of the social and political interaction skills of the healthcare hospital and **20%** or less on the implementation of the hardware and software technology.

- **Which factors and issues influence successful integration of an HMIS in existing work process in hospitals?**

1. Objectives
2. Planning and strategy
3. Stakeholders' roles and responsibilities
4. Social and cultural aspects
5. Technology
6. Human capacity development
7. Participation and awareness
8. Financial aspects, sustainability

Factors of Successful HMIS Implementation

Each factor consists of several issues which need to be addressed for successful into an organization.

Factors of Successful HMIS Implementation

Factors vs Issues

Factor	Issues
Objectives	Core objectives and expected explicit goals
Planning and Strategy	Vision, strategy and national plans
Stakeholders' roles and responsibilities	Needs, roles and responsibilities, policies
Social and cultural aspects	Rules, regulations, transparency and information sharing cultures
Technology	ICT infrastructures; standardization, integration, user friendliness and sustainability
Human capacity development	Computer illiteracy; Limited experience in medical informatics
Participation and awareness	Information, participation and awareness
Financial aspects, sustainability	Resources to meet costs and sustain the system

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Musallam Specialty Hospital Case

FACTS AND EXPECTATIONS

The Story

- Musallam Specialty Hospital
- Primus Company - Computer Networking Services Group (CNS)
- Palash Healthcare Systems

- Phase 1: Planning:
  - Situation Analysis
  - SWOT Analysis
  - Return on Investment Study - ROI

Partners

MUSALLAM SPECIALTY HOSPITAL
مستشفى مسلّم التخصصي

primus
software | consulting | infrastructure

PALASH™ Healthcare

S — Strengths

- Safeguarding Information Confidentiality
- Reduces the Possibility of Lost Records
- Improve Quality and Originality of Documentation
- Improve Service Provided
- Quick and Accurate accessibility to the Information
- Improve Communication Between Doctors
- Restraint Medical Errors
- Cost Savings
- Improve in Data Storage

W — Weaknesses

- High Adoption Cost
- Limitation on Interoperability between providers
- Lead to Medical Error (Physicians are the main not system in diagnosis)
- Require Comprehensive Personnel Training
- Variation in Software Packages

O — Opportunities

- Encourage Proactive Healthcare Practices
- Greater Checks and Balances
- Improved Reporting Capabilities
- Fulfil Patients' Satisfaction
- Support in Decision-Making
- Improved Quality of Service
- Productive, efficient, and effective hospital management
- Improved Resources Utilization

T — Threats

- Patient Perception on Privacy Issue
- Probability of System Failure
- Resistance of Implementation among Users
- Integrations with Insurance companies
- Technology Changes
- Physicians threat by wrong diagnosis
- Security and hacking threats.

Implementation Strategy and Phases

Factor	Phase 1: Planning	Phase 2: Implementation	Phase 3: Post-Implementation
Objectives	• Has the objective of the HMIS been identified? • Has the goal of the HMIS been identified? • Is the objective of the HMIS consistent with the objective of the MOH ?	• Is the HMIS still being implemented? • Is the objective of the HMIS still consistent with the objective of the MOH and regional MOH?	• Is the HMIS still being implemented? • Has the objective been achieved? • Has the goal of the HMIS been identified? • Have the targets for the HMIS been identified?
Stakeholders roles and responsibilities	• Have the stakeholders been • identified? • Have their individual needs or wishes been identified? • Has the information flow been identified? • Has the information flow been recorded?	• Are stakeholders' roles and responsibilities still being fulfilled? • If 5 is NO, Has there been a shift in the stakeholders' roles and responsibilities? • If 5 is YES, have the new roles and responsibilities been recorded?	• Are stakeholders' roles and responsibilities still being fulfilled? • If 10 is NO, please repeat Phase2

80% of Success depends on

- Factors – Issues Analysis determined:
  - Implementation plan
  - Project management key issues
  - Business and project monitoring and evaluation
- SWOT Analysis determined:
  - Strategy to be followed in Implementation.
  - Security concerns
  - Sustainability and disaster recovery plan to be used.
  - Future technology changes.
- Stakeholders Analysis determined:
  - Stakeholders Orientation
  - Modules Requirements.
  - Positive/Negative People.
  - What Training Kinds to be provided.

Patient Management (OPD & IPD)	Linen & Laundry Management
Emergency Patient Management	House Keeping Management
Billing Management (OPD & IPD) & Insurance	Diet and Nutrition
EMR (OPD & IPD Clinical Data Management)	Ambulance Management
Pathology Management	Complaint Management
Radiology Management	Administration Management
Operation Theater Management	Blood Bank Management
Inventory Management (Stores and Pharmacy)	MIS – Reports
Nursing Station Management	Interfaces (Token Display for LCD TV, Bar Code, Lab Machines, PACS, Smart Card, Digital Pen)
Asset/Equipment Management	Financial Accounting
Central Sterile Services Department – CSSD	

- HMIS follows international medical protocols and coding standards.
- System interfaces with Insurance companies systems.
- System uses local and international suppliers coding (ex. Drugs suppliers)
- System is built upon open-architecture theory.
- Supplier company is well known and stable.
- User-responsibilities tailored training
- Ease of Access (work anywhere)
- Telemedicine, e-health, and mobile

Musallam HMIS

- No national unified HMIS
- Major sources of health care and health expenditure in the Palestinian territories:
  - Public Sector
  - NGOs
  - Private Sector
  - UNRWA
- Electronic Medical records will always be incomplete because of the expenditures out of Palestine.
- Gaza Strip
- Diversity of HMIS providers and HMIS structures.
- Mobile revolution
- Technology revolution
- Future diseases implications
- EMR sharing culture and regulations

Future Implications

WE ARE PART OF THIS NATION

Q&A?

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THANK YOU