



**Toward Active Role of ICT in Healthcare in Palestine**

**Information & Communication Technology "ICT" Day**



## **Palestinian Ministry of Health**

# **Situation Analysis Achievements, Challenges and Vision**

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**Master in Health Management  
2014**

# **Palestinian Ministry of Health**

The Ministry of Health administers many hospitals and Primary Health Care Centers with thousands of employees, all of who need access to timely, clinical, administrative, financial, legal data, and scientific health information that can inform their medical decision-making.

# Infrastructure

- ICT Infrastructure offers a range of technologies to assist organizations in running efficiently. These services are essential to the everyday mechanics of an organization and integral to effective service delivery. These include hardware, software, networking and implementation.

# MoH.....Infrastructure

- **Hardware** (Data Center, Disaster Recovery, Servers, PCs, Laptops, peripheral devices).
- **Software** (Operating systems, Applications, Software Packages, Development ).
- **Building Capacity** (User Computer literacy, IT Staff).
- **Computer networking** (Governmental Network, WAN, LAN, share resources and files)
- **High Bandwidth Capability** (Fiber Optics).
- **A well-trained ICT staff.**

**“ If it isn’t  
documented, it  
didn’t  
happen!”**

# Information in Healthcare

- Information is the lifeblood of the health care delivery system.
- The **medical record**, in manual or automated form, houses the medical information that describes all aspects of patient care.

# Hospital Information System “HIS”

- A digital health information system that creates an electronic patient record and manages it better to improve the quality of medical care.

# **Hospital Information System (HIS) (USAID)**

HIS is an integrated system designed to manage clinical, administrative, financial and legal data across healthcare enterprises.

HIS assists doctors and nurses in the diagnosis, management and education for better and improved medical services and practices.

HIS empowers policy makers (e.g., MOH) to make data-driven decisions that will improve the quality of healthcare delivery to citizens.



# HIS Objectives

Integrate Healthcare Record Systems.

Improve the efficiency of health service delivery.

Facilitate monitoring and evaluation of health trends

Improve Governance Planning, Administration and Management of Health systems.

Developing a Palestinian National Health Information System that will serve Public, NGOs, UNRWA and Private Healthcare Providers

**AQ1**

I suggest we add a slide on HR MenaItech system

Abdulhamid Qusrawi, 9/2/2013

Annual ICT Day 2014

# Hospital Information System “HIS”

- Data Center@PMC.
- Disaster Recovery@Rafidia Hosp.
- System installed in 8 governmental hospitals & 8 Primary Health Care Centers (Level 4 and Level 3).
- Open License.

# Benefits of HIS

## Health record serves to:

- ✓ Uniquely identify the patient
- ✓ Record the diagnosis
- ✓ Justify the treatment and procedures
- ✓ Record the outcomes and results
- ✓ Improve patient safety and quality of care

# What is Telemedicine?

Telemedicine is the use of electronic communications and information technologies to provide clinical services when participants are at different locations.

## Telemedicine Project (GIZ)

- Consultations between physicians inside and outside Palestine:
  - ✓ Linking governmental and private hospitals in Palestine with each other.
  - ✓ Linking Palestinian physicians with physicians from Jordan and around the world.
- A web-based telemedicine system can serve **as the basis** for a Picture Archiving and Communications System (PACS).

# What is e-government?

- e-Government is a **(framework)** to enable electronic services: government-to-government (G2G), government-to-business (G2B), and government-to-citizen (G2C).
- Servers interoperate among each other to exchange data messages similar to exchanging papers between ministries in the real world.
- MoH is considered as one of the core partners and a member in all teams of e-government.

# The Palestinian Interoperability Framework "Zinnar"

The screenshot displays the Zinnar website, which is the Palestinian Interoperability Framework. The browser address bar shows 'zinnar.pna.ps'. The website features a navigation menu with links to 'Database', 'Services', 'Addresses', 'Entities', 'Ontology', and 'Home'. The main content area is titled 'The Palestinian Interoperability Framework - ZINNAR' and includes a 'Comment/تعليق' button. A sidebar on the left contains a 'Public Consultation' section and 'Events & News'. A sidebar on the right lists various government ministries and agencies, including the Ministry of Telecom & IT, Ministry of Interior, Ministry of Finance, and the Palestinian Monetary Authority. The main text area contains a paragraph explaining the framework's purpose and a section titled 'How can I start using Zinnar?'.

**Public Consultation**  
Comments about ZINNAR are encouraged [here](#)

**Events & News - الأخبار**

- عقد ورشة عمل بعنوان "إثراء المحتوى الرقمي العربي"
- مقابلة مع وزيرة الاتصالات وتكنولوجيا المعلومات و د. مصطفى جرار حول مؤتمر الحكومة الأول
- تلفزيون معا - د. مصطفى جرار يتحدث عن المؤتمر الفلسطيني الأول للحكومة والخدمات الإلكترونية - Maan TV - Dr. Mustafa Jarrah talking about The First National Conference on e-Governance and e-Services
- البعثات، القنصليات، الأمان، الحكومة، الأمن، الأمن، الأمن، الأمن

**The Palestinian Interoperability Framework - ZINNAR**

In order to exchange data via e-Government services, different governmental agencies need to agree on and understand different elements in the exchanged data message. In other words, to provide or consume data via e-Government services, different parties must understand and agree on the vocabulary, meaning, structure, codes, and business rules pertaining to the exchanged data. Also, in order to develop and maintain e-Government services, important metadata about the government registries and databases in addition to metadata about services must be maintained and used.

A Palestinian Interoperability Framework "Zinnar" was established to address these issues. Zinnar consists of five servers, namely, **Ontology Server**, **Entity Server**, **Address Server**, **Service Repository**, and **Database of Databases**. This website presents each of these five components and the achievements of the **Interoperability committee** in each of them.

**How can I start using Zinnar?**

Zinnar lays the necessary foundation for the interoperation of heterogeneous Information Systems in the different governmental agencies in Palestine. In other words, Zinnar provides a scalable solution that allows Information Systems in the Palestinian ministries and agencies to exchange data. In particular, each governmental agency can now start using Zinnar framework to provide services (via web services for example), such that the data exchanged via these services must commit to Zinnar Framework in order to interoperate properly and in an agreed-upon manner.

**Zinnar - The Palestinian Interoperability Framework**

Like 99

**The Palestinian e-government academy**

**وزارة الاتصالات وتكنولوجيا المعلومات**  
Ministry of Telecom & IT

**وزارة الداخلية**  
Ministry of Interior

**وزارة المالية**  
Ministry of Finance

**سلطة النقد الفلسطينية**  
Palestinian Monetary Authority

**وزارة الاقتصاد الوطني**  
Ministry of National Economy

**جهاز الإحصاء المركزي الفلسطيني**



# **Establishment of e-Learning**

## **Institutionalization of Continuing Education through e-learning:**

- Building capacity for employees at different levels by establishing web portal for CPD (Continuous Professional Development) on MOH website through moodle system.
- Using Moodle to deliver online courses.

# Establishment of e-Learning

- Enabling access to electronic resources (HINARI, British Medical Journal "BMJ").
- Establishing resource centers in three key hospitals in West Bank.



- Palestinian Medical Complex
- Jenin Hospital
- Beit Jala Hospital



USAID  
FROM THE AMERICAN PEOPLE



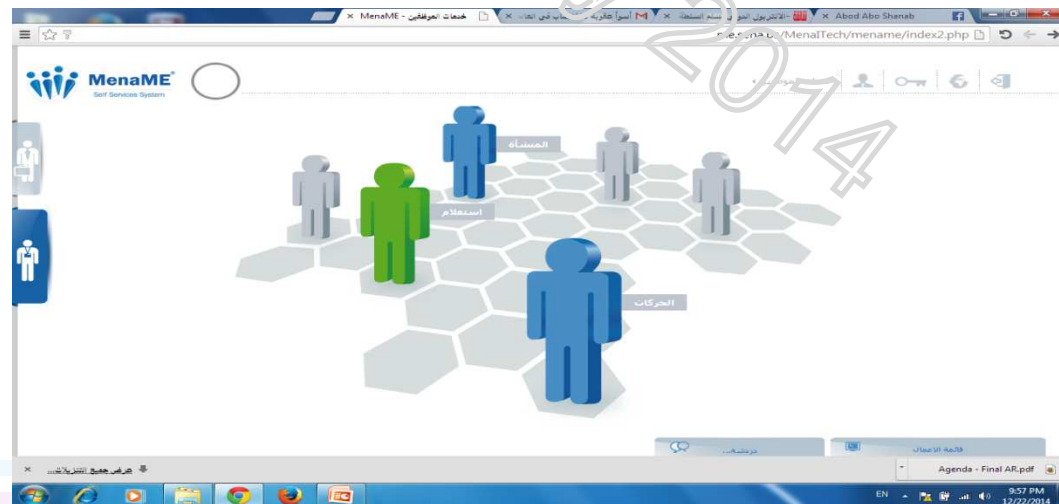
IntraHealth

## **Health Insurance & Referral Unit**

- A well built database for the unit (running).
- Building a Web application to connect Referral Unit with Governmental and Referral Hospitals.
- Using the developed Web application for Gaza hospitals.

# Online Employee/ Manager Self Services

- Online Employee/ Manager Self Services
- **MenaME** is a web-based solution that enables employees and managers to edit and view their HR-related information online.

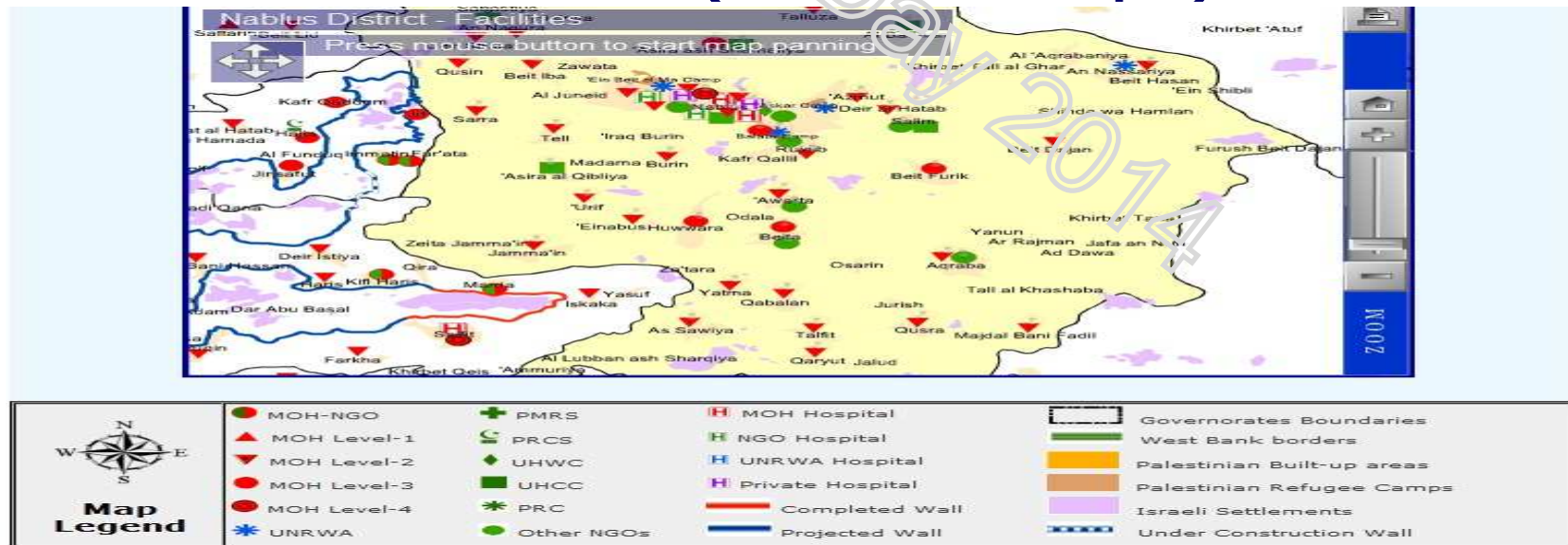


## Drug Store

- WAN between Main Drug Store and all peripheral drug stores (in Hospitals and Primary Health Care Centers) was established in 2007.
- The Store Application covers all managerial issues related to stores.

# Health Geographic Information Systems (GIS)

HGIS is a computerized system reflects the geographic distribution of health facilities and information. Published on MoH official site ([www.moh.ps](http://www.moh.ps)).



# Population Register

- Electronic notification of births and deaths.
- Direct link with the Civil Registry at the Ministry of the Interior; to make it easier for citizens issuing birth and death certificates.

# Public Health Laboratory System

MoH in-house team developed, customized and implemented PHLS IT system:

- Fitting the specific needs of the laboratory.
- Easy to use.
- knowledgeable support.
- Full ownership of the final product as well as its source code.



# Challenges

- Limited Resources
- Rapid growth in Technology
- Quality of Healthcare
- Change is only thing **CONSTANT!**
  - Readiness to Change
    - Readiness to Change
      - Readiness to Change

# Healthcare & Technology

Use of appropriate technologies that are:

- ✓ affordable
- ✓ accessible
- ✓ available

**FACT**



# FACT

## Health Care + Technology = Success Story



# Benefits from involving ICT

- Saving in time, effort and cost.
- Increasing efficiency.
- Increasing patients and health worker satisfaction.
- Providing modern means for research.

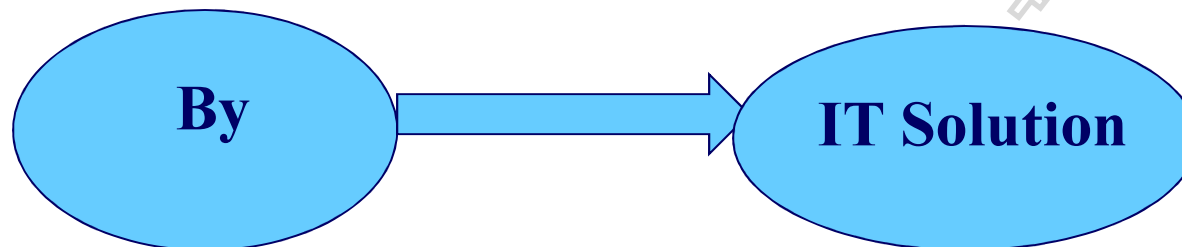
# IT solutions can help with *clinical*

## *decision support:*

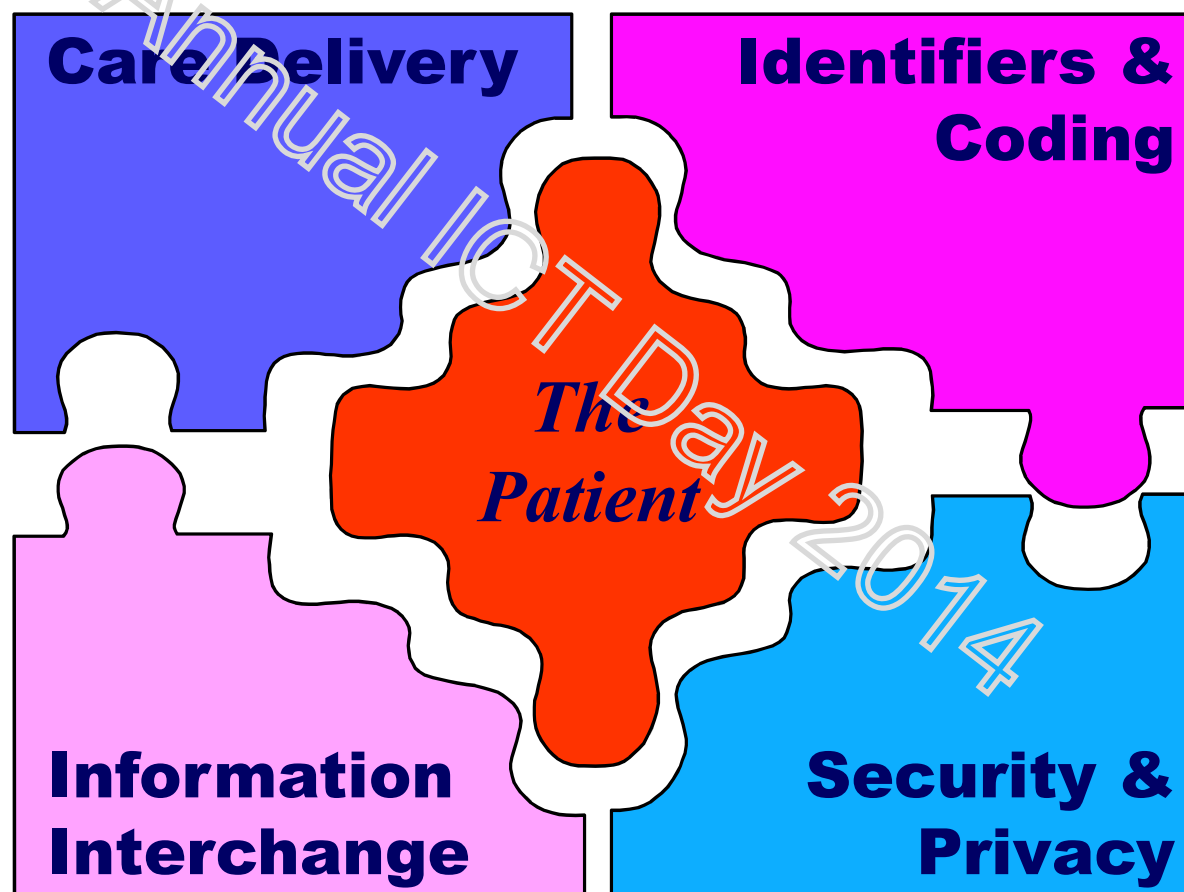
- Drug interaction
- Clinical knowledge – differential diagnoses etc.
- Latest lab and test results
- Medication Lists
- List of appointments
- Clinic notes and consult recommendations
- .....etc.

# Our Vision

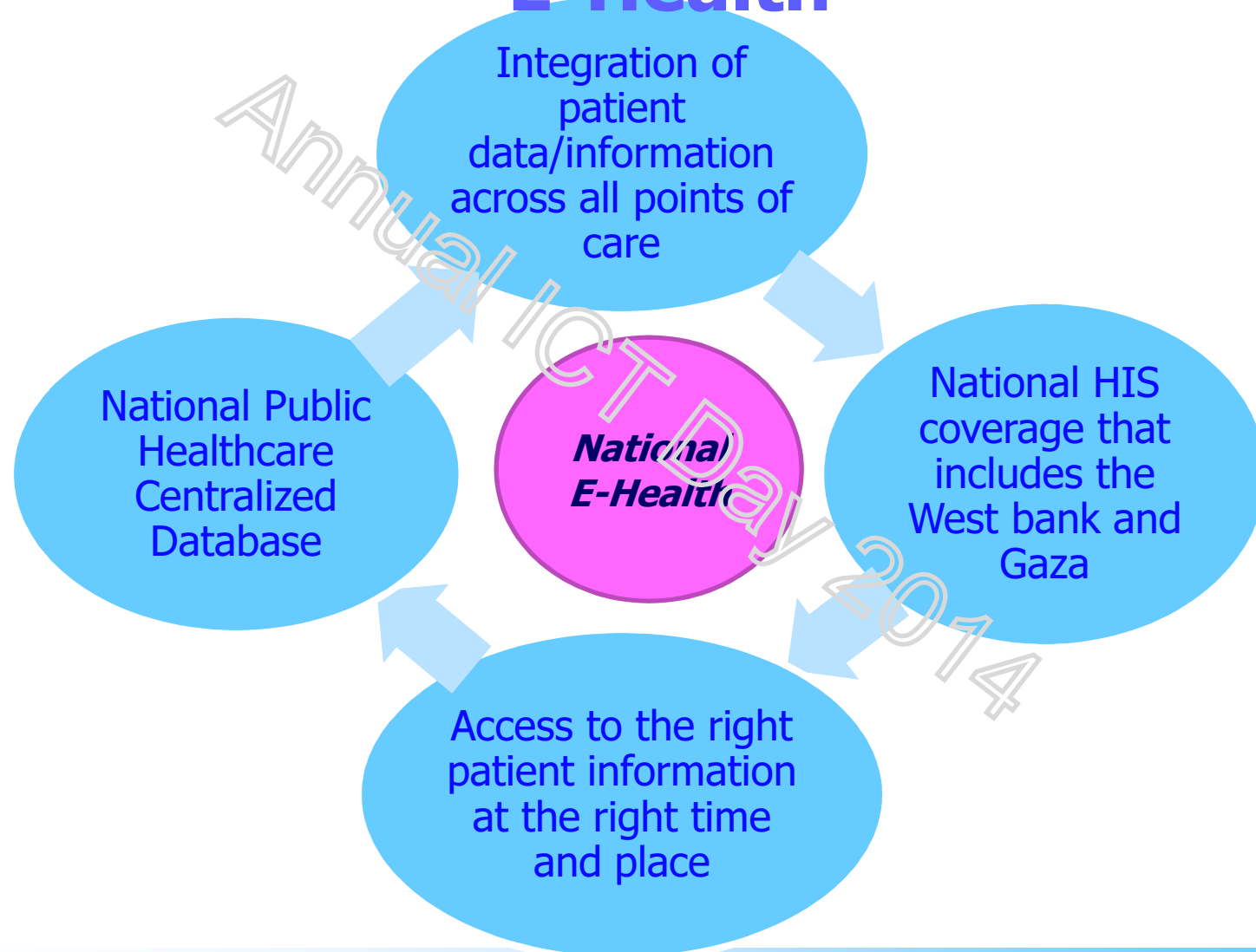
- Improving Quality of Care
- Evidence-based Decision Making
- Employee Satisfaction
- Patient Safety
- Decreasing Medical Errors



# Health Care Information and IT Standards



# Our Vision for a National Palestinian E-Health





# Gaza

is our further goal in  
transferring our  
**Success Story**

(Employment of information technology in  
healthcare delivery)

# FINALLY

- ✓ ICT has both positive as well as negative impact on healthcare. But the use lies in our hand whether to use ICT in a useful manner or have its negative impacts on our life and health.
- ✓ Maximize benefit of ICT to focus on the patient as we fulfill our promise to always put patient first in everything we do.

# Thank You

