Healthcare in the Kingdom of Saudi Arabia

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Planning & Training Assistant Deputyship
Saudi Ministry of Health
HISTORICAL BACKGROUND

1926  Primary Health Care Centers (Taif & Makkah)
      Health Directorate of Makkah
1928  Health and Emergency Services Directorates
1931  Ministry of Interior (Department of Health)
1950  Establishment of Ministry of Health (MoH)
      HRH Prince Abdullah Al Faisal
      (First Minister of Health)

Formation of MoH coincided with
establishment of hospitals
HISTORY OF HOSPITALS

1950  The Eye Hospital (Jeddah)
1952  Isolation Hospital (Jeddah)
1954  Riyadh Central Hospital (KSMC)
1961  National Guard Hospital (KAMC)
1967  Security Forces Hospital
      King Abdulaziz University Hospital
1978  Military Hospital (RMH)
## HISTORICAL FACTS

<table>
<thead>
<tr>
<th></th>
<th>1970</th>
<th>1990</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospitals Hospital Beds</td>
<td>74</td>
<td>257</td>
<td>415</td>
</tr>
<tr>
<td></td>
<td>9,030</td>
<td>41,123</td>
<td>58,126</td>
</tr>
<tr>
<td></td>
<td>(1.3 / 1000)</td>
<td>(3.4 / 1000)</td>
<td>(2.14 / 1000)</td>
</tr>
<tr>
<td>Primary Care Centers</td>
<td>591</td>
<td>3,028</td>
<td>4,594</td>
</tr>
<tr>
<td>Physicians</td>
<td>1,172</td>
<td>22,136</td>
<td>66,014</td>
</tr>
<tr>
<td>Nurses</td>
<td>3,261</td>
<td>48,477</td>
<td>129,792</td>
</tr>
<tr>
<td>Paramedical</td>
<td>1,741</td>
<td>22,410</td>
<td>68,705</td>
</tr>
</tbody>
</table>
HISTORICAL FACTS

1978 Arab Board Training Programs
1993 Saudi Council for Health Specialties
Chapter 5 of the Basic Law of Saudi Arabia
Rights of the Saudi Citizen

Article 27:
The government guarantees the right to healthcare for citizens and their families in cases of emergency, sickness, disability and old age.

Article 31:
The government is responsible for public health in the Kingdom and provides healthcare services to every citizen.
MINISTRY OF HEALTH (MoH) established 1950
(5th article specifies MoH primary responsibilities)

- Guarantee provision of primary healthcare services to all citizens
- Provide secondary and tertiary healthcare services
- Develop strategies and implementation of plans to ensure provision of healthcare services
## Improvements in Health Indicators

<table>
<thead>
<tr>
<th>Indicator</th>
<th>1983</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average life expectancy at birth (years)</td>
<td>66</td>
<td>73.7</td>
</tr>
<tr>
<td>Vaccination Coverage</td>
<td>85% (cities) 27% (villages)</td>
<td>98.8%</td>
</tr>
<tr>
<td>Infant mortality (per 1000 live births)</td>
<td>52</td>
<td>16.9</td>
</tr>
<tr>
<td>Mortality of children under 5 (per 1000 live births)</td>
<td>63</td>
<td>19.5</td>
</tr>
<tr>
<td>Maternal Mortality per 10,000 live births</td>
<td>32</td>
<td>14.0</td>
</tr>
</tbody>
</table>
Decrease in contagious diseases despite increase in population (2003–2010)

Source: MoH Statistical Yearbook (2003 - 201)
Infection rate per 100,000 people by Major Infectious Diseases

<table>
<thead>
<tr>
<th>Disease</th>
<th>1983</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polio</td>
<td>1.0</td>
<td>zero</td>
</tr>
<tr>
<td>Measles</td>
<td>304.4</td>
<td>1.29</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>52.2</td>
<td>15.82</td>
</tr>
</tbody>
</table>
Vaccination Coverage (Children aged 1 year)

Country Ranking*
*KSA is within the first ten
CURRENT HEALTHCARE SERVICES

MoH: 60%
Other Government Sectors: 20%
Private Sectors: 20%
CHALLENGES

- Increasing expectations of Saudi citizens
- Increasing healthcare costs
- Limited resources
- Effective deployment of available resources
- The Kingdom’s vast geography
- Implementation of quality standards
- Sustained growth
- Changing disease and population demography
Increased Healthcare Costs in Developed Countries (2002 – 2010)

Sources: OECD, EIU, IMS Flashlight
Healthcare demand

- Continuous growth
- Factors – aging, chronic diseases, psychiatric illnesses, high rate of road accidents
- Increasing expectations of citizens
Saudis aged 60 years above
Population Growth

Change in Demographics (in millions)
Obesity and Diabetes Rates

1. Nauru (1) 71.1%
2. Tonga (2) 57.6%
3. Kuwait 42.0%
4. KSA 33.0%
5. USA 33.0%
6. UAE 32.7%
7. Bahrain 28.9%
8. UK 26.9%
9. Seychelles 23.9%

Source: WHO (2010)

Note: 1) Nauru 2) Tonga - Oceanic islands near Australia with an estimated population between 9K and 100K respectively
Contributing Factors to Chronic illness

Roadside accidents

2009 – 484,000 accidents (6,142 deaths and 33,000 injuries and disabilities)

Lack of physical activity

34% of the population due to climatic conditions

Smoking

Male population
(35-45% = Adults and 24% = Teenagers)

Ranked 23rd in the world’s highest tobacco consumption

Source: 2009 Annual Report to the General Administration of Traffic / 1st Saudi and GCC Health Promotion Council (2010)
Limited Resources

- Bed capacity
- Professional staff parameters
Hospital Beds
(Per 1000 Capita – 2010)

- Japan: 13.7
- Germany: 8.2
- France: 7.1
- Australia: 3.8*
- UK: 3.3*
- Canada: 3.3*
- USA: 3.1*
- KSA: 2.2
- GCC: 1.9

Organization of Economic Cooperation and Development (OECD) = 5.8

Source: OECD Health Data 2011 (* 2008 * 2009) / MoH
Physicians
(Per 1000 Capita – 2010)

Source: WHO (2011 report)
N.B. The rate for KSA is based on MOH Statistics, WHO figures where 0.94
Nurses
(Per 1000 Capita – 2010)

Source: OECD Health Data 2011 (* 2008 * 2009 * 2010) / MoH
Percentage of GDP spent on healthcare (2010)

- USA: 17.4%
- France: 11.8%
- Germany: 11.6%
- UK: 9.8%
- Australia: 8.7%
- Japan: 8.5%
- Qatar: 3.8%
- Bahrain: 3.7%
- KSA: 3.4%

Source: OECD Health Data 2011 (* 2008 / 2009) / MoH
Per Capita Expenditures on Healthcare (2010)

<table>
<thead>
<tr>
<th>Country</th>
<th>Expenditures (USD)</th>
</tr>
</thead>
<tbody>
<tr>
<td>USA</td>
<td>7,690*</td>
</tr>
<tr>
<td>Canada</td>
<td>4,478*</td>
</tr>
<tr>
<td>Germany</td>
<td>4,218*</td>
</tr>
<tr>
<td>UK</td>
<td>3,487*</td>
</tr>
<tr>
<td>Australia</td>
<td>3,445*</td>
</tr>
<tr>
<td>Japan</td>
<td>2,878*</td>
</tr>
<tr>
<td>Qatar</td>
<td>2,403</td>
</tr>
<tr>
<td>UAE</td>
<td>1,253</td>
</tr>
<tr>
<td>Kuwait</td>
<td>901</td>
</tr>
<tr>
<td>KSA</td>
<td>531</td>
</tr>
</tbody>
</table>

Source: OECD Health Data 2011 (* 2008 * 2009 *2010) / MoH
Note: In USD, PPP (Purchasing Power Parity)
## Expenditure Ratios

<table>
<thead>
<tr>
<th>Country</th>
<th>Government healthcare expenditure</th>
<th>As % of Total Healthcare Expenditure</th>
<th>As % of Total Government Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK</td>
<td></td>
<td>81.7</td>
<td>15.6</td>
</tr>
<tr>
<td>USA</td>
<td></td>
<td>45.5</td>
<td>19.5</td>
</tr>
<tr>
<td>Australia</td>
<td></td>
<td>67.5</td>
<td>17.6</td>
</tr>
<tr>
<td>Canada</td>
<td></td>
<td>70.0</td>
<td>18.1</td>
</tr>
<tr>
<td>France</td>
<td></td>
<td>79.0</td>
<td>16.6</td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td>76.9</td>
<td>18.2</td>
</tr>
<tr>
<td>Japan</td>
<td></td>
<td>81.3</td>
<td>17.9</td>
</tr>
<tr>
<td>KSA</td>
<td></td>
<td>79.5</td>
<td>8.4</td>
</tr>
</tbody>
</table>
Private Sector Participation

<table>
<thead>
<tr>
<th>Country</th>
<th>% Participation of private sector</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>75%</td>
</tr>
<tr>
<td>Lebanon</td>
<td>71%</td>
</tr>
<tr>
<td>USA</td>
<td>52%</td>
</tr>
<tr>
<td>Argentina</td>
<td>51%</td>
</tr>
<tr>
<td>KSA</td>
<td>32%</td>
</tr>
<tr>
<td>Bahrain</td>
<td>31%</td>
</tr>
<tr>
<td>Canada</td>
<td>30%</td>
</tr>
<tr>
<td>Germany</td>
<td>25%</td>
</tr>
<tr>
<td>France</td>
<td>24%</td>
</tr>
<tr>
<td>UK</td>
<td>17%</td>
</tr>
<tr>
<td>Sweden</td>
<td>15%</td>
</tr>
<tr>
<td>Malaysia</td>
<td>11%</td>
</tr>
<tr>
<td>South Africa</td>
<td>9%</td>
</tr>
</tbody>
</table>

Source: 2011 WHO Statistics Report
Deployment of available resources

- Optimization of hospital beds (plus day surgeries)
- Effective use of hospitals (50 beds) ?
- Electronic processes
- Duplication
Hospital Occupancy Rates

- Small Hospitals (50 beds): 29% (71% occupancy) to 71% (29% occupancy)
- Large Hospitals (400 beds and above): 7% (93% occupancy) to 93% (7% occupancy)
MoH Hospitals Per Bed Capacity

- 46% more than 500
- 14% 300-499
- 20% 150-299
- 6% 100-149
- 6% 51-100
- 6% 50
Quality Standards

- Accreditation
- Proper resources
- Improvement of hospital infrastructure
International Experience in Healthcare

- Australia
- Canada
- Ireland
- Jordan
- Malaysia
- Morocco
- Singapore
- South Africa
- Spain
- Tunisia
- UAE
- UK
- USA
Summary

- Continuous review
- Coordination and integration
- International trends
- Levels of implementation:
  - Capabilities
  - Social factors
  - Political systems and internal regulations
  -Problem solving on implementation
  - Time frame of implementation (5 – 10 years)
  - Time frame of expected results
INTEGRATED AND COMPREHENSIVE HEALTHCARE (ICHIC)
Traditional Healthcare System

- Hospitals
- Healthcare Center
- Referrals
Integrated and Comprehensive Healthcare System
Main Objectives

TODAY

FUTURE

- Central Hospital
- General Hospital
- Local Hospital A/B
- Primary Care Center
National Roll-out
Develop and restructure hospitals
Implement accreditation of MoH facilities
Ensure adequate supply of pharmaceuticals
Develop Human Resources
Develop medical information systems and E-health
Develop ambulance transportation system
Improve primary healthcare services
Improve patient referral system
Future Proposal

5 Medical Cities

Central Hospitals

General Hospitals

Local Hospital A/B

Healthcare Centers

Medical Specializations

Tertiary/Quaternary Care Services

Advance Care Services

Intermediate and Critical Care Services

Basic Medical Services

Primary Healthcare Services
PHC Services

- 750 new primary care centers
- Replace rental property with MoH owned facilities
- Increase from 2,086 to 2,736
- Transfer and referral system
- Electronic automation
Main Objectives

- Provision of an adequate ambulance transportation system
- Efficiency of resources
- Coordination and integration of all services
- Increased utilization of existing services
e-Health Work Plan

(Project) Solution Availability, Adoption & Usage Model

3-6 months
6 months – 2 years
1-5 ++ Years

Business Requirements & Gap Assessment

BUSINESS Led
Define Requirements & Benefits
Realization
Assess Gaps
-Scale
-Priority
-Governance
-Organization
-Policy
-Standards
-Change Impact
-People
-Processes
-Information
-Technology

Acquire Solution

BUSINESS & ICT
Led
-Specifications
-Standards
(Business, Technical, Interoperability)
-RFP Process
-Evaluate
-Select
-Procure
-Manage Vendor
-Set Targets per scale management

BUSINESS & ICT
Led
Solution
-Design
-Processes
-Configure
-Test
-Implement
-Manage Scale
-Operate
-Support
-Availability & Service Metrics

Target Driven Implementation: Solution Available

ICT & BUSINESS
Led (w/Vendor)
Solution

Business Adoption & Usage

BUSINESS Led
Gaps Closed, Change
Management driven adoption
-Toolkits
-Stakeholder Assessment
-Skills Development
-Solution Training
-Support
-Refine
-Adoption metrics

Benefits Realization

Business Led
Assess benefits to Patients, Clinicians, MoH

Assess Integration

Solution Selected

Solution Available

Solution Adopted

Value

Business Led - Address Gaps

Realize
Current e-Health Project

- Strategy and Change Management
- Cloud Computing
- Newborn Protection Solution
- Saudi PACS
- Home Care Support
- Referral Management System
- National e-Health Standards
- Hospital Information Systems
- Business Process Standards
- Patient Satisfaction
- Patient Satisfaction
Future e-Health Project

- Tele-Medicine Support Services
- E-Learning Services
- Public Health (HESN)
- Marketing And Communications
- Data Center Services
- National Healthcare Laboratory
- Hospital Information Systems (RFP Phase)
- Toxicology Management Services
Accreditation

- National accreditation program (CBAHI)
- International accreditation program (JCI)
Goals of ICHC

- Ease and timely access to care
- Comprehensive medical care services
- Automated referral system
- Equity to all levels of care
- Proper transfer and referral system
- Quality
- Safety
- Satisfaction
Challenges for Implementation

- Funding
- Resistance to change
- Demographics
- Electronic automation
- Performance measures
- Manpower training and development
Internal Consensus Building

- MoH
- Heads of Directorate
- MoH and Health Officials
- Health Committee Shoura Council
National Consensus Building

Heads of Directorate

- Equitable access of services and facilities
- Significant improvement of services

Health Committee–Shoura Council

- Modernization and increased efficiency
- e-Health system will improve coordination in healthcare delivery
International Consensus Building

- Hospitals should not be less than 150 beds
- MoH to focus on training and development to carry out implementation of project
- This approach has been adopted and validated by world-class health systems
## Budget Parameters (over the next 5 years)

<table>
<thead>
<tr>
<th>Operation Cost Per Bed</th>
<th>Quaternary Referral Hospital</th>
<th>SR1.8 m</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Central Hospital</td>
<td>SR 750,000</td>
</tr>
<tr>
<td></td>
<td>General Hospital</td>
<td>SR 500,000</td>
</tr>
<tr>
<td>Workforce</td>
<td>Medication</td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-----------------------------</td>
<td></td>
</tr>
<tr>
<td>Hospital (Physician per bed)</td>
<td>0.7</td>
<td></td>
</tr>
<tr>
<td>PHC (Physical per healthcare center)</td>
<td>4.32</td>
<td></td>
</tr>
<tr>
<td>Saudi population x 60% x SR500</td>
<td>SR 5.4 bn</td>
<td></td>
</tr>
<tr>
<td>Training</td>
<td>Employees x SR3000 per year</td>
<td>SR 529 m</td>
</tr>
<tr>
<td>----------</td>
<td>----------------------------</td>
<td>----------</td>
</tr>
</tbody>
</table>

| Ambulance | Less than 100-bed Hospital | 2        |
| Ambulance | 150 to 300-bed Hospital    | 3        |
| Ambulance | More than 400-bed Hospital | 5        |
ICHCC Implementation

- Develop and restructure hospitals
- Improve primary healthcare services
- Improve patient referral system
- Develop ambulance transportation system
- Develop medical information and e-Health system
- Develop Human Resources
- Ensure adequate supply of pharmaceuticals
- Implement accreditation of MoH facilities
10-Year Strategic Plan
Under the patronage of the Custodian of the Two Holy Mosques, His Majesty King Abdullah Bin Abdulaziz Al-Saud

THE LANCET Conferences
Mass Gathering Medicine
Implications and opportunities for global health security
October 23 – 25, 2010, Jeddah, Kingdom of Saudi Arabia

October 23 - 25, 2010
Jeddah Hilton, Jeddah, Kingdom of Saudi Arabia

Key Areas Of Discussion
- Implications of religion, foreign policy, and international health regulations in disease control
- Isolation, quarantine, vaccination, and sanitation challenges in preventing global pandemics
- Fundamental health-care delivery and proactive operation strategies
- Surveillance and IT system requirements
- Crowd management, infrastructure, safety and security issues
- Worldwide comparisons highlighting best practice and lessons learnt; Hajj, FIFA World Cup South Africa™ Olympics

Who Should Attend
- Medical officers / health-care professionals
- Public health experts
- Vaccine producers / vaccine policy experts
- Health security services / national and international
- Health surveillance specialists
- Mass gathering organisers
- Quarantine and outbreak officers / responders

Guest Speakers Include
- Gilles Poumerol, WHO, Switzerland
- Ali Khan, CDC, USA
- Philippe Gautret, North University Hospital, Marseille, France
- Jiri Dvorak, FIFAA / F-MARC, Zurich Switzerland
- Robert Steffen, University of Zurich, Switzerland
- Lucille Blumberg, NICD, South Africa
- Brian McCloskey, HPA, UK
- Bonnie Henry, BC CDC, Canada
- Kamran Khan, University of Toronto, Canada
- John Brownstein, Harvard Medical School, USA
- Anders Johansson, University College London, UK
- Maurizio Barbeschi, WHO, Switzerland
- Ibrahim Abubakar, University of East Anglia, UK
- Gary Brunette, CDC, USA

ACCREDITED CME HOURS

Don’t Miss Round Table Discussion Moderated by HE Minister of Health of KSA with Participation of Director General of WHO, Ministries of Health from the USA, Germany, Lebanon and several GCC Ministries

For more information please visit the website
http://conferences.thelancet.com/massgatherings
Innovations

Healthcare Finance Solutions

Public-Private-Partnership Health Insurance

Performance Measures

Strategic Alignment

Health Industry and Technology Transfer

Investment in IP Localization:
  - Economic
  - Self-sufficiency
  - National Security

Research

Access
Quality of Care
Quality of Life

EBM

Health Technology Assessment
Knowledge Translation
Clinical Practice Guidance
Projects

- 5 Medical Cities
- 190 Hospitals
- Mobile Clinics
- 1400 PHC
- Medical Devices
- Pharmaceuticals
- E-Health
King Faisal Medical City (Southern) and Prince Mohammad bin Abdulaziz Medical City (Northern Region)

King Fahad Medical City (Central Region)

King Abdullah Medical City (Western Region)

King Khalid Medical City (Dammam)
Opportunities

- Training for healthcare professionals
- Institutional Partnership
- Public–Private–Partnership
- Transfer of Technology
- Research
- Health Facility Development
Summary

- Healthcare is a promising avenue for collaboration but requires robust business–to–government initiatives.

- Opportunities are numerous and can be identified through the MoH 10–year strategic plan.
Presentation of the Project to the Custodian of the Two Holy Mosques (September 2009)

“Nothing is more precious than the health of citizens”
-The Custodian of the Two Holy Mosques
THANK YOU...