

CAN INFORMATICS TRANSFORM PUBLIC HEALTH IN SAUDI ARABIA

By:

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WHY PUBLIC HEALTH?

Increase life expectancy (*40s to 70s & 80s*)

Decrease/prevent diseases (*eradication of lethal disease*)

Enhance cost-effectiveness of healthcare (*Cuba = USA!!*)



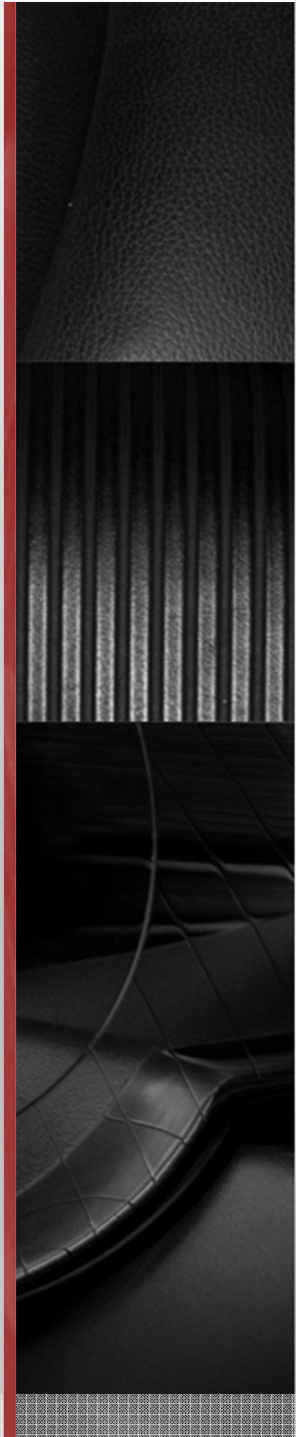
ESSENTIAL FUNCTIONS OF PUBLIC HEALTH

- Monitor health status to identify community health problems.
- Diagnose and investigate health problems and health hazards in the community.



ESSENTIAL FUNCTIONS OF PUBLIC HEALTH

- Inform, educate and empower people about health issues.
- Mobilize community partnerships to identify and solve health problems.



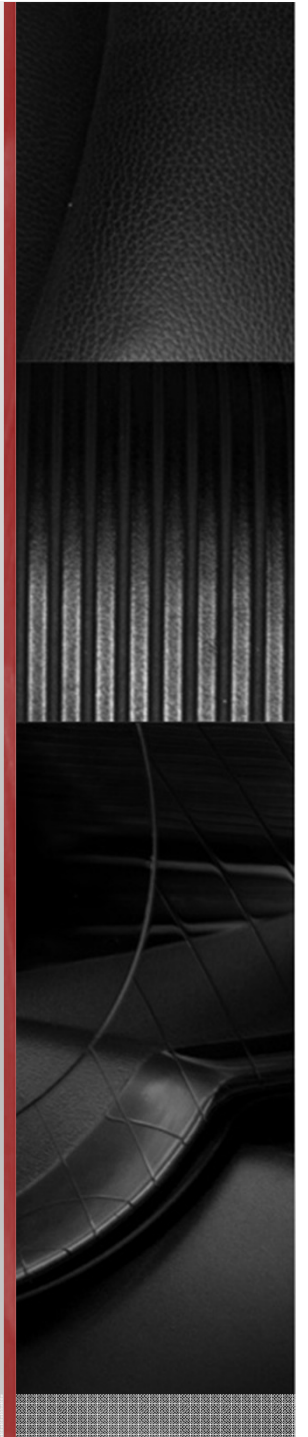
ESSENTIAL FUNCTIONS OF PUBLIC HEALTH

- Develop policies and plans that support individual and community health efforts.
- Enforce laws and regulations that protect health and ensure safety.
- Link people to needed personal health services and ensure the provision of health care when otherwise unavailable.



ESSENTIAL FUNCTIONS OF PUBLIC HEALTH

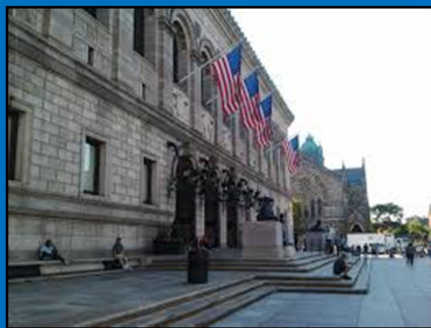
- Assure a competent public health and personal healthcare workforce.
- Evaluate effectiveness, accessibility and quality of personal and population-based health services.
- Research for new insights and innovative solutions to health problems.



PUBLIC HEALTH ACHIEVEMENTS

U.S. 2001-2010

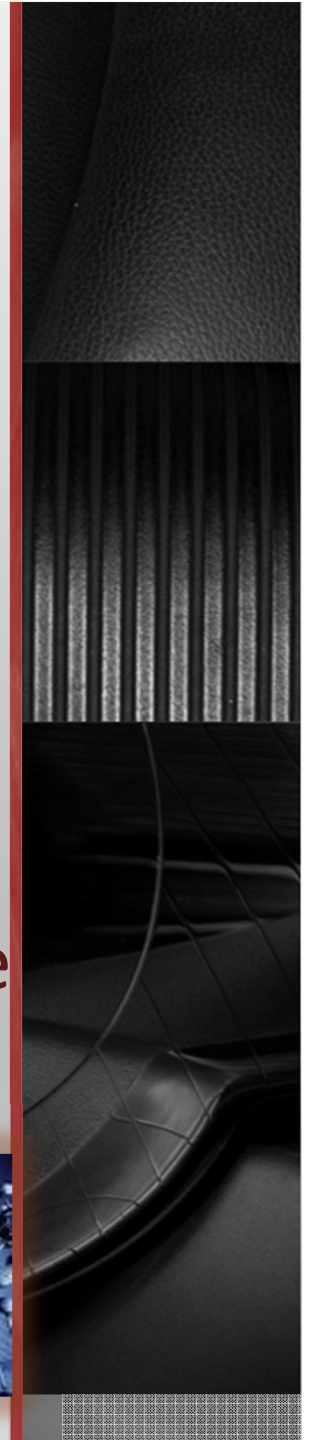
- Vaccine-Preventable Diseases
- Prevention and Control of Infectious Diseases
- Tobacco Control
- Maternal and Infant Health
- Motor Vehicle Safety



PUBLIC HEALTH ACHIEVEMENTS

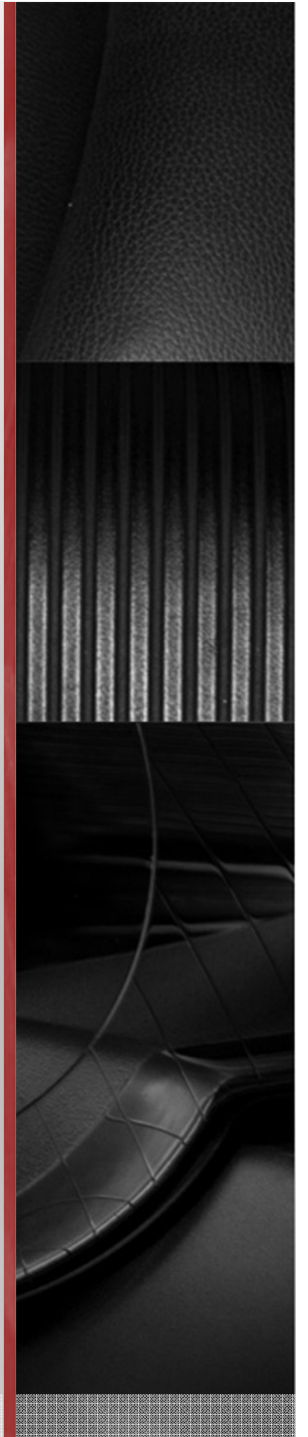
U.S. 2001-2010

- Cardiovascular Disease Prevention
- Occupational Safety
- Cancer Prevention
- Childhood Lead Poisoning Prevention
- Public Health Preparedness and Response



PUBLIC HEALTH FACES MAJOR CHALLENGES *IN THE 21ST CENTURY*

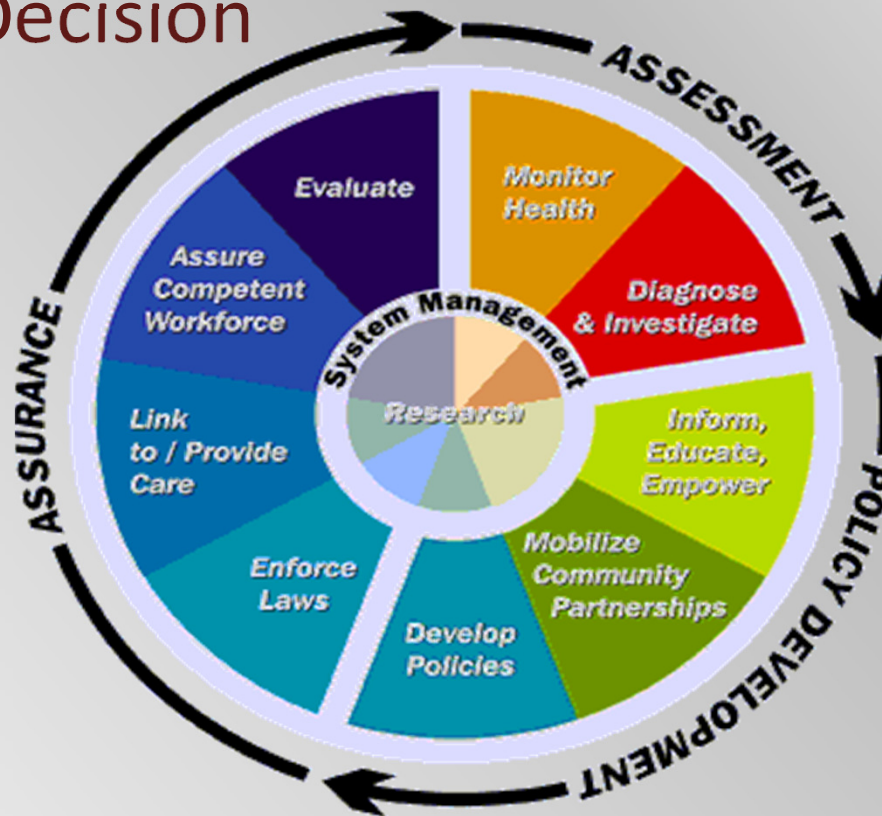
- Emerging diseases, e.g. Ebola
- Non communicable diseases
- Bioterrorism and chemical poisoning
- Globalization and easy travels: Global Outbreak Alert and Response Network.



Public health has to enhance its functions in this information age by utilizing the information and communication technology (ICT)

❑ Information → Decision

❑ The better the information the better the decision



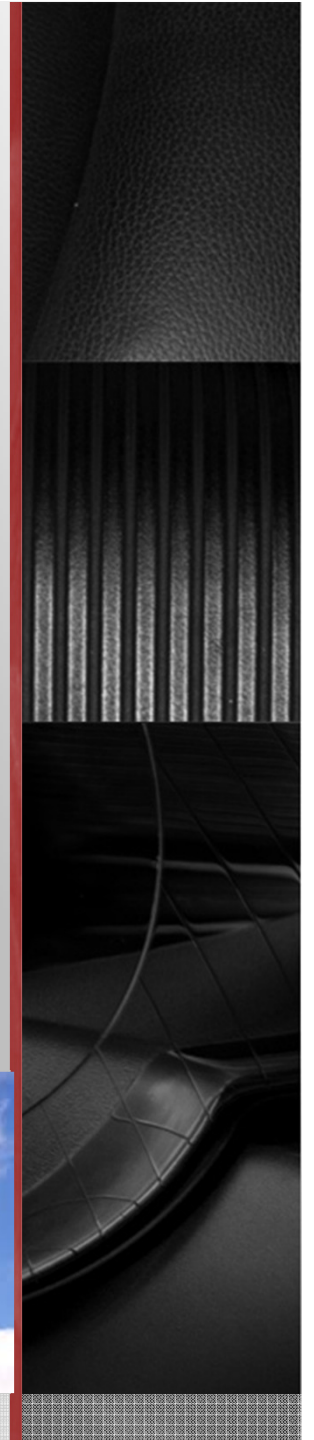
PUBLIC HEALTH INFORMATICS

- Public Health Informatics provides fast, reliable and valid information to make decisions.
- Sound information about public health leads to sound decisions for public health.
- Sound information is essential for Health care management, planning and policy.



PUBLIC HEALTH INFORMATICS

- Public Health Informatics deals with electronic resources and processes of:
 - Collecting
 - Keeping
 - Retrieving
 - Disseminating and utilizing information in public health practice
 - Research and learning.



CDCs NATIONAL CENTER FOR PUBLIC HEALTH INFORMATICS (NCPHI)

Provides leadership in the application of information and computer science and technology to public health practice, research and learning.



CDCs NCPHI



- Electronic health record support of public health functions
- Use of health care, population and other public health data in supporting public health systems and analyses
- Basic capabilities that support public health practice such as statistical and health surveillance
- Public Health decision support



NCPHI



PUBLIC HEALTH INFORMATICS

“the systematic application of information and computer science and technology to public health practice, research and learning”

ACTIVITIES MAY INCLUDE:

- Collection and storage of vital statistics
- Collection and reporting of communicable diseases
- Disease surveillance
- Display disease statistics and trends
- Immunization
- Hospital statistics



PUBLIC HEALTH INFORMATICS and KINGDOM OF SAUDI ARABIA

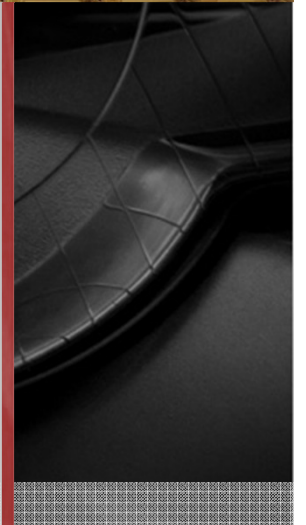


Large country
 2,250 sq m
 GDP 2013
 746 Billion US\$
 Population:
 1950=3M
 2011=27M
 2015=30M (*Mostly young*)
 Life Expectancy
 73.7
 Vaccine coverage
 Almost 99%

Eradication of polio and many other communicable diseases
 But ...



- **More chronic diseases (*Obesity, DM, IHD*)**
- **Road traffic accident is a major problem**
- **Environmental and Occupational Safety Issues**
- **Multiple providers of healthcare: cost-effectiveness?**
- **Mass Gathering Medicine**
- **Others**



BRIEF HISTORY AND DEVELOPMENT OF HEALTHCARE IN SAUDI ARABIA (MoH)

- ① **1925** Department of Health
- ② **Later** General Directorate of Health and Aid
- ③ **1950** Ministry of Health (MoH) was established
- ④ **1978** KSA signed Alm-Ata Declaration as a member of WHO: Health for All through PHC as preventive, curative and rehabilitative approach



BRIEF HISTORY AND DEVELOPMENT OF HEALTHCARE IN SAUDI ARABIA (MoH)



- ⑤ **1981** Directorate of PHC at MoH
- ⑥ **2002** Establishment of Council of Health Services
- ⑦ **2009** National Evaluation Committee reviewed PHC and made recommendations
- ⑧ **2010** Deputy minister PH
- ⑨ Now more than **2,037** PHCCs and **244** Hospitals under MoH

CURRENT SYSTEMS

Services provided through **P**rimarily, **S**econdary and **T**ertiary care and **A**ccounts for almost **60%** of services kingdom-wide.

Other **S**ectors **40%**
Governmental and **P**rivate

Multiple providers and sectors with multiple levels and tiers of services

➤ Multiple providers with little connection

Ministry of Health

National Guard
Health Affairs

Security Forces
Medical Services

Armed Forces
Medical Services

ARAMCO Health
Services

University Hospitals

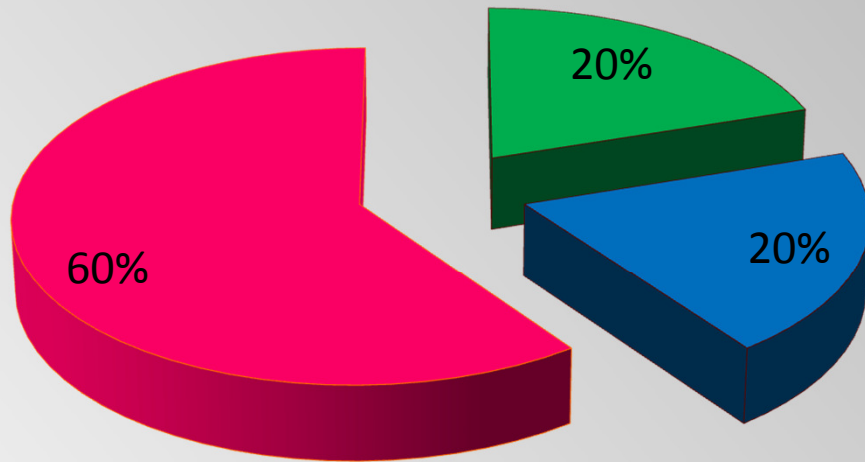
School Health Units

Health Services in
the Royal
Commission for
Jubail and Yanbua

Red Crescent

Others

Percentage of Service Provision

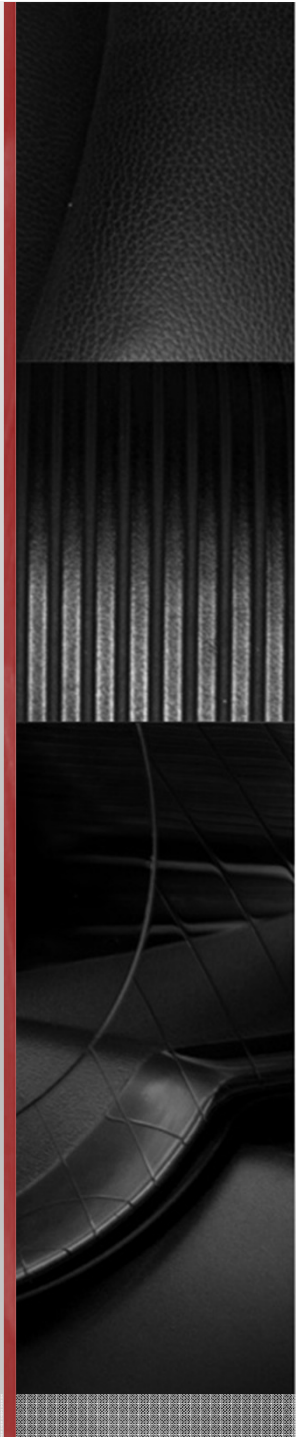


■ Private - 20%

■ Other Government Sector - 20%

■ MoH - 60%

- **Creation of Council of Health Services as a coordinating body for all Healthcare providers.**



Development in ITC:

eGovernment: many initiatives and projects to transform:

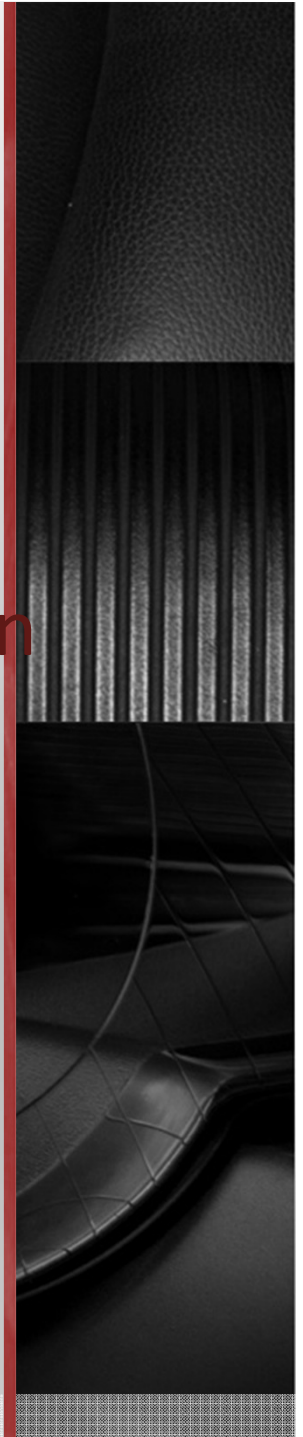
- G2C: Government-to-citizen
- G2B: Government-to-Business
- G2G: Government-to-Government
- G2E: Government-to-Employee
- IEE: Internal Efficiency and Effectiveness



Development in ITC:

eLearning and Education

- National eLearning Center
- SEU: Saudi Electronic University
- Many graduate programs in information management and health informatics
- MoHE programs, projects and units
- Thousands of scholarship in HI and public health-related specialties



A number of electronic surveillance systems:

- GPHIP has worked with the Kingdom of Saudi Arabia, Ministry of Health (*MoH*) to strengthen its surveillance for mass gatherings (*i.e., Umrah Ramadan, Hajj*).
- Mobile-based Notifiable Electronics Disease Surveillance System (*MNDESS*), to create instant daily reports which allowed MoH officials to respond promptly to early signs of possible outbreaks.

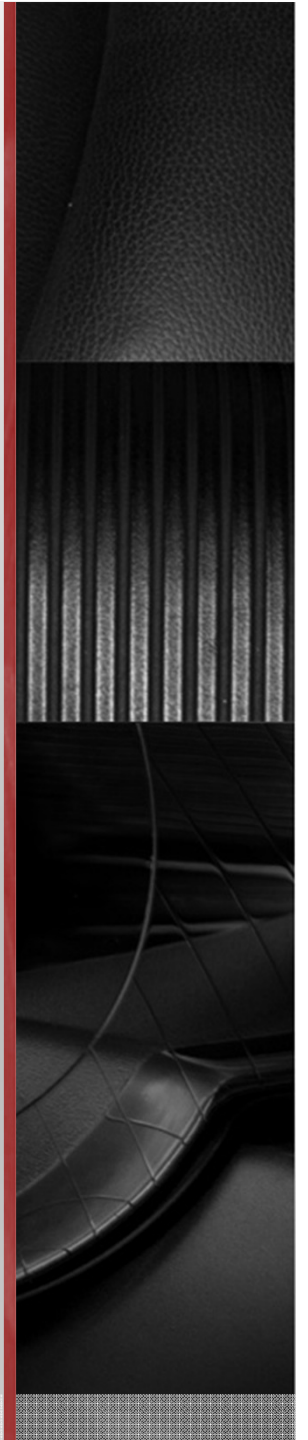


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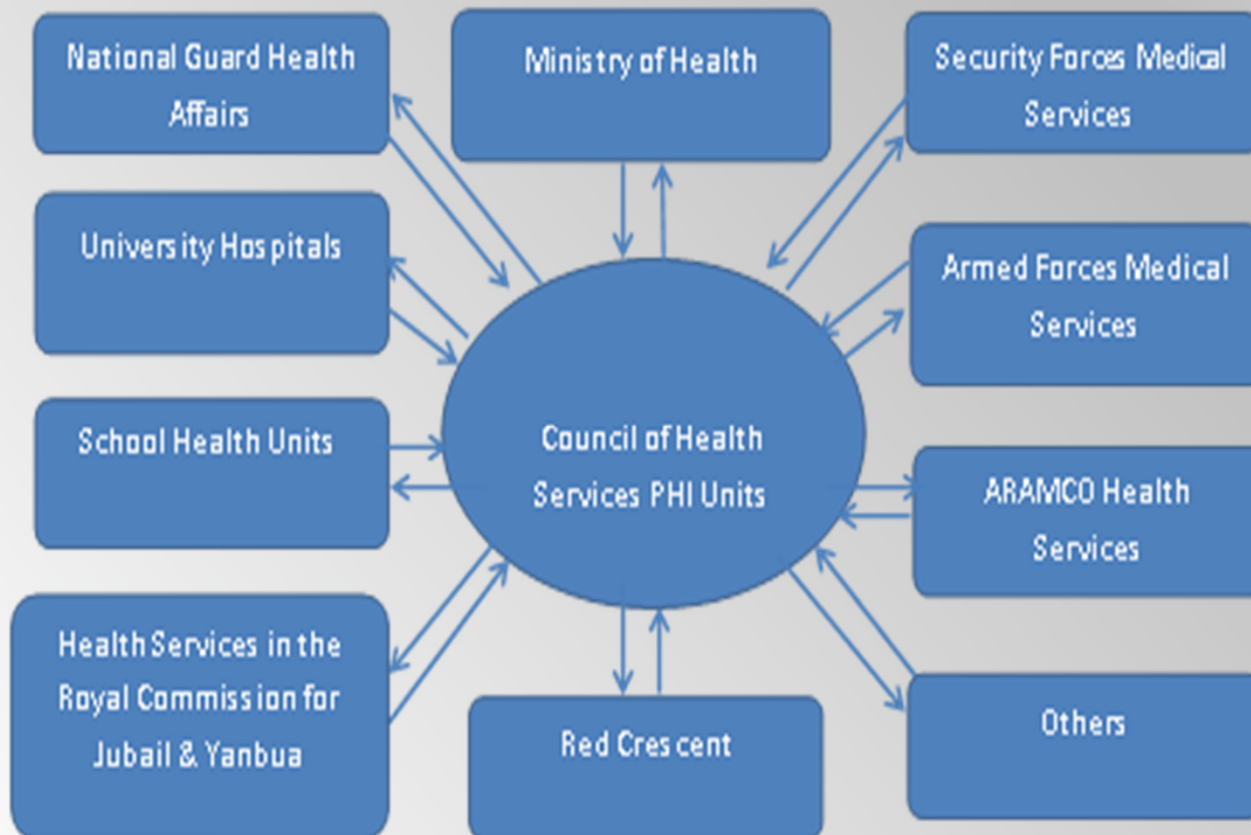
- The Saudi Arabia National Guard Health Authority (SANG-HA); CDC/NGHA Integrated Electronic Disease Surveillance System (*NG-IEDSS*) pulls together data from three major disease reporting systems.
- Healthcare Associated Infections (*HAI*), notifiable diseases, and environmental and occupational disorders.



Many initiatives for Health Informatics but ?coordination and ?Integration.



National Public Health Informatics may play a major role in optimizing current public health functions and transform it on the long run.

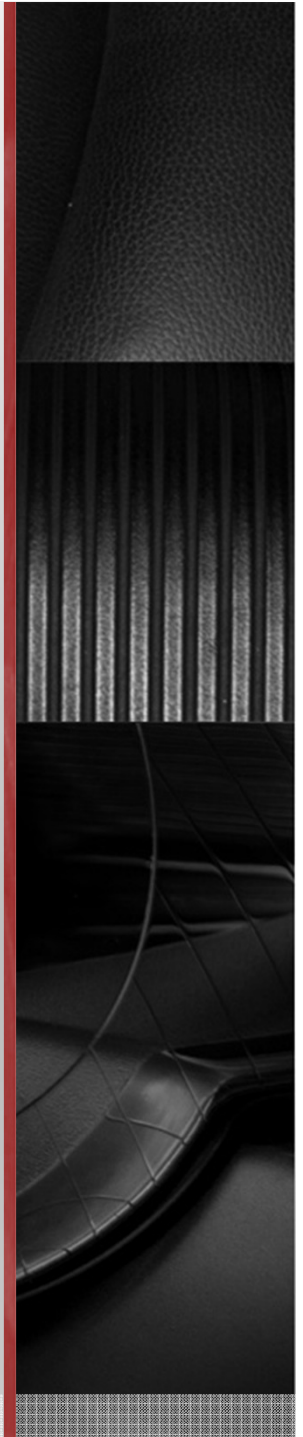


Challenges

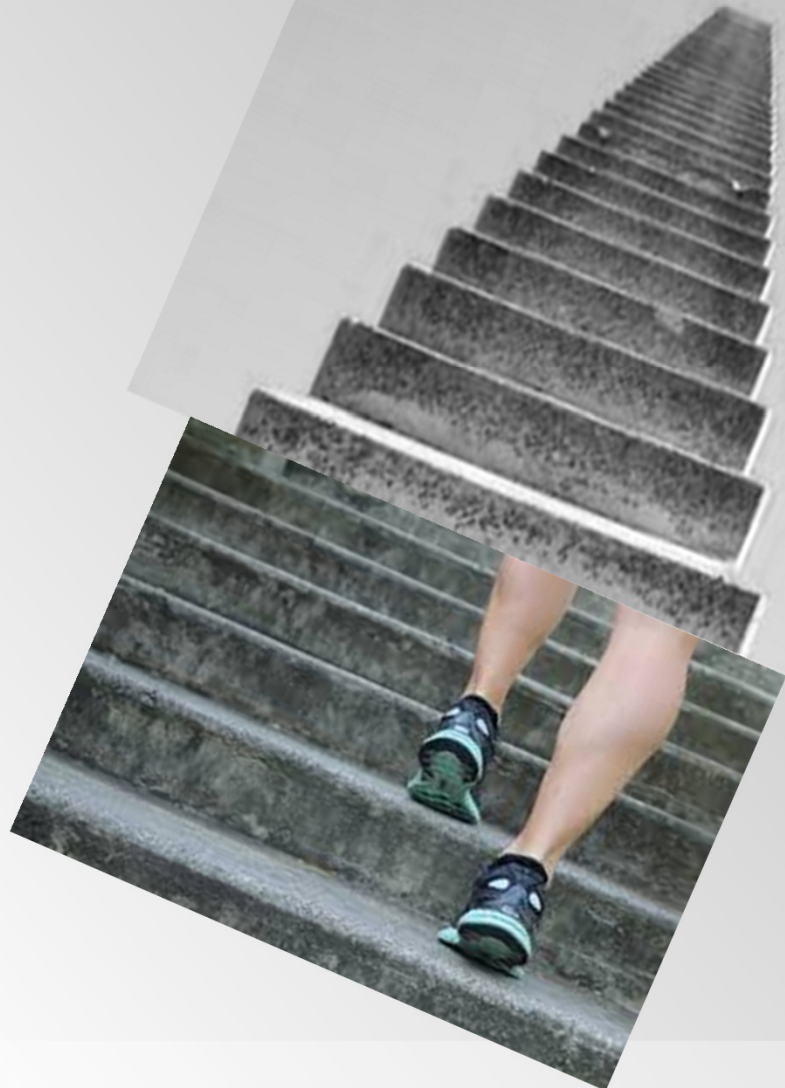
Multiple providers

Multiple systems

Trained staff



Where are we now?



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THANK YOU!

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