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Contents

Acknowledgements.....	4
Overview	5
Institutional Organizations	7
Reasonable Expectations for Jordan	7
Health Status Indicators for Jordan.....	9
Programs and Expenditure Policies	10
Secondary Health Care/Hospitals	11
Primary Health Care/Health Services Centers.....	16
Serums, Vaccines, Medicines, and Medical Consumables	26
Human Resource Development	29
Expanding the Health Insurance Umbrella and Civil Health Insurance	32
Administration and Support Services	38
Issues, Findings, and Recommendations	41
Budget Process and Program Administration.....	41
Secondary Health Care/Hospitals	43
Primary Health Care/Health Services Centers.....	44
Secondary Health Care/Hospitals and Primary Health Care/Health Services Centers.....	45
Human Resource Development	47
Serums, Vaccines, Medicines, and Medical Consumables	48
Expanding Health Insurance Umbrella and the Civil Health Insurance Fund (CHI)	48
Administration and Support Services	50
Current Services Projections	51
Bibliography	52

Tables and Figures

Table 1 - Total Health Expenditures in Selected MENA Countries, 2007	5
Table 2 - Trends in Selected Health Expenditure Indicators, 2000 – 2008	6
Table 3 - Selected Health Indicators in Jordan.....	9
Table 4 - Ministry of Health Expenditure Trends	10
Table 5 - Secondary Health Care/Hospitals Funding and Performance Indicators.....	11
Table 6 - Average Length of Stay, Occupancy Rates, and Hospital Beds in Jordan	13
Table 7 - Selected Hospital Statistics, Jordan 2009.....	14
Table 8 - Hospital Beds, by Governorate and Sector, 2009.....	15
Table 9 - Employment Trends Ministry of Health Hospitals.....	16
Table 10 - Primary Health Care/Health Services Centers - Funding and Performance Indicators.....	17
Table 11 - Primary Health Care/Health Services Centers, by Type and Location, 2009*	20
Table 12 - Trends in the Establishment of Health Centers, 1980 - 2009.....	21
Table 13 - Employment Levels and Categories in the Health Services Centers	22
Table 14 - Comprehensive Health Centers Patient and Provider Data.....	24
Table 15 - Primary Health Centers Patient and Provider Data.....	25
Table 16 - Peripheral Health Centers Patient and Provider Data	25
Table 17 - Serums, Vaccines, Medicines, and Medical Consumables - Funding and Performance Indicators.....	27
Table 18 - Trends and Shares of Pharmaceutical Spending in Jordan, 1998 – 2008	28
Table 19 - Human Resource Development Funding and Performance Indicators	30
Table 20 - Number and Distribution of Health Professionals in Jordan.....	31
Table 21 - Expanding Health Insurance Umbrella - Funding and Performance Indicators.....	33
Table 22 - Civil Health Insurance Funding and Performance Indicators	33
Table 23 - Trends in Civil Health Insurance Revenue and Expenditures.....	37
Table 24 - Administration and Support Services Funding and Performance Indicators	38
Table 25 - Trends in Ministry of Health Staffing and Funding.....	39
Table 26 - Current Services Budget Projections -- 2010 to 2016.....	51
Figure 1 - Sources of Health Care Financing in 2008	7
Figure 2 - Distribution of Comprehensive Health Centers	18
Figure 3 - Distribution of Primary Health Centers	19
Figure 4 - Distribution of Peripheral Health Centers.....	21
Figure 5 - Distribution of All Types of Health Centers	23

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Overview

Jordanians benefit from a relatively modern health system that is accessible and, in effect, provides health services coverage to virtually everyone.

Different sources estimate total health expenditures in Jordan at or around 9% of GDP—far higher than other low-middle income countries, and comparable with levels typically found in many developed countries. As

Table 1 shows, Jordan also boasts among the highest health expenditures, including public health spending and spending per capita, in the entire Middle East and North Africa (MENA) region.

Table 1 - Total Health Expenditures in Selected MENA Countries, 2007

Country	Total, % of GDP	Public % of Total	Percent of Private Out of Pocket	Per capita spending (in US \$)
Jordan	8.9%	60.6%	88.3%	\$248
Lebanon	8.8%	44.7%	77.6%	\$525
Iran, Islamic Republic	6.4%	46.8%	95.4%	\$253
Egypt, Arab Republic	6.3%	38.1%	95.1%	\$101
Tunisia	6.0%	50.5%	84.3%	\$211
Morocco	5.0%	33.8%	86.3%	\$120
Yemen, Republic	3.9%	39.6%	97.8%	\$43

Source: National Health Accounts, 2008

Considering the rapidly ageing population, its changing epidemiological profile, and anticipated population growth over the next decade, the *National Health Accounts (NHA) 2007* report stated:

“While it is difficult to make international comparisons of health care expenditures due to variations in national accounting practices as well as the structure of delivering and financing health services, this finding has been somewhat startling to policymakers. Jordan, with its limited resources, is consuming health care services at levels found typically among developed countries, and *when this is considered in terms of population growth rates and the aging population it becomes apparent that such [a] high level of expenditures [is] not sustainable.*” (Italics added)

In terms of the task ahead for health policy makers, the NHA states:

“Given the anticipated population growth in Jordan over the next decade, its changing epidemiological profile, and modest economic growth rates, sustaining the level of healthy care . . . will represent a significant challenge to policymakers. The implementation of an effective cost containment strategy will be necessary to curb the rising costs of health care services in the country.”

Table 2 presents multi-year trends for Jordan against several high-level health expenditure indicators, spanning the period 2000-2008.

Table 2 - Trends in Selected Health Expenditure Indicators, 2000 – 2008

Indicator	2000	2001	2007	2008
Sources of Health Care Financing: Public	36.5%	37.0%	54.9%	57.0%
Sources of Health Care Financing: Private	58.9%	58.1%	40.2%	37.5%
Sources of Health Care Financing: Donors	4.7%	4.9%	4.9%	5.5%
Health Expenditures, as % of GDP	9.2%	9.4%	8.6%	8.6%
Private Health Expenditures, as % of GDP	5.4%	5.6%	3.8%	3.3%
Public Health Expenditures, as % of GDP	3.4%	3.5%	5.3%	5.2%
Pharmaceutical Expenditures, as a % of GDP	2.7%	3.0%	3.1%	3.1%
Public Share	19.8%	18.5%	33.3%	38.4%
Private Share	80.2%	81.5%	66.7%	61.6%
Pharmaceutical Expenditures, as a % of Total Health Expenditures	29.1%	30.9%	34.0%	36.0%

Source: Jordan National Health Accounts, 2000 - 2008

A review of these trends suggests an agenda for the coming years for Jordan's health stakeholders and, in particular, for the Ministry of Health, the largest single source of health spending. Among others:

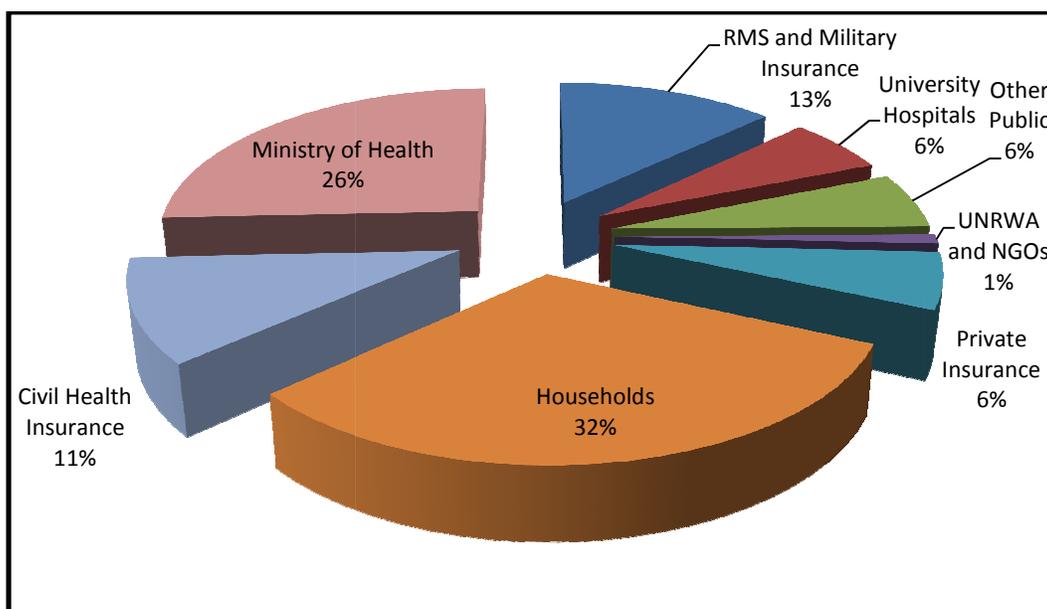
- The growth rate in the public share of health expenditures (+56%) and as a percent of GDP (+53%) -- in just 8 years -- is not sustainable;
- The growth in the public spending share is mirrored by a decline of 21 percentage points in the private share of health spending over the same period and this trend is likely to continue;
- Donor contributions at 5% total health care financing cannot be relied upon indefinitely; and
- Both public and private pharmaceutical expenditures, already high in comparison with higher income countries, need to be reined in; the public share has basically doubled in 8 years.

This sector analysis is prepared with the NHA stricture that current and past public spending for health is "unsustainable." The analysis will consider the programs and activities of the Ministry of Health and make recommendations for the coming years that can provide greater efficiency and effectiveness in program administration and slow the growth in Ministry of Health system costs.

Institutional Organizations

There are a number of agencies involved in the public health enterprise in Jordan. The Ministry of Health (MoH) is the largest provider of health services in Jordan and the second largest financing source, after households. Other major components of the public health care system are the Royal Medical Service (RMS), the university hospitals, and the Jordan Food and Drug Administration that, with the Ministry of Health, made up 57% of total health care spending in 2008. Private insurance and households, at a total of 38% of spending in 2008, represent the other major source of financing. Figure 1 displays graphically the distribution of health financing shares.

Figure 1 - Sources of Health Care Financing in 2008



Reasonable Expectations for Jordan

What results in health can be reasonably expected from Jordan? Typically, expectations for Jordan may be suggested by comparisons to the world's 56 lower middle income countries, 22 Arab World countries, and 13 developing Middle East and North Africa countries.

In addition to such traditional comparisons, an analysis was undertaken to compare Jordan's health sector to other countries by using World Development Indicators data maintained by the World Bank and regression analysis to forecast expected values for that data. Regression analysis of the cross-country data provided estimates of expectations that demonstrate how Jordan is performing relative to what can reasonably be expected. In modeling demands for health spending, health services delivered, and health outcomes and in comparing Jordan's results to what would normally be expected, the results are positive.

Based on predictions from the worldwide regression model Jordan's public health spending as a share of GDP is more in Jordan than the expected amounts. For instance, the model predicts that Jordan public health spending would be about 4.9% of GDP, given its per capita income level and the size of its government. Its actual health spending, as a percent of GDP, is 5.4%.

Other findings from the regression model suggest how Jordan is performing compared to expectations. With respect to the supply of health professions and hospital beds, for example, the model suggests:

- A supply of physicians of 1.5 and 3.2 nurses and midwives per 1,000 Jordanians. In fact, the supply of physicians is 2.6 and nurses is exactly 3.2; and
- An expected value of 2.5 beds per 1,000 Jordanians compares to an actual of 1.8 beds.

The number of hospital beds does not suggest medical services in Jordan are not up to expectations, but perhaps the need for tertiary care is lower in Jordan compared to the countries with similar spending levels.

Other measures of the quality of a country's health care system are the levels of services supplied to children less than five years of age, prenatal care, low weight babies, child mortality, and life expectancy. The comparison of expectations and actual services indicate, for:

- The percentage of children receiving care, the model suggests 69%, whereas the actual percentage is 75%;
- Immunizations, an expected value for children between 12 and 23 months for DPT (diphtheria, pertussis, and tetanus) is 88% and the actual in Jordan is 97% and, for measles, 87% compared to an actual of 95%;
- Prenatal care, the model suggests 87.7%, whereas the actual in Jordan is 99%;
- Low weight babies, an expected rate of 8.7%, compared to an actual of 12.6%;
- Child mortality, an rate of 54.4 child deaths per 1,000 births compares to the actual of only 19.9; and
- A life expectancy of 67 years for men, compared to the actual of 70 years.

Thus, the expectation model, using quality-weighted variables, e.g., suggests that the quality of Jordan's health services exceed the expected value for almost every variable explored.

Health Status Indicators for Jordan

Table 3 - Selected Health Indicators in Jordan

Indicator	1980	1985	1990	1995	2005	2009
Population (millions)	2.2	2.7	3.5	4.3	5.5	6.0
Life expectancy at birth:						
Female	67.4	71.0	68.0	70.0	72.4	74.4
Male	65.5	67.0	64.0	66.0	70.6	71.6
Infant mortality per 1,000 births	70	60	37	28	22	23
Maternal mortality per 100,000 births	n/a	n/a	40 - 60	40 - 60	40.3	19.1
Child immunization rates (percent of children, 0 - 24 months):*						
Measles	n/a	65%	87%	92%	100%	103%
DPT 3	n/a	89%	98%	100%	95%	103%
Polio	n/a	n/a	98%	99%	95%	103%
HBV	n/a	n/a	n/a	n/a	95%	103%
Access to improved water (percent of households)	n/a	n/a	n/a	n/a	n/a	97%
Fertility rate (live births per woman)	7.8	7.0	5.5	4.6	3.7	3.8
*in excess of 100% due to refugee children						

Source: Ministry of Health, Health Economics Directorate

Jordan has made significant progress over the years in a number of important health indicators.

This is consistent with the expectations derived from the model described above. As can be seen from Table 3, since 1980, Jordan has attained marked improvements in life expectancy (an increase of just under 10% for men and just over 10 % for women) and reducing infant mortality (by 200 %). Child immunization is currently universal and access to improved drinking water is near 100 %.

One area that stands out among these indicators, however, is the fertility rate. Since 2005, it has increased slightly, rather than declined. A reduction in the fertility rate has been identified in the National Agenda as a priority.

Programs and Expenditure Policies

The activities of the Ministry of Health are conducted through six programs:

- Secondary Health Care/Hospitals Program;
- Primary Care/Health Services Centers Program;
- Serums, Vaccines, Medicines, and Medical Consumables Program;
- Expanding Health Insurance Program and the Civil Health Insurance Fund;
- Human Resource Development Program; and
- Administration and Supportive Services Program.

The following presentation is structured around the Ministry of Health's six programs, as presented in the annual Budget Laws.

Table 4 - Ministry of Health Expenditure Trends

Ministry of Health Programs	JD, Millions								
	2005	2006	2007	2008	2009	2010	2011 Budget	Indicative	
								2012	2013
Primary Health Care/Clinics	43.4	44.5	63.4	56.3	57.9	74.5	80.1	81.2	82.3
Secondary Health Care/Hospitals	117.4	150.3	167.9	146.5	171.8	153.0	152.6	164.2	164.1
Serums, Vaccines, Medicines, and Medical Consumables	---	---	---	60.6	91.0	60.5	60.0	75.7	93.2
Human Resources Management	2.5	2.4	2.5	3.1	3.4	4.1	4.2	4.3	4.7
Health Insurance Umbrella	---	---	---	91.5	143.0	125.5	95.5	95.5	96.5
Administration and Supportive Services	6.9	13.6	3.3	20.5	27.3	28.6	36.0	36.6	35.5
Total Ministry of Health	170.2	210.8	237.2	378.5	494.4	446.2	428.4	457.5	476.3
Percent of GDP	2.0%	2.0%	2.0%	2.3%	2.8%	2.3%	2.0%	1.8%	1.7%

Source: Ministry of Health, Budget Directorate

The total number of positions in the Ministry of Health in the 2011 Budget Law is 28,718. These include the staff and employees of the 31 hospitals and over 1,400 health centers that under the Ministry. Under a highly centralized management system, the Ministry plans, allocates, and controls all resources provided for these entities in the annual budget laws. Individual hospitals and centers do not have individual budgets that their directors develop annually for discussion and review with central management and that they manage once the Budget Law is passed. After Parliament approves the annual Budget Law, the Ministry's Financial Administration pays directly for all their salaries, benefits, supplies, equipment, pharmaceuticals, etc.

As part of the Government-wide results oriented budgeting initiative, the Ministry adopted program performance indicators for all of its programs in the 2011 Budget Law request and they were approved by Parliament. The specific performance indicators are presented and discussed under each of the six programs. Additions or alternative suggestions for consideration during the preparation of the Budget Laws for 2012 – 2014 are identified in the discussions of each program area.

Secondary Health Care/Hospitals

This is the largest program in the Ministry of Health. Hospital care is provided through a network of 31 hospitals comprising 4,358 beds in 2011. The Ministry of Health estimates that every Jordanian citizen is within 30 minutes maximum driving time of one of its hospitals.

Table 5 - Secondary Health Care/Hospitals Funding and Performance Indicators

Expenditures	JD, Millions				
	2009	2010	2011	Indicative	
	Actual	Estimate	Budget	2012	2013
Current Expenditures	129.6	122.7	121.6	128.9	134.5
Capital Expenditures	42.1	28.7	36.2	40.5	34.8
Total	171.7	151.4	157.8	169.4	169.3
Program Performance Indicators	First Staff Evaluation 2010	Target			
		2011	2012	2013	
1. Hospital bed occupancy rate	75%	68.6%	3.1	70.0%	
2. Average length of stay (days) in Ministry hospitals	3.2	3.2	6	3.0	
3. Number of hospitals accredited by the Health Institutions Accreditation Council	2	4	7%	8	
4. Hospital infection rate in Ministry hospitals	8%	8%	5	6%	
5. Number of hospital kidney dialysis units operating 3 shifts	3	4	10%	6	
6. Percent of Ministry of Health hospitals with an assigned emergency medicine physician	5%	6%	3.1	12%	

Source: 2011 Budget Law

Total funding for the Ministry of Health hospital program will decline from a high of JD 172 million in 2009 to an indicative funding level of JD 163 million in 2013; this is due primarily to a reduction in capital funding, reflecting completion of several capital projects. In 2011, the funding level of JD 158 million for hospital activities represents 36 % of total Ministry of Health expenditures. This program has a staff of 15,620, or about 54%, of the Ministry of Health total positions in 2011.

The 31 hospitals receive direction and technical support from 10 headquarters units. These units cover:

- Outpatient and emergency care, and medical, nursing, and dental specialties;
- Clinical pharmacology, clinical laboratories, and radiological services; and
- Blood banking, quality, and supervision and follow-up.

Performance Indicators

Performance indicators in the 2011 Budget Law for Secondary Health Care/Hospitals are set out in Table 5 above.

Generally speaking, these are useful performance indicators, particularly, the outcome performance indicator of the hospital (“nosocomial”) infection rate. In the future, another outcome measure that the Ministry may wish to consider for this program is the hospital readmission rate.

At some point, however, performance indicators that measure productivity, e.g., costs per bed, etc., efficiency, e.g., average hospital staff per bed, and effectiveness, e.g., hospital re-admission rates, would provide more refined metrics for evaluating program performance and outcomes. The collection of combined cost and productivity information for individual hospitals would permit both the hospital directors and headquarters program managers to identify the need for management improvements and would assist in allocating resources for the hospitals in a rational, objective manner.

Such performance indicators may be more important than, for example, accreditation. Accreditation is a common goal of hospital programs generally and is required in order to receive reimbursements in some countries. Nevertheless, its direct relationship to the quality of health care services is difficult to correlate.

Hospital Occupancy Rates and Lengths of Stay

As reflected in Table 6 below, the total number of hospital beds in Jordan has almost doubled in 20 years, between 1990 and 2009. The occupancy rate, however, has stayed in pretty much the same range over that period.

Table 6 - Average Length of Stay, Occupancy Rates, and Hospital Beds in Jordan

	1980	1985	1990	1995	2005	2009
Ministry of Health Hospitals (30)						
Average length of stay	n/a	3.9	3.1	3.5	3.2	3.2
Average occupancy rate	n/a	69%	65%	66%	71%	69%
Number of beds	1,455	1,909	2,233	2,942	4,633	4,633
Ministry of Defense RMS (11)						
Average length of stay	n/a	6.0	5.0	4.5	4.2	4.0
Average occupancy rate	n/a	67%	65%	74%	78%	80%
Number of beds		1,318	1,507	1,731	1,917	2,131
Private Hospitals						
Average length of stay	n/a	2.8	3.1	2.5	2.4	2.2
Average occupancy rate	n/a	39%	43%	48%	48%	51%
Number of beds	815	1,535	1,506	2,306	3,306	3,526
University Hospitals						
Average length of stay	n/a	n/a	5.0	4.5	4.7	4.0
Average occupancy rate	n/a	n/a	65%	72%	74%	65%
Number of beds	n/a	481	507	461	924	1,113
Totals						
Average length of stay	n/a	4.1	3.5	3.5	3.5	3.5
Average occupancy rate	n/a	59.6%	59.9%	61.6%	64.1%	61.7%
Number of beds	3,814	5,243	5,723	7,440	9,618	10,863

Source: Ministry of Health, Health Economics Directorate

The total number of beds has grown by 90%, but over one-third of the beds are unoccupied.

As Table 6 indicates, the average lengths of stay (ALOS) in Ministry of Health hospitals are significantly higher than those of the private sector. The extent to which this is a function of the case mix, e.g., more complex admissions in Ministry of Health hospitals, has not been documented. Nevertheless, as noted in the performance indicators for the Secondary Health Care/Hospitals program, the Ministry has an ALOS target of 3.0 days by 2013, down from the current level of 3.2 days. Table 7 indicates that the average Ministry of Health hospital bed occupancy rate for 2009 was 68.6%. The Royal Medical Service, by contrast had a bed occupancy rate of 80%, along with ALOS of four days.

Table 7 - Selected Hospital Statistics, Jordan 2009

Health Sector Component	Hospitals Beds				Inpatients		Outpatients
	Number	% of Total	Average Length of Stay	Average Occupancy Rate	Number	% of Total	
Ministry of Health	4,193	39%	3.2	68.6%	326,730	38.8%	377,008
Royal Medical Service	2,890	27%	4.0	80.0%	157,034	18.7%	150,965
Official Universities							
Jordan University Hospital	519	5%	4.3	66.0%	29,026	3.4%	28,492
King Abdullah Hospital	494	5%	3.6	63.7%	30,495	3.6%	30,005
Private Sector	3,526	32%	2.2	51.3%	298,618	35.5%	290,795
Grand Total	10,863	---	2.9	61.7%	841,903	---	877,265

Source: Ministry of Health, Health Economics Directorate

According to the Ministry's Annual Statistical Book 2009, bed occupancy rates vary significantly among the Ministry's 31 hospitals, from a low of 10% at the Al-Rueshid Hospital to a high of 94.2% at Princess Rahma Hospital.

The number of beds in a hospital is a critical factor, not just the occupancy rate. Moreover, as with all averages, there must be hospital bed occupancy rates above and below the average. Nevertheless, within the overall statistics, the Ministry's Annual Statistical Book 2009 indicates that:

- Al-Rueshid Hospital, for example, has only 17 beds and an occupancy rate of 10.1%, whereas Princess Rahma Hospital with 109 beds and had an occupancy rate of 94.2%;
- Al-Basheer Hospital, with 930 beds, had an occupancy rate of 79.4% in 2009, closer to the 80% - 85% range, often identified as the optimally efficient hospital occupancy rate; but

On the other hand, Prince Hamza Hospital, with 399 beds, had an average bed occupancy rate of just under 51%.

The private sector has an occupancy rate of 51.3% and an ALOS of 2.2 days. Both Al-Basheer Hospital (at 3.3 days) and Prince Hamza (at 3.4 days) had significantly higher ALOS than the private sector. In total, Ministry of Health hospitals' ALOS declined from 71% in 2005 to 68.6% in 2009.

Internationally, it has been estimated that an empty hospital bed costs two-thirds as much to maintain as an occupied hospital bed, due to fixed maintenance and personnel costs. If this is true in Jordan, then there are opportunities to achieve significant cost savings by reducing the number of beds maintained.

Table 8 provides some perspectives on hospital bed capacity by Governorate and sector, as of 2009.

Table 8 - Hospital Beds, by Governorate and Sector, 2009

Governorate	Ministry of Health	Royal Medical Service	Jordan University Hospital	King Abdullah Hospital	Private	Total	Beds per 10,000 Population*
Capital **	1,441	1,226	519	---	2,914	6,100	26
Irbid	782	281	---	494	326	1,883	18
Zarqa	450	227	---	---	284	961	11
Balqa***	248	---	---	---	---	248	6
Mafraq	190	---	---	---	40	230	8
Karak	207	150	---	---	98	455	20
Jarash	135	---	---	---	15	150	8
Madaba	142	---	---	---	30	172	12
Ajlun	105	---	---	---	---	105	8
Aqaba	---	127	---	---	80	207	16
Ma'an	203	---	---	---	---	203	18
Tafiela	---	120	---	---	---	120	14
Totals	3,903	2,131	519	494	3,787	10,834	---
Percent of Hospital Beds	36.0%	19.7%	4.8%	4.6%	35.0%	100.0%	18
*5,980,000 Department of Statistics estimate							
** Excludes Karmeh (165 beds) and National Center for Addict Rehabilitation (40 beds)							
***Excludes National Center for Psychiatry (250 beds) and Al Rasheed Al Nafsi (66 beds)							

Source: Ministry of Health Annual Statistical Book, 2009

There are also opportunities to eliminate or downsize Ministry hospitals in some areas while relying more heavily on the private sector and the university teaching hospitals, whose occupancy rates are 64% and 66%, respectively. This is particularly true for complex and specialty care in Amman, Irbid, and Zarqa.

In Irbid, for example, there are 17 hospitals with almost 1,900 beds. Of these, the Ministry of Health has eight hospitals with 782 beds, King Abdullah Hospital has roughly 500 beds, the RMS has 218 beds, and the private sector has 326 beds. In addition, King Abdullah Hospital has another 150 beds that it has not opened, according to the WHO Regional Office for the Eastern Mediterranean. Some of the questions that arise about hospital capacity in Irbid include, for example:

- Are 17 hospitals really needed to serve the needs of the region? Does the Ministry of Health need eight hospitals in Irbid, in light of the total potential capacity and other government hospitals in the area?
- Are the costs associated with 17 of free standing facilities warranted, in terms of overall limited national resources and health system priorities?
- Given the size of the region, what are the opportunities for consolidation of Ministry of Health hospitals and reliance on the local transportation capacity to support access to its hospitals?
- What are the opportunities for contracting out care and sharing technology on a reimbursable or exchange basis?

There are no doubt a number of other questions that could be raised in terms of individual hospital size efficiency, bed occupancy rates, and ALOS in Irbid. Similar issues could be raised with respect to the hospital infrastructure in Amman and other locations.

The completion of a new hospital in Zarqa would seem to provide a unique opportunity to determine the extent to which private management can provide effective and efficient care at affordable rates. The Ministry should consider selling the hospital or contracting out its management and care to the private sector with this objective in mind. Presumably, it is a modern facility that was designed with efficiency in mind. The Ministry would be able to compare costs, treatment results, occupancy, stays, and other performance measures with the other Ministry hospital in Zarqa, Prince Faisal Hospital, as well as some of its other hospitals.

The trends in hospital staffing can be seen below in Table 10. From 1995 to 2009:

- Total employment rose 85%;
- The number of physicians employed in hospitals grew 95%; and
- Total nursing staff increased 153%.

The Secondary Health Care/Hospitals program employed just under 2,500 physicians in 2009. Thus, employment levels have increased dramatically in 15 years.

Table 9 - Employment Trends Ministry of Health Hospitals

Categories	1980	1985	1990	1995	2005	2009
Physicians	350	663	956	1,274	2,121	2,486
Dentists	4	6	13	20	72	77
Pharmacists	7	15	21	47	98	138
Registered Nurses	193	301	440	1,246	2,099	2,740
Associate Degree Nurses	---	---	---	---	1,212	1,152
Assistant Nurses	651	335	1,090	1,381	1,701	1,364
Other	356	1,148	1,615	1,830	2,424	2,754
Totals	1,561	2,468	4,135	5,798	9,727	10,711

Source: Ministry of Health, , Secondary Health Care/Hospitals Program, Supervision and Follow Up Directorate

Annexes A, B, and C illustrate the basic data that needs to be collected as a first step in reviewing the hospitals and hospital bed distribution in analyzing opportunities to consolidate and rationalize the Ministry's hospital system and take advantage of private and university hospital capacity and technical capabilities.

Primary Health Care/Health Services Centers

This program is the Ministry of Health's main vehicle for the delivery of outpatient medical services to Jordanian citizens.

Table 10 below shows the growth from 2009 to 2011 in funding for, and numbers of centers -- growth of just under 42% in funding and an increase in the number of centers by 142, or 10.6%. The bulk of expenditures is devoted to current expenditures. These data suggest that more centers are being established with less funding on average to support them.

Table 10 - Primary Health Care/Health Services Centers - Funding and Performance Indicators

Expenditures	JD, Millions				
	2009	2010	2011	Indicative	
	Actual	Estimate	Budget	2012	2013
Current Expenditures	50.1	65.4	73.1	75.6	78.8
Capital Expenditures	7.8	9.0	9.0	7.6	5.6
Total	57.9	74.4	82.1	83.2	84.4
Program Performance Indicators	First Staff Evaluation 2010	Target			
		2011	2012	2013	
1. Percent of public drinking water supply systems in compliance with health standards	94%	95%	96%	97%	
2. Percent of children (aged 0 – 12 months), who received all vaccinations in the national vaccine program	99%	99%	99%	99%	
3. Percent of newborns surveyed	45%	55%	65%	75%	
4. Percent of children under age 1 who have been diagnosed and referred for disability services	---	2%	3%	5%	

Source: 2011 Budget Law

Performance Indicators

The performance indicators in the 2011 Budget Law for the Primary Care/Health Services program under the results-oriented budgeting initiative shown in Table 12 are relevant, but they do not address what should be the most important measurable activities of the clinics. For instance, the immunization rate for children under the age of 12 months has been close to 100% for several years. While it is important to maintain these levels, the system is in place and maintaining them is not a challenging indicator for the program.

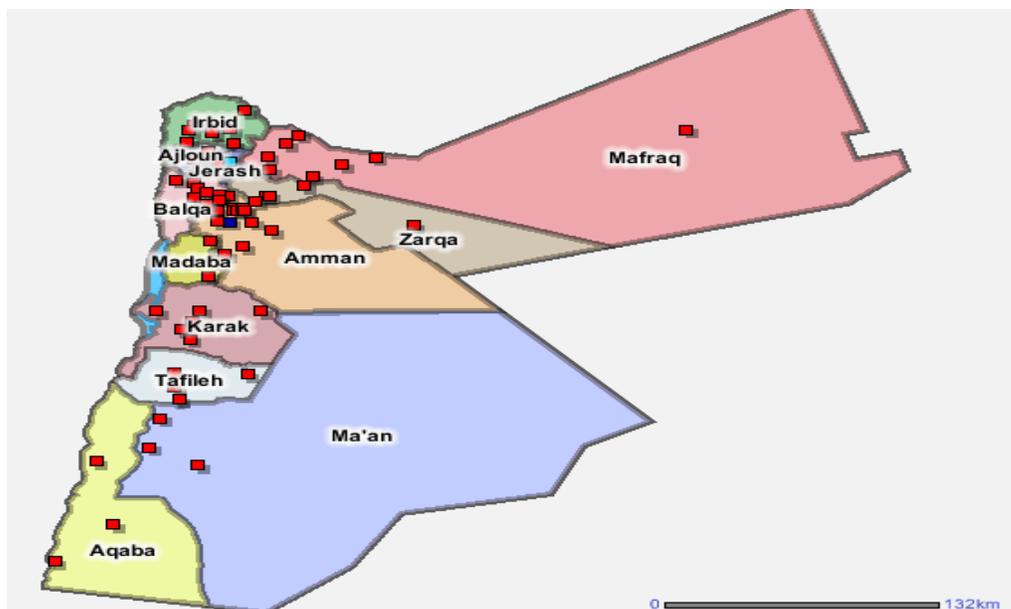
There are, however, important indicators in the Ministry's Strategic Plan 2008-2012 that should be among the program's performance indicators; these include reductions in:

- The total fertility rate from 3.7 to under 3.0;
- The maternal mortality rate from 41/100,000 live births to 25/100,000 live births;
- Infant mortality by 25% of the current value of 22/1,000 live births; and
- The incidence of chronic diseases associated with lifestyles.

These should be incorporated into the program's performance indicators for the 2012 Budget next year and monitored over the medium term. In the coming years, moreover, much like for the hospital program, it makes sense to develop performance indicators that measure center productivity, e.g., costs per patient seen at the various centers, etc., and efficiency, e.g., the number of patients seen per physician and other clinical professionals. Productivity information exists to some extent, but it is not linked to cost data for individual centers, nor is it prepared or reviewed in a structured manner. Linking service levels at individual centers with individual budgets would permit program

managers in headquarters to (i) identify needs for management improvements and (ii) allocate objectively resources for the centers.

Figure 2 - Distribution of Comprehensive Health Centers



Source: Ministry of Health website

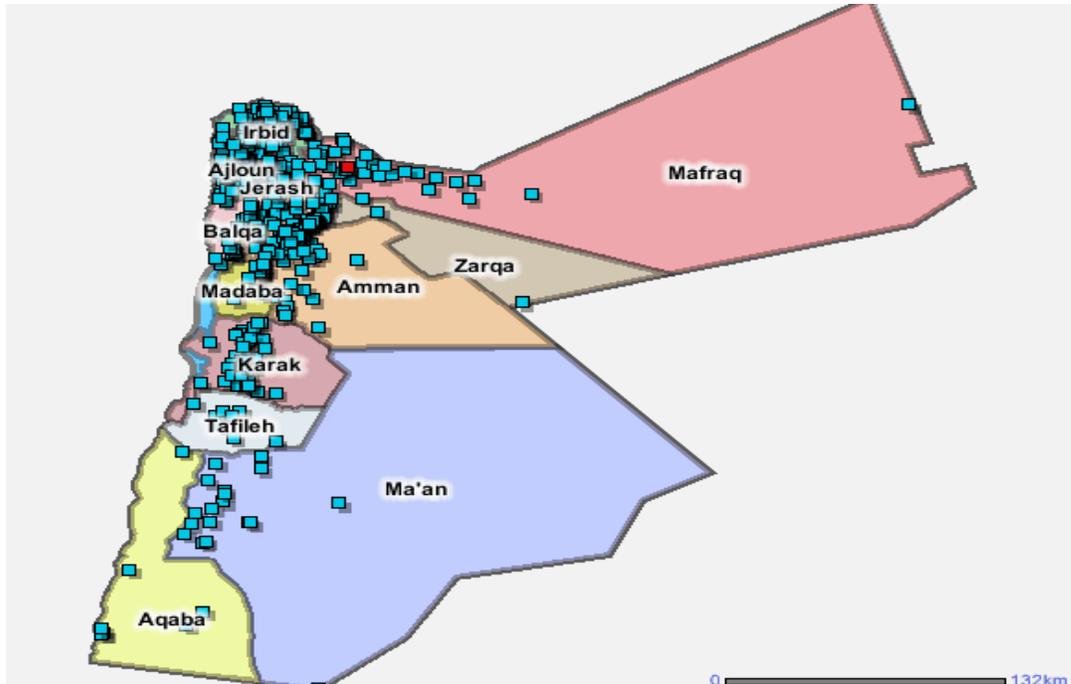
Among the services offered by the Primary Health Care/Health Services Centers program are smoking cessation clinics. Smoking cessation is such a difficult problem, but an outcome performance indicator that measures the success of the clinics, e.g., percent of cessation clinic attendees who completed the clinics and were not smoking a year after completion, would measure the success of the clinics and would be important in determining whether resources spent in such an effort are effective.

Other performance indicators related to the smoking cessation clinics would be the persistence rate, i.e., of those who started, how many completed the clinic regimen. The total clinic costs divided by the number of individuals completing the clinics should be identified. Such an approach may be applicable to other priority activities of the program, particularly those designed to influence behavior to reduce the incidence of disease.

Smoking is an important issue for improving mortality and morbidity. Given the costs, there are limits to what can be accomplished by a few smoking cessation clinics. The Government has adopted laws and policies to reduce smoking, but more needs to be done. In particular:

- The exemption of hotels and restaurant from the general prohibition on smoking in public facilities should be terminated;
- Taxes on tobacco products need to be increased significantly; and
- The rules that prohibit smoking in public buildings need to be enforced, e.g., in the Ministry of Health itself, police stations, hospitals, and centers. Currently, smoking continues unabated in these facilities.

Figure 3 - Distribution of Primary Health Centers



Source: Ministry of Health website

Several Primary Health Care/Health Services Centers headquarters units in the Ministry of Health provide leadership to the over 1,400 clinics in the form of guidance and technical support, as well as emergency response efforts, as needed. These units cover:

- Disease control activities, such as the prevention of the spread of infectious diseases (including nosocomial infection in the hospitals);
- Non-communicable diseases and occupational health;
- Maternal and child health and school health;
- Environmental health and health education and information; and
- Chest diseases and immigrant health.

At some point, performance indicators for these units would be desirable to begin to measure their contribution to achieving the program's objectives.

Numbers and Types of Centers and Services.

The Primary Health Care/Health Service Centers Programs encompasses the activities of three distinct types of centers: comprehensive, primary, and peripheral health centers. Also included in this program is a large number of dental and mother and child health centers.

Table 11 shows the number of primary care centers by type and location as of 2009.

The services offered by the different types of centers vary. Comprehensive health centers, for example, generally offer a full range of services, and, at a minimum, they offer obstetrics and

gynecology, internal medicine, pediatrics and outpatient surgery. A dental or mother and child center is generally co-located with each comprehensive center. Primary health care centers, on the other hand, offer outpatient services by general practitioners and, in some cases, family practitioners. They may also have a dental and/or a mother and child center.

Table 11 - Primary Health Care/Health Services Centers, by Type and Location, 2009*

Location	Comprehensive Health Centers	Primary Health Centers	Peripheral Health Centers	Mother and Child Centers	Dental Clinics	Total
Amman	9	37	12	41	33	132
East Amman	4	31	21	31	23	110
Madaba	2	12	17	14	11	56
Zarqa	7	29	6	35	27	104
Balqa'	6	23	16	29	22	96
Deir Alla	1	9	5	12	10	37
South Shouneh	---	8	4	8	7	27
Irbid	6	40	15	42	35	138
North Jordan Valley	---	9	5	8	6	28
Ramtha	1	12	0	13	9	35
Qura	2	11	1	13	12	39
Bani Kinanah	---	16	5	18	12	51
Ajloun	4	14	10	22	21	71
Jerash	2	17	9	18	16	62
Mafraq	6	26	22	29	21	104
North Badia	3	13	15	14	12	57
Kerak	6	33	29	38	30	136
South Jordan Valley	1	3	3	3	3	13
Tafeleh	4	10	8	16	14	52
Ma'an	3	18	21	19	15	76
Aqaba	3	7	12	8	10	40
Total	70	378	236	431	349	1,464

Source: Ministry of Health, Health Economics Directorate

Peripheral (also, sometimes, called “village”) health centers, on the other hand, are usually served by itinerant Ministry physicians, who are typically responsible for more than one peripheral center, with scheduled hours during which physician visits take place.

Table 12 - Trends in the Establishment of Health Centers, 1980 - 2009

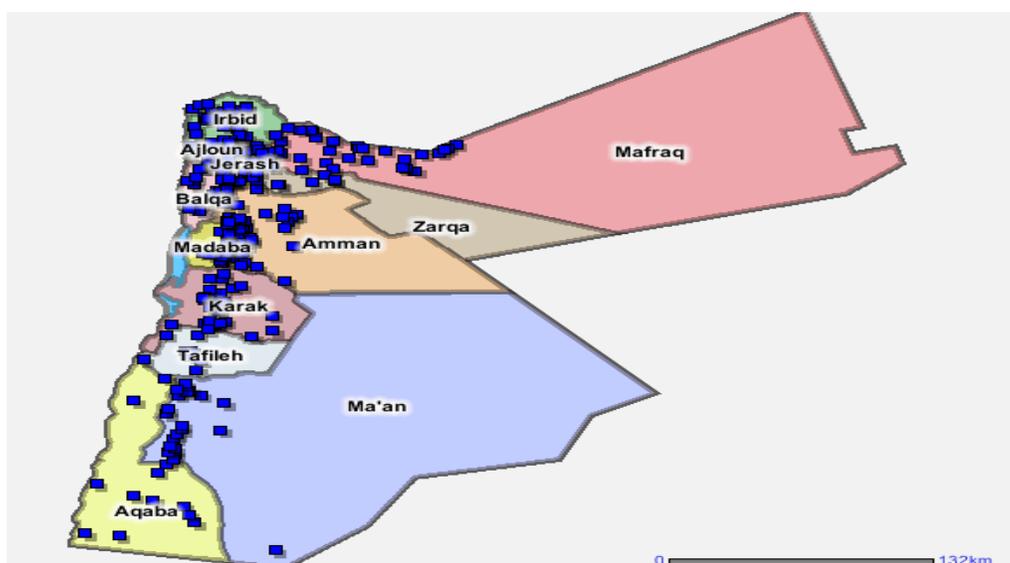
Types of Center	1980	1985	1990	1995	2005	2009
Comprehensive health centers	n/a	n/a	15	36	57	70
Primary health centers	88	188	306	319	368	378
Peripheral health centers	283	227	237	265	238	236
Mother and child centers	62	101	232	287	385	431
Dental clinics	43	58	114	166	274	349
Totals	476	574	904	1,073	1,322	1,464

Source: Ministry of Health, Health Economics Directorate

As can be seen from Table 12, the total number of health centers has grown dramatically, by about 35%, since 1995. Comprehensive health almost doubled, as did dental centers.

The centers are the Ministry’s primary vehicle to promote family planning, school health, and behavioral changes through patient information. They also serve as the “front line” in combating communicable diseases and developing non-communicable disease registries and they function as screening mechanisms for early detection of diseases.

Figure 4 - Distribution of Peripheral Health Centers



Source: Ministry of Health website

In total, the Primary Health Care/Health Services Center program accounts for 10,977 employees, or 38% of the Ministry of Health’s employees.

Table 13 shows the distribution of 10,201 staff at the 864 centers by categories of health professions employees. The total 87% of the program’s total employment, including over 1,100 physicians.

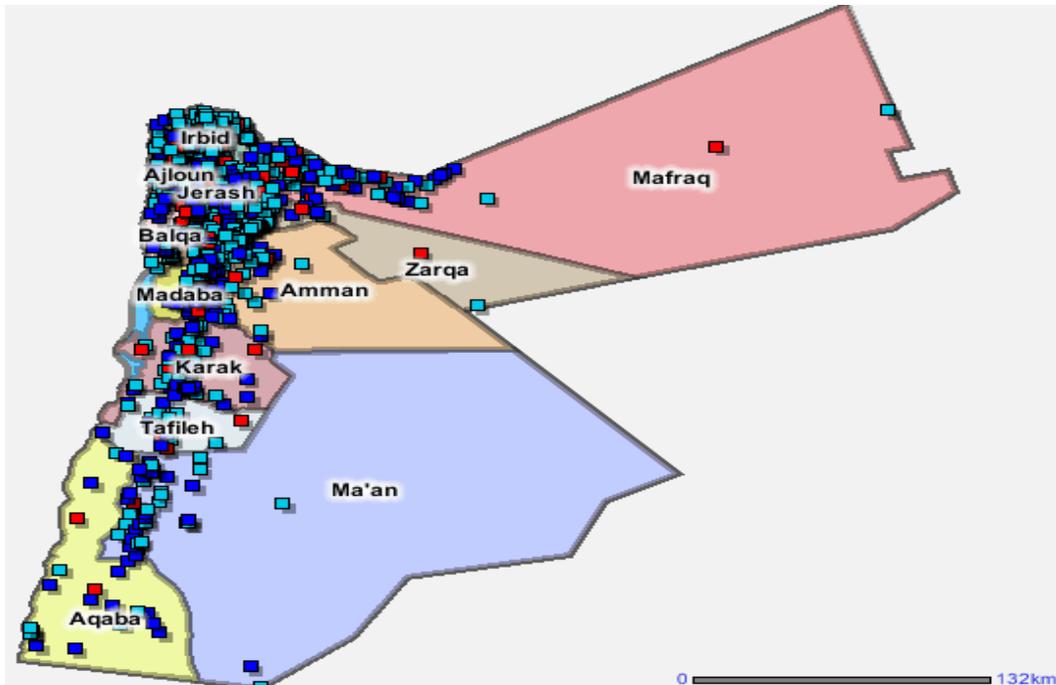
Table 13 - Employment Levels and Categories in the Health Services Centers

Location	Number of Centers	Physicians	Dentists	Pharmacists and Assistant Pharmacists	Nurses and Midwives	Technicians	Controllers and Accountants	Others	Total
Amman	58	247	83	137	208	85	84	458	1,360
East Amman	56	118	38	69	97	37	53	352	820
Madaba	34	45	16	38	96	20	13	227	489
Zarqa	42	96	31	68	106	38	51	214	646
Balqa'	45	71	47	72	174	39	75	266	789
Deir Alla	15	15	9	12	50	9	8	45	163
South Shouneh	12	14	8	12	28	4	---	42	120
Irbid	61	120	47	86	250	31	154	263	1,012
North Jordan Valley	14	15	4	14	66	5	32	30	180
Ramtha	13	28	12	17	57	18	23	37	205
Qura	14	24	11	16	48	12	22	76	223
Bani Kinanah	21	20	14	23	71	3	30	28	210
Ajloun	28	30	19	28	139	27	50	159	480
Jerash	28	29	23	30	109	19	23	52	313
Mafraq	54	62	28	46	201	35	23	204	653
North Badia	31	26	13	18	100	25	19	113	345
Kerak	68	64	32	53	312	47	18	380	974
South Jordan Valley	7	7	2	5	19	3	5	38	86
Tafeleh	22	29	16	31	150	26	28	126	428
Ma'an	42	57	21	26	101	31	30	67	375
Aqaba	22	34	16	24	66	24	4	143	333
Total	684	1,151	490	825	2,448	538	745	3,320	10,201

Source: Ministry of Health, Health Economics Directorate

Figure 5 maps the location of comprehensive, primary, and peripheral health centers throughout Jordan. The growth and placement is not based on a cohesive plan. Centers are often location within several kilometers of one another and/or a hospital.

Figure 5 - Distribution of All Types of Health Centers



Source: Ministry of Health website

For example, in one area there are three peripheral centers, a comprehensive health center, and a hospital within 10 kilometers of one another. In another, a primary health center was located within 4 kilometers of a comprehensive health center; in this instance, the health center was very crowded and busy, but the primary health center was not. Such close proximity of hospitals and centers is not unusual. Superimposing the various centers on the map of Jordan, as shown in Figure 5 – even allowing for the scaled of the map – illustrates the point for center numbers and locations.

The existence of so many centers in proximity to each other and to hospitals wastes valuable resources, not the least of which is physician manpower. As the availability of resources tightens, it is important to review what is really needed to provide health services efficiently. One of the complaints heard from Ministry staff is that patients bypass the centers and go directly to hospitals. This could be taken as a message. In public parks and universities, visitors and students usually take the shortest route between two points, even if this means walking and eventually killing the grass. This practice reflects that fact that the system has not adapted to their preferences in terms of providing walkways. For the health centers, the system needs to respond to patient demands, even if it means eliminating low utilization primary care and peripheral health centers and relying more on comprehensive centers and hospitals and addressing issues of staff reassignment and redundancy that such changes entail.

Rationalizing and reducing the number of centers, based on analyses of proximity, utilization, and costs would free up resources to improve the management of patient care, e.g., computers for managing patients and prescription drugs, facility maintenance, and travel allowances for itinerant peripheral health center physicians, to mention a few. All of these seem to be major issues for the centers and their staffs, as well as for hospitals. As part of a needed proximity analysis, consideration should be given to opportunities to substitute transportation services for fixed centers, a much cheaper alternative to renting and maintaining so many centers.

Center Utilization and Productivity

A Jordan health map maintained on the Ministry of Health website contains much useful information about the Ministry's hospitals and centers. Table 14 and Table 15 show the relative time spent with patients and the number of patients seen daily in randomly selected comprehensive health centers and primary health centers in Amman. In order to illustrate how basic analysis can be performed, 251 working days in 2009 and 8 hour center working days were assumed.

Table 14 - Comprehensive Health Centers Patient and Provider Data

Center Name	Doctor and Dentist Visits	Number of Doctors and Dentists	Average per Provider	Patients per		Minutes per Patient
				Day	Hour	
Amman Al-Shameli Health Center	166,615	35	4,760	19	2.4	25.3
Al-Amira Basma Health Center	126,000	17	7,412	30	3.7	16.3
Al-Weibdeh Al-Sharqi Health Center	62,576	15	4,172	17	2.1	28.9
Al-Hashimi Al-Shamali Health Center	139,003	11	12,637	50	6.3	9.5
Total	494,194	78	6,336	25	3.2	19.0

Source: Ministry of Health website

Table 13 illustrates significant differences in average patient visits per provider and the time spent with patients among four randomly selected comprehensive health centers in Amman:

- Between the Al-Amira Basma and the Al-Weibdeh Al-Sharqi centers, the number of patients seen by physicians and dentists varies by over 75%; and
- Correspondingly, provider time spent with patients also varied. Patients at the Al-Weibdeh Al-Sharqi Health Center spent 3 times as much time with providers than patients in the Amman Al-Amira Basma Health Center.

The reliability of the data and the significance of these differences require further analysis by the Ministry. Data maintained by the Information Technology Department does not, however, distinguish between physician and dentist visits. Although it identifies "nurse visits," nurses are not shown as employees in the data per se; presumably, nurses are included in the mother and child section in the data. Nevertheless, to be useful, the number of visits, by provider, should be individually broken out by physicians, dentists, and nurses.

The primary health centers shown on Table 14 have relatively high patient loads:

- The overall average time spent with patients was less than 15 minutes, but varied from 8 minutes to 48 minutes;

- The average number of visits per provider varied significantly from 2,529 in Shafa Badran Health Center to 15,300 in the Al-Nuzha Health Center– a difference of over 500%, even though there was one less provider at the Al-Nuzha Health Center; and
- Average patient visits at these primary health centers varied from 10 to 61 per day.

Interestingly, the average time spent with providers varied from 14.6 minutes in the primary health care centers to 19 minutes in the comprehensive health centers. In any event, the preceding observations are only meant to be illustrative, given the assumptions.

Table 15 - Primary Health Centers Patient and Provider Data

Center Name	Doctor and Dentist Visits	Number of Doctors and Dentists	Average per Provider	Patients per		Minutes per Patient
				Day	Hour	
Al-Nuzha Health Center	76,499	5	15,300	61	7.6	7.9
Shafa Badran Health Center	15,172	6	2,529	10	1.3	47.6
Tarbarbour Health (Tareq) Center	47,291	6	7,882	31	3.9	15.3
Abu-Alanda Health Center	48,187	6	8,031	32	4.0	15.0
Al-Qweismeh Health Center	79,884	8	9,986	40	5.0	12.1
Um-Nouwara Health Center	38,747	6	6,458	26	3.2	18.7
Totals	305,780	37	8,264	33	4.1	14.6

Source: Ministry of Health website

Data needs to be assembled for all of the centers in the country along with their individual costs to permit analyses. Such analyses will permit management to organize and locate the centers on an efficient and cost-effective basis.

Table 16 is also a random sample of six peripheral health centers information in Karak. As mentioned above, the peripheral health centers are served by itinerant physicians.

Table 16 Peripheral Health Centers Patient and Provider Data

Center	Doctor Visits	Nurse Visits	Total Visits	Employees	Visits per Employee
Al-Bqel'e/Karak Health Center	833	262	1,095	1	1095
Samra Health Center	658	254	912	3	304
Manshiyyet El-Mazar	79	138	217	3	72
Al-Hashimiyeh	153	388	541	6	90
Israsah	---	---	---	1	---
Ad-Dabbah	---	---	---	2	---
Total	1723	1042	2765	16	173

Source: Ministry of Health website

In this case, the data for two of the centers would suggest that there are employees, but no visits, but this is probably due to a failure to enter data. The table reveals, nevertheless, that patient loads per employee vary significantly. This is a case in which individual cost data would be critical to determine the costs per patient and in which instances transportation or mobile clinics are viable alternatives to fixed, free standing centers.

In sum, there is a lot of useful information maintained by the Information Technology Directorate, but it needs to be augmented by cost data and other refinements. The data that needs to be obtained to start an analytical process of the centers are set out in Annex E.

Serums, Vaccines, Medicines, and Medical Consumables

The Procurement and Supplies Directorate in the Ministry of Health manages the procurement of needed serums, vaccines, medicines, and medical consumables. This is done through an annual tender process, conducted by the Joint Procurement Department based on a request from the Ministry of Health. The Directorate stores these supplies at several locations throughout the country and distributes them to facilities in the governorates, as needed by those facilities.

This program is a major part of the Ministry's efforts to delivery quality health care. In 2013, it will be larger than the Primary Health Care/Health Services Centers program, based on the relative indicative levels. Employment levels for this program are not shown in the 2011 Budget Law.

The Procurement Directorate indicates that it orders annually a one year supply of serums, vaccines, medicines, and medical consumables through the Joint Procurement Department, which prepares the tenders and manages the bidding process. When received, the supplies are stored at Directorate warehouses and certain Ministry hospitals and distributed monthly to Ministry hospitals and clinics.

Table 17 - Serums, Vaccines, Medicines, and Medical Consumables - Funding and Performance Indicators

Expenditures	JD, Millions				
	2009 Actual	2010 Estimate	2011 Budget	Indicative	
				2012	2013
Current Expenditures	44.7	36.0	32.2	42.8	43.6
Capital Expenditures	46.3	28.4	27.8	30.9	49.9
Total	91.0	64.4	59.9	73.7	93.5
Program Performance Indicators	First Staff Evaluation 2010	Target			
		2011	2012	2013	
1. Percent of medicines produced locally as a percent of total procurement via central tenders	9%	5%	3%	3%	
2. annual percent of medicines, vaccines, and consumables destroyed	13%	13%	13%	12%	
3. Number of times that medicines for treating chronic illnesses, e.g high blood pressure, diabetes, and fat diseases are lost from Health directorates for more than one week a year	15	13	12	12	
4. Percent of drugs purchased by the Ministry of Health that are generic	---	55%	60%	65%	

*preliminary 2008 Jordan NHA

Performance Indicators

Performance indicators in the 2011 Budget Law for Serums, Vaccines, Medicines, and

Medical Consumables that were developed as part of the results oriented budgeting initiative are good measurable performance indicators, assuming that the data system exists to support them. Moreover, assuming that the program could adopt a policy of selling drugs that have a year to go until expiration and that it has the information to track those expiration dates, it should develop a performance indicator on the annual value of those sales.

The Ministry should also have performance indicators for the hospital and primary care programs that monitor prescription practices at the individual hospitals and centers to determine where there are significant variations and what steps, if any, make sense to attempt to curb particular prescribing practices. The data base in this program could serve as the starting point, assuming it can identify, by hospital and center, the amount of medications requested, delivered, and/or consumed.

A Role for the Serum, Vaccines, Medicines and Medical Consumables, Program

In the past, the Procurement Directorate calculated hospital and center needs based on historical patterns of dispensation. As part of its calculations, the Directorate included a “reserve” for unanticipated needs, based upon experience, given the long lead time of the procurement cycle. Currently, however, a proposal being considered that would change the system; under it, hospitals and centers would annually determine their individual needs and the Directorate will request that the Joint Procurement Department tender for those estimates. The Procurement Directorate indicates that it has in place a comprehensive computerized system to track distribution, expiration dates, etc., that enable it to manage and predict total Ministry use more realistically than would be the case for individual hospitals’ estimating needs.

Local drug procurement apart from tenders are sometimes made if the original estimates are insufficient due to an unexpected increase in the number of individuals requiring certain drugs.

Table 18 - Trends and Shares of Pharmaceutical Spending in Jordan, 1998 – 2008

Indicator	1998	2000	2001	2007	2008*
Total expenditures (JD in millions)	158.9	160.2	184.6	344.9	496.5
Per capita expenditures (JD)	---	31.8	35.6	60.3	84.9
Pharmaceuticals expenditures as a percent of GDP	3.2%	2.7%	3.0%	3.2%	3.08%
Pharmaceuticals as a percent of total health expenditures	35.0%	29.1%	30.9%	34.0%	35.9%
Public	---	---	5.7%	11.3%	13.8%
Private	---	---	25.2%	22.7%	22.1%
Distribution of pharmaceuticals as a percent of total pharmaceutical expenditure					
Public	24.0%	19.8%	18.5%	33.4%	38.4%
Private	76.0%	80.2%	81.5%	66.7%	61.6%

Source: Preliminary NHA, 2008

The tender documents prepared by the Joint Procurement Department for the Ministry of

Health identifies only the chemical names of drugs and only drugs registered with the Jordan Food and Drug Administration (JFDA) may be ordered. Potential suppliers may only offer brand name drugs, if generic equivalents do not exist, e.g., primarily cancer drugs, drugs for thalassemia and diabetes, and insulin, or if they can offer a brand name drug at a lower price than the chemical equivalent.

As Table 17 above indicates, Jordan spends relatively large amounts on prescription drugs as a share of total health spending. Public and private pharmaceuticals spending is high. The Jordan National Health Accounts 2008 points out that “Expenditures on pharmaceuticals [in 2008] are very high and reached 496.4 million which is equal to one-third of the total health expenditure and accounts for 3.08 percent of GDP.”

In just one year, from 2007 to 2008, total pharmaceutical expenditures grew 44 %. Private pharmaceutical expenditure represents 62% of total pharmaceutical expenditures even though private health expenditures, in total, amount to only 38 % of total health care spending. Thus, while the

public health sector spends considerably more in total on health than the private sector, its pharmaceutical spending ratio is was 50% lower than that of the private sector in 2007.

From 2001 to 2008, however, the percent of public health expenditures for pharmaceuticals doubled, from 18.5% to 38.4%. The Jordan National Health Accounts 2008 indicates that the Ministry of Health spent JD 55.1 million on drugs in 2008, or 15.5 % of its budget. In 2013, the 2011 Budget Law estimates that this program will spend JD 94 million, or 20% of the Ministry of Health total expenditure.

The program does not now separately identify the relative amounts and value of medicines, vaccines, and serums. For example, it should identify separately the drugs, amount, and value of drugs, etc., that have to be destroyed because of expiration dates. If its data system yields expiration dates, it should sell to the private sector, at a significant discount, those drugs that it cannot use within the coming year. Assuming there is a demand for them in the private sector, this would make available cheaper drugs in the private sector, reduce total spending on pharmaceuticals, and provide revenue to the Government or the Ministry.

The Clinical Pharmacology Department in the Secondary Health Care/Hospitals program is in the process of preparing, by the end of this year, an evidence-based formulary for the most commonly prescribed drugs. This effort, if translated into physician prescribing practices in the Ministry, will save money and improve prescribing while providing effective care. If the program's data can be analyzed to show distribution of drugs that the formulary seeks to replace, it would prove useful to the Clinical Pharmacology Department, particularly if it does not have another mechanism to monitor prescribing practices at the hospitals and centers.

Human Resource Development

The Human Resource Development program is primarily concerned with training Ministry employees and the attraction and retention of health professionals needed by the Ministry to discharge its responsibilities for hospital and center care.

Performance Indicators

These performance indicators set out in Table 17 are not be the best measures of the success of the Human Resource Development program in light of the Ministry's needs, however.

Table 19 - Human Resource Development Funding and Performance Indicators

Expenditures	JD, Millions				
	2009	2010	2011	Indicative	
	Actual	Estimate	Budget	2012	2013
Current Expenditures	2.8	3.5	3.7	3.8	4.0
Capital Expenditures	0.6	0.6	0.5	0.5	0.8
Total	3.4	4.1	4.2	4.3	4.8
Program Performance Indicators	First Staff Evaluation 2010	Target			
		2011	2012	2013	
1. Percent of graduates of the Ministry's colleges and institutes who pass comprehensive examinations	90%	90%	90%	90%	
2. Percent of total Ministry employees receiving training	16%	18%	20%	22%	
3. Annual "drain brain" of technical staff	2.4%	2.4%	2.2%	2.0%	
Percent of nurses who leave the Ministry of Health	2.6%	2.6%	2.4%	2.2%	

*preliminary 2008 Jordan NHA

Training is an important responsibility of the program. Nevertheless, assuring the availability of physicians, especially residents, and other health professions personnel, e.g., specialty nurses, is critical. This is a major issue facing the Ministry. Recognizing that the Ministry of Public Service Development and the Civil Service Bureau have important roles to play, it would seem to be incumbent upon the human resources activity of the Ministry to identify (i) the nature and extent of anticipated problems and needs over the next decade and (ii) options through which its particular needs can be addressed.

The first step in such a study would be to set out what specific shortages and/or recruiting and retention difficulties it anticipates. Some questions, it should address, include, for example:

- Does the Ministry anticipate a shortage of clinicians and, if so, in what specialties?
- To what extent, can a reduction or restructuring of the existing system of Ministry hospital and centers contribute to reducing the anticipated shortage or ameliorating any recruitment and retention problems? and
- Are there other categories of health professions personnel for which shortages or recruitment and retention difficulties are anticipated, e.g., specialized nurses, physician administrators, health information technology experts?

The design and preparation of incentives and penalties to increase recruitment and retention will be an important component of the Ministry's long-term needs.

Table 13 indicates that in terms of shares of the overall availability of health professions in Jordan, the Ministry of Health employs 28% physicians, 16% of dentists, 24% of nurses, but only 4% of pharmacists. A more detailed description of where the various types of physicians, e.g. administrative, general practice, specialty, etc. are employed, e.g. by headquarters, hospital, and

center assignments, would be a useful addition to the Annual Statistical Book published by the Ministry

Table 20 - Number and Distribution of Health Professionals in Jordan

Category	Ministry of Health	Royal Medical Service	Official Universities		Private Sector	UNWRA	Grand Total
			King Abdullah Hospital	Jordan University Hospital			
Physicians	3,965	1,223	375	420	8,483	98	14,564
Dentists	653	245	---	66	3,389	30	4,383
Pharmacists	356	460	34	29	7,528	2	8,409
Registered Nurses	3,036	2,335	468	459	6,388	40	12,726
Associate Nurses	1,581	1,783	---	112	---	---	3,476
Assistant Nurses	3,000	301	98	87	2,261	187	5,934
Registered Midwives	1,203	140	17	---	593	32	1,985
Totals	13,794	6,487	992	1,173	28,642	389	51,477

Source: Ministry of Health, Health Economics Directorate

Attraction and Retention of Clinical Physicians

The major recruitment and retention difficulty experienced by the Ministry of Health is the ability to retain clinical physicians, as opposed to physicians in administrative positions. According to Ministry staff, the principal difficulty is low salary levels and compensation practices, e.g., the treatment of allowances that may represent as much as 500% of base pay and are disallowed under current law in certain circumstances, such as overseas training and technical assistance.

Jordan is part of a larger physician manpower network that includes Saudi Arabia and other nearby Gulf States. Thus, the Ministry of Health must compete most immediately with both the private health sector in Jordan and the wider geographic area surrounding Jordan.

As part of its mission, the Ministry of Health provides residency training opportunities for physicians as part of its responsibilities to deliver health care. For both recent medical graduates and trained residents, however, anecdotal estimates of annual turnover are high. Documenting this turnover over the past few years is an important task.

According to the Ministry of Health, a recent survey of physicians who left the Ministry revealed that 52% of those leaving identified low salary, better opportunity, and the desire to start their own businesses, as reasons for leaving. Another 10% identified remote location assignments as the reason for departure. A breakdown of physician turnover by length of Ministry of Health service and job category versus retirements, transfers to other ministries or the university hospitals, etc., needs to be undertaken and presented, if persuasive, data-driven solutions are to be proposed by the Ministry.

In 2009, for instance, the Ministry requested 1,050 physicians from the Civil Service Board (CSB) for which the CSB was able to certify 944 physicians. In the same year, almost 800 physicians left the Ministry. For the year, there was a net reduction in employed clinicians. A Ministry description of how such net reductions affected the delivery of health services over the years (assuming they exist) would be an important manifestation of this significance of these net reductions.

Physicians who receive residency training at Ministry hospitals make a commitment of 2 years of Ministry of Health service for each year of residency training. Nevertheless, “buy outs” are relatively inexpensive, e.g., as little as JD 2,000 for each year of unfilled commitment. Such “buy-outs, particularly, in light of the potential earnings available to qualified specialists in the private sector and Gulf countries, suggest an undervaluing of the residency training provided in Ministry facilities.

Expanding the Health Insurance Umbrella and Civil Health Insurance

Health services insurance and coverage in Jordan are provided through a variety of public and private mechanisms. This discussion focuses on the Ministry of Health’s coverage activities.

The largest programs for health services coverage by far are the Civil Health Insurance program (CHI) administered by the Ministry of Health and the Royal Medical Service (RMS) of the Ministry of Defense. Together, in 2009, they provided coverage for 3.6 million individuals, daily workers, military, and their families (CHI: 1.9 million and RMS: 1.6 million); this represented about 62% of the population.

There are a variety of ways through which health services are paid for. These include the following sources and the percentages estimated by CHI:

- Civil Health Insurance (41%);
- Other public health insurance, e.g., universities (1.3%)
- Private health insurance (6%);
- Royal Medical Service (RMS) (27%); and
- United Nations Relief Works Agency and the Red Crescent (8.5%).

In addition, CHI receives Royal Court subsidies to reimburse public facilities for the care delivered to Royal Court beneficiaries. CHI staff estimates a 5% level of duplicate coverage among these sources.

The Royal Court is responsible for determining the eligibility of individuals for “free” health services. These include (i) the categorically insured, i.e., specified groups, and (ii) the indigent. The estimated costs of health services for these individuals are included in the Budget Law in the Civil Health Insurance Fund. When actual treatment costs are audited by a committee of the Ministry of Health and CHI, the Ministry of Finance provides an amount to cover the difference between initial Budget Law estimates and the “actual costs.”

The Ministry of Health has, in effect, two programs that manage the public health services coverage and insurance. The Expanding the Health Insurance Umbrella Program became a separate program from the CHI Fund in 1985. This program receives transfers to expand coverage and make payments to CHI for Royal Court covered care.

CHI is the largest vehicle for providing coverage and financing for health services; the bulk of its direct coverage is for public employees, but “buy-ins” are allowed for individuals and firms at age-related premiums. Moreover, it collects payments from the Royal Court for the costs of providing health services to indigent and categorically eligible individuals at Ministry and non-Ministry facilities.

Table 21 - Expanding Health Insurance Umbrella - Funding and Performance Indicators

Expenditures	JD, Millions				
	2009	2010	2011	Indicative	
	Actual	Estimate	Budget	2012	2013
Current Expenditures	117.0	121.0	90.0	90.0	90.0
Capital Expenditures	26.0	4.5	5.5	5.5	6.5
Total	143.0	125.5	95.5	95.5	96.5
Program Performance Indicators					
		First Staff Evaluation	Target		
		2010	2011	2012	2013
1. Percent of citizens covered by civil health insurance		41%	43%	45%	45%
2. Percent of the total number of poor people covered by health insurance		85%	90%	95%	99%
3. Percent of population not covered by any formal type of health insurance		14%	12%	11%	8%

Source: National Health Accounts, 2009

Staffing for the Expanding Health Insurance Umbrella in the 2011 Budget Law or for CHI Civil Health Insurance in the draft 2011 Governmental Units Budget Law.

Table 22 - Civil Health Insurance Funding and Performance Indicators

Expenditures	JD, Millions				
	2009	2010	2011	Indicative	
	Actual	Estimate	Budget	2012	2013
Current Expenditures	172.7	183.6	152.4	154.7	156.8
Capital Expenditures	27.0	33.0	35.2	36.5	38.5
Total	199.7	216.6	187.6	191.2	195.3
Program Performance Indicators					
		First Staff Evaluation	Target		
		2010	2011	2012	2013
1. Percent satisfaction of stakeholders of the Fund		80%	85%	90%	95%
2. Percent of covered beneficiaries receiving treatment in private hospitals		6%	5%	3%	1%
3. Percent of individuals receiving medical services in non-Ministry of Health facilities		21%	15%	10%	5%
4. Percent of poor, remote area, and social network individuals of the total insured population		18%	23%	28%	30%

Source: 2011 Budget Law and Draft Governmental Units Budget Law

Performance Indicators

Performance indicators for the Expanding Health Insurance Umbrella are important statements of the Ministry's goals. Nevertheless, those above are primarily dependent on factors outside the program's control, e.g., approval of funding levels, payments from the Royal Court, and public employment levels.

In the coming years, the program should identify performance indicators that more directly measure its successes in the management of the program.

The performance indicators for the CHI below are similar in concept to those for Expanding the Health Insurance Umbrella, with the exception of stakeholder satisfaction. The presumption for the latter is, of course, that all stakeholders, e.g., Ministry of Health employees, Royal Court beneficiaries, the public and private hospitals reimbursed by CHI, are surveyed through an independent poll to ascertain the degree of satisfaction with CHI.

The other three performance indicators are outside of CHI control and are not the most measurable and objective ways of capturing how CHI can measure its success. Ideally, CHI performance indicators should be measures within the discretionary control of the program.

For example, one CHI responsibility is to certify eligibility for coverage. As many as 600 individuals may present themselves daily in Amman for assistance in obtaining coverage. Eligibility determinations and assistance by CHI staff at the health directorates in the governorates is also significant. Measuring the efficiency of these determinations, i.e., the number of individuals processed per responsible employee, would be a performance indicator for which the program is responsible.

Other performance indicators could be the average number of days to process hospital stay claims and reimburse private hospitals for public employee emergency care or grade 1 public employee care or the number of claims processed per claims processing employee.

CHI Coverage and Premiums

CHI participation is mandatory for all public employees and daily workers. Benefit coverage is comprehensive -- all outpatient and in-patient health, medical, and dental services (other than those that are purely cosmetic), and medically-indicated testing are covered.

In addition, optional or "buy-in" comprehensive coverage from CHI is open to companies or individuals, based on age; the annual premiums for individuals follow (in JDs)

- 0 - 6 years: 100 JDs;
- 6 - 18 years: 50 JDs;
- 18 - 45 years; 75 JDs;
- 45 - 60 years: 150 JDs
- Over 60 years: 78 to 72 JDs, on a sliding scale.

In 2010, an estimated 24,000 individuals were enrolled in CHI via the "buy-in" option. The Royal Courts make matching premium contributions to CHI for those over 60 years of age and pregnant women.

There are three grades of public employees for purposes of CHI coverage:

- Grade 1 (an estimated 100,000 in 2010). Members of Parliament, ministers, and senior civil servants may elect to obtain hospital care and dental services in private or Ministry of Health, university, or RMS hospitals or clinics. If they elect to receive care in the university hospitals or private facilities, they must pay 20% of the prices set by the CHI at individual hospitals; CHI reimburses those facilities for 80% of those prices. There are also individual prices that CHI negotiates for universities and the RMS reimbursements; and
- Grades 2 and 3 (an estimated 450,000 in 2010). These individuals are eligible for comprehensive health and dental care at Ministry of Health facilities without charge. Emergency care at private facilities is covered by the CHI on the same basis as for grade 1 employees; nevertheless, members of grades 2 and 3 are responsible for paying 100% of non-emergency medical and dental services provided in private facilities, if they elect to receive care in private facilities.

The only differences between grades 1, 2, and 3 are in hospital room accommodations: grade 1 is eligible for private room accommodations, grade 2, for semi-private rooms, and grade 3, for ward accommodation.

Care in RMS facilities and universities for grades 2 and 3 CHI beneficiaries is by referral only, unless it is for emergency care. There is no reimbursement for physician fees by CHI, except for referred care to other public and private facilities. Otherwise, CHI beneficiaries may receive covered outpatient services only in Ministry of Health facilities.

Premiums vary by program and access to health services. Premiums for CHI program health services coverage are:

- JD 50 per month for members of Parliament and Government ministers and their families; and
- 3% of total compensation, up to JD 30 monthly for public employees and their families.

Hospital outpatient co-payments are JD 1.5 for public employees for emergency care and JD 3 for non-emergency care.

Royal Court Eligibility

As mentioned above, the Royal Court subsidizes the provision of health care for the following categories of beneficiaries:

- Low income individuals, whose family incomes meet certain thresholds;
- Individuals who have illnesses specified by the Prime Minister's office. These include, primarily:
 - Cancer diseases and side effects;
 - Mental illness;
 - Kidney failure;
 - Chronic blood diseases;
 - Snake and scorpion bites;
 - Alcoholism and drug abuse; and
 - AIDS.
- Residents of low income areas and remote areas, e.g., Badia; and
- National Aid Fund recipients, as determined by the Ministry of Social Development.

Individuals presenting at Ministry of Health facilities who do not have formal coverage must pay the Ministry of Health's subsidized rates for an array of specified health services or obtain Royal Court coverage before non-emergency care can be given without charge. No one is denied emergency care at Ministry of Health facilities.

CHI Expenditures for Patient Care

In 2010, the Royal Court provided JD 105 million to CHI to pay for the health care costs of its eligible beneficiaries. To be eligible for Royal Courts coverage, a patient embarks upon the following steps:

1. Request a voucher from the Royal Courts;
2. Obtain a letter from a physician indicating that his or her illness is one covered by the Prime Minister's designated diseases. The letter and the voucher are presented to the Ministry of Health for inclusion among the list of those eligible and the patient receives an identification card; and
3. Go to a Ministry of Health facility to receive treatment.

Identification cards are valid for 6 to 12 months, depending upon the diagnosis and treatment regimen.

Table 23 - Trends in Civil Health Insurance Revenue and Expenditures

Category	(JD, in millions)					
	2005	2006	2007	2008	2009	2010
Revenue						
Public employees and voluntary enrollees	24.1	24.6	27.0	34.6	34.0	43.4
Royal Court matching payments the aged and pregnant women	1.3	0,3	3.0	81.7	82.6	78.4
Patient payments and cost-sharing for medicines	7.0	7.5	10.5	12.8	18.4	16.0
Royal Court reimbursements for services	14.3	17.1	23.9	27.4	31.5	26.1
Other revenue	0.2	0.3	1.3	2,9	3.4	1.4
Total Revenue	46.9	49.5	65.7	156.5	169.9	165.3
Expenditure						
Treatment of enrollees in non-MoH facilities	23.8	23.1	28.8	35.5	49.7	54.8
Contributions	0.7	0.5	0.7	0.7	0.7	0.7
Medicines, consumables, and equipment	8.2	6.7	7.8	20.3	4.9	5.7
Treatment for officials outside the country	0.6	0.6	0.9	0.7	0.5	0.4
Incentives and rewards payments to MoH staff	11.7	18.5	21.2	23.9	27.0	27.0
Treatment of uninsured in non-MoH facilities	---	---	---	60.4	71.1	69.0
Other operating expenses	0.6	0.8	3.8	4.8	5.6	5.6
Total Expenditure	45.6	50.2	63.2	146.3	159.5	163.2

Source: Ministry of Health, CHI Fund

In 2010, CHI provided a total of over JD 123.8 million to public and private facilities. Of this total, JD 55 million JD was for the care of public employees and their dependents. For these individuals, CHI provided reimbursements to the Royal Medical Service, King Abdullah Hospital, King Hussein Cancer Center, the Jordan University Hospital, the National Diabetes Center, and Prince Hamza Hospital, as well as private facilities. For Royal Court beneficiaries who received care in 2010, an estimated JD 69 million was paid to the same facilities, excluding private ones.

Incentives and Awards for Ministry of Health Staff

CHIP also makes “incentive” payments, reflecting longevity and hierarchical position to both administrative and clinical staff at Ministry of Health headquarters and in the hospitals and centers. The amount distributed, based on a point system, is 90 % of the revenue received from the Royal Court for Ministry of Health-provided patient care (after deducting the costs of medicines for this group). In 2010, JD 27 million was be spent for this purpose, distributed as follows:

- 60% to doctors, dentists, and pharmacists;
- 20% to nurses; and
- 10% to other categories of staff.

In total, the JD 27 million was distributed to 2,870 employees, for an average amount of JD 1,107.

Administration and Support Services

This program is the headquarters unit of the Ministry of Health and provides administrative and technical support for a variety of centralized functions, e.g. budget and finance, procurement, engineering and construction, strategic planning, and centralized headquarter costs.

Table 24 - Administration and Support Services Funding and Performance Indicators

Expenditures	JD, Millions				
	2009 Actual	2010 Estimate	2011 Budget	Indicative	
				2012	2013
Current Expenditures	9.9	17.2	25.6	24.6	22.9
Capital Expenditures	17.4	11.4	10.5	12.1	12.7
Total	27.3	28.6	36.1	36.7	35.6
Total, Overhead	121.7	97.1	100.2	114.7	133.9
Program Performance Indicators	First Staff Evaluation 2010	Target			
		2011	2012	2013	
1. Number of hospitals qualified to apply accreditation standards	15	20	20	20	
2. Number of health centers qualified to apply accreditation standards	48	60	60	60	
3. Percentage of performance indicators achieved	75%	75%	75%	75%	

Source: 2011 Budget Law

Performance Indicators

The extent to which the performance indicators of all of the Ministry's programs are realized is the most important performance indicator for the Minister's and Secretary General's offices. The accreditation performance indicators are more appropriately included in the performance indicators of the Secondary Health Care/Hospitals and Primary Health Care/Health Services Centers programs, respectively.

Table 25 - Trends in Ministry of Health Staffing and Funding

Category of Groups	2005	2010 Estimate	2011 Budget	Indicative	
				2012	2013
Health	4,508	5,167	5,454	5,769	6,115
Engineering	292	230	230	230	230
Technical	8,848	10,154	10,624	11,141	11,709
Administrative and Financial	2,774	3,180	3,203	3,229	3,258
Other	4,622	5,831	6,081	6,356	6,658
Support	4,012	3,635	3,635	3,635	3,635
Total, Entire Ministry	25,056	28,197	29,227	30,360	31,605
Total Ministry Expenditure (JD in millions)	170.1	438.2	428.2	457.5	471.7
Administration and Supportive Services Program					
Number of staff	---	670	690	711	732
Staff as a percent of total Ministry staffing	---	2.3%	2.4%	2.3%	2.3%
Expenditures (JD in millions)	0.3	20.2	36.0	36.7	35.5
Expenditures as a percent of total Ministry expenditures	1.7%	4.6%	8.4%	8.1%	7.5%

Source: Ministry of Health, Budget Directorate

In the coming years, however, the Ministry should develop performance indicators to measure the success of its administrative and support units, which are critical to efficient and effective management of the Ministry's six programs. Such performance indicators might include, for example:

- Cost of utilities per square meter in Ministry of Health facilities;
- Overhead ratio of headquarters staff to program staff;
- Maintenance costs per square meter in Ministry of Health facilities;
- Individual program overhead staff as a percent of staff in the respective operating program;
- Number of tenders and contracts issued per employee;
- Number of audits conducted per employee;
- Number of audits resulting in disciplinary actions or referral for prosecution;
- Number of personnel actions completed per employee of the Personnel Affairs Directorate; and
- Number of staff in the governorates health directorates and headquarters program staffs, as a percent of total Ministry of Health staff in the hospitals and centers in the governorates.

Performance indicators along these lines assume that the Ministry wishes to assure itself that the associated costs or outputs in headquarters units are important to monitor or that it has particular objectives that it wishes to accomplish.

Issues, Findings, and Recommendations

Budget Process and Program Administration

Issue: Decentralization. Should the Ministry adopt budget preparation and execution reforms to establish management accountability and allow flexibility in the management of hospitals and center resources?

“Weak planning of human resources and centralization of administration”

Major Issues and Challenges from the 2011 Budget Law

Findings - The development and the day-to-day management of budgets is highly centralized. Reviews of the two main health service delivery programs -- Secondary Health Care/Hospitals and Primary Health Care/Health Services Centers -- suggest that the quality of budget preparation and the day-to-day management of budget allocations could benefit from decentralization. These two Ministry programs alone represent 55 % of the Ministry budget in 2011, excluding Civil Health Insurance.

Decentralization is not a new issue, but it is one that has been awaiting implementation for some time. Moreover, the need for decentralization is the same for all of the principal operating components of the Ministry.

With respect to hospitals, moreover, a 2006 Health System Profile by the World Health Organization’s Regional Health Systems Observatory reported:

“In Jordan, the governance of MOH hospitals is highly centralized. Senior level executives at headquarters in Amman decide all significant managerial, personnel, budgetary, and procurement matters. It is believed that hospitals may be more efficiently operated and the quality of care enhanced if greater independence was granted them.”

The Jordan National Accounts 2007 pointed out that “Even as the financing in the entire health sector is highly fragmented, within the public and private sector it is highly centralized and controlled leaving little room for flexibility and maneuver-ability at the facility level.”

Today, these observations on hospitals would apply with equal validity to the Ministry’s centers, as well as its other principal operating components.

The current system of budget preparation and management of budget resources continues to be highly centralized. As a result, directors of hospitals and centers, as well as directors of some of the other principal operating units, have little responsibility and control. This process eliminates, to a large extent, incentives for managers to manage their units in an effective and efficient manner, thereby depriving the system of potential savings to augment service levels.

Recommendation – In preparing its Budget Law request for 2013 Budget Law, the Ministry should restructure its budget process and strengthen the management of its hospitals and clinics (and other principal directorates) through a reform of its processes, specifically to institutionalize a budget preparation and justification process that allows those directors to:

- Present their individual needs in budget requests in a “bottom up” budget preparation process; and
- Manage allocated budgets within the flexibility allowed by law, once the Budget Law is passed and they receive their allocations.

Integral to this process would be annual reviews and recommendations on the hospital and center directors’ budget requests by the health directorates in the governorates and the managers of the respective headquarters program organizations, as well as continuous oversight of program implementation by governorate health directorates and headquarters units during the year. The decentralized procedures should be followed for the 2013 Budget Law request submitted to GBD. Execution of the 2013 Budget Law should implement these recommendations, as well.

Budget Process and Program Administration

Issue: Essential program costs and productivity information. Should the Ministry of Health develop, maintain, and analyze essential program Information to enhance management accountability and program effectiveness and efficiency?

Findings - The 2011 Budget Law refers to “Weakness of health information systems and lack of their use in making decisions and ”designing policies” in the section on “Major Issues and Challenges” that face the Ministry.

For the over 1,400 centers of various types and 31 hospitals, some management information for individual clinics and hospitals is maintained by the Ministry’s Information Technology Directorate. It includes staffing information by category of employee, patient visits, etc. Information may also be available on annual expenditures of each of the individual hospitals and centers somewhere in the Ministry, but it does not appear to be maintained in conjunction with service or productivity information in the Information Technology Directorate system, nor is it otherwise readily accessible.

In light of the projected stringency in funding, it is critical that the Ministry, which is spending 2% of GDP in 2011, for example, be in a position to demonstrate the efficiency and effectiveness of its operations. This should be done with data and analysis of the programs it administers. The largest part of the Ministry’s budget is the combined hospital and center service delivery programs.

The absence of management information that links the costs of operating individual hospitals and centers with staffing and service information is a serious drawback in any effort to ascertain relative costs and productivity among Ministry of Health facilities. Such information should be produced and used as part of on-going reviews. In the absence of data that links the costs and productivity of individual hospitals and centers and the provision of periodic reviews of that information, an assessment of management accountability for hospital and center managers is not possible.

Moreover, such information should be the basis for annual budget justifications; in its absence, the basis for budget decision-making, both at the macro-program level and the individual center and hospital levels is not transparent. As long ago as 2001, the importance of cost information related to utilization was pointed out, with respect to Primary Care Centers:

“Provision of certain services - such as prenatal care, family planning, and specialty services, given the current utilization levels was found to be exceptionally expensive; and the reasons for low utilization need to be studied further. The low utilization of MCH services is further highlighted by the fact that expenditures incurred on MCH were only half of what was spent on dental care in all of Jordan. These options need to be weighed in comparison with contracting out for these services. The need to create a cost conscious culture in the MoH is discussed. Even providers of care need to know the cost to the MoH of each service and procedure they undertake.”

Source: Rationalizing Staffing Patterns and Cost Analysis of Primary Health Care Services in Jordan,

Abt Associates, December 2001

Recommendation - Together with decentralized, reformed budget development, review, and management procedures, the data maintained by Information Technology Directorate should be expanded to include individual hospital and center expenditure data, as well as productivity data, beginning immediately. Such integrated data should be used by Ministry of Health’s upper management both (i) to assess management performance by hospital and center directors and (ii) to strengthen budget preparation and justification in the annual budget preparation process. It should be part of the 2013 Budget Law request submitted to the General Budget Department (GBD). The health directorates in the governorates may need to exercise the responsibility for the preparation and execution of peripheral health centers budgets, given the nature and size of those centers.

For other principal component units within the Ministry, a management information data system should be developed and related to performance indicators that the Ministry should also develop for submission to GBD in the 2013 budget process.

Secondary Health Care/Hospitals

Issue: Should the Ministry of Health prepare a 5-year plan to streamline and rationalize the distribution of Ministry hospitals and beds to take advantage of unused and underutilized capacity in the private and university sector?

The future for Jordan public finance suggests a tightening of resources as the population grows and the demand for publicly financed goods and services increases. As the National Health Accounts, 2007 pointed out, the current trends in public health services funding are

“not sustainable.” Even if the National Health Accounts is pessimistic, the hospital infrastructure should be periodically reviewed in the context of need, costs, and effectiveness.

The differences in bed occupancy and ALOS among the hospitals and the likelihood of tighter budget resources in Jordan in the coming years suggests that opportunities need to be explored to take advantage of these differences in order to make the provision of Ministry of Health hospital care more efficient and more effective.

Findings – There are significant differences in both occupancy rates and ALOS between Ministry of Health hospitals and those of the private sector; the 17 percentage point difference in bed occupancy and a 45% difference in ALOS are not new information. What is missing is a comprehensive study of the total need for Ministry of Health beds and a plan that explores alternative ways to make use of available beds most efficiently. A set of recommendations for data to be developed -- is needed.

Patient mix may account for a portion of occupancy and ALOS differences, although a portion of the more complex case load of the Ministry is apparently contracted for in non-Ministry facilities. Nevertheless, in light of the anticipated tightening of fund availability for public programs in the coming years, a critical light needs to be shone on expensive public institutions, such as hospitals, to identify possible efficiencies and cost savings. Even if funds do not become scarce, it is incumbent upon the Ministry to assure itself of the effective use of whatever funding is available.

The Ministry has effectively used contracts for the care of patients in public and private hospitals and it has had bed lease arrangements with private hospitals, e.g., Al-Mowash and Al-Hayah. This experience can be used to design long-term measures to streamline the Ministry's hospital infrastructure and benefit from what other public facilities and the private sector can contribute.

Recommendation – The Ministry of Health should prepare a comprehensive 5-year plan and a set of integrated recommendations for its hospital program that identifies their budget implications for the 2013 – 2016 period. The plan should specify which hospitals, if any, should (i) be placed under private contract management or sold, (ii) be consolidated with other Ministry of Health hospitals, and/or (iii) be reorganized to provide appropriately tiered levels of care. The plan should cover the 2013 -2017 period and address:

- How best to integrate the Ministry of Health facilities with the excess capacity of private sector hospital beds, particularly in Amman, Irbid, and Zarqa, through closures, consolidation, and/or greater levels of contracting or privatization; and
- The existing and planned capacity of RMS, university hospitals, and private hospitals for more complex procedures and specialty treatment and the opportunities for downsizing Ministry hospitals, e.g., in Amman and Irbid, in light of that capacity and bed availability.

The plan should be included with its 2013 Budget Law request to GBD. Pending review and resolution of the issues involved, no new hospitals should be approved. Annex A sets out a format that can be used to initiate the analysis.

Primary Health Care/Health Services Centers

Issue: Should the Ministry review the number and location of centers in order to make more efficient and effective use of available resources?

Findings – Much like the Secondary Health Care/Hospitals program, the Primary Health Care/Health Services Centers program needs to plan for the future – even if anticipated budget constraints do not materialize -- and take steps to consolidate its centers and operations to become more efficient and effective.

The linking of productivity and budget data can serve as a useful tool in developing a long-term plan of center consolidation. In any event, the recommendations above on reforming the budget process and enhancing management flexibility and developing essential program administration.

With over 650 free standing centers and over 700 specialty centers, the Ministry should explore opportunities for consolidation and streamlining of operations in the interests of effectiveness and efficiency. As part of its analysis, the Ministry should examine individual center costs and performance, including visits per individual center by type of provider, costs per visit, etc.

Recommendation -- For submission with its 2013 Budget Law request, the Ministry of Health should prepare a 5-year plan and analysis for the centers that sets out alternative approaches to consolidation of the network of centers over the 2013 – 2016 timeframe. Such a plan should include, among other things, for each center:

- Analyses of patient load, by type of provider, e.g., number of visits per physician, dentist, nurse, etc.;
- Number of providers, by type;
- 2011 costs per patient visit;
- Center proximity (in kilometers, e.g., in a 5, 10, and 20 kilometer radius) to other identified centers and hospitals, both public and private; and
- The feasibility of providing reliable transportation or mobile clinics, as an alternative to the number and location of existing centers in order to use optimally the Ministry’s hospitals and centers.

Information along these lines should also be incorporated in the Ministry’s Annual Statistical Book, starting with the 2011 edition. Pending review and decisions on the plan, no new centers should be established.

To the extent that there are specific costs to implement the recommendations, after identifying savings offsets from center closures and consolidations, these should be documented in the plan. Annexes B shows how the analysis can be initiated to make the needed assessments. Annex B would seem to entail a lot of work for 684 centers, it would amount to an average of just over 30 pages for each of the 21 health districts and, with close to a total of 800 controllers and accountants at the centers, compiling the data should neither be excessively burdensome or time consuming.

Secondary Health Care/Hospitals and Primary Health Care/Health Services Centers

Issue: What measures should the Ministry of Health take to make hospitals and health centers more patient friendly?

“Low efficiency of hotel services in hospitals.”

Major Issues and Challenges” from the 2011 Budget Law

Findings - The hotel services in Ministry hospitals compare unfavorably with those of the Royal Medical Service and university hospitals, as well as those in the private sector. Amenities – other than perhaps the occasional coffee machine at some Ministry facilities– are pretty much non-existent. If the Al-Basheer hospital, the Abu Nuseir Comprehensive Health Center, and the Shafa Badran Primary Health Center are typical of the Ministry of Health’s service facilities, there is ample opportunity to make the Ministry’s facilities more patient friendly and provide income to the hospitals and centers.

Many hospitals and clinics the world over have adopted measures to make those institutions more service-oriented, in addition to providing health services. Many hospitals have gift shops wherein flowers, toys, reading materials, etc., can be purchased by patients and families. In waiting areas, vending machines with a wide variety of beverages and snacks are often provided. Frequently, patients and their families often have access to a cafeteria that serves hospital staff, as well.

Increasingly, hospitals around the world are making their room services more like those found in hotels, equipped with televisions, telephones, meal menus, and other amenities for which there are charges. Such amenities can make hospital stays and waiting times more tolerable and comfortable.

Recommendation - The Ministry should consider measures that can make its facilities more patient friendly, including:

- Upgrading the physical quality of selected hospital rooms to make them more attractive to senior public employees and competitive with other non-Ministry hospitals. This is essential, if the Ministry’s hospitals are to be competitive in the light of the reforms to the Civil Health Insurance Fund, as recommended below;
- Establishing gift shops in the larger hospitals that offer flowers, reading materials, toys, etc.
- Offering optional services, e.g., televisions, special menus, etc., in hospital rooms, on a reimbursable basis;
- Providing access to cafeterias for patients and their families in the larger hospitals that have cafeterias; and
- Installing vending machines that offer a variety of beverages and snacks in the waiting and other busy areas of hospitals and comprehensive health centers.

The results of the Ministry’s review should be included in the 5-year plans recommended above.

The Ministry should explore contracting with vendors for most of these amenities, rather than providing the services directly. Although such contracts probably need to be tendered centrally, the income should go to the individual hospitals and centers. This will help assure effective management oversight of the service quality, e.g., the vending machines are properly stocked.

Human Resource Development

Issue: What steps should the Ministry initiate to document the need for special incentives to attract and retain critically needed health professionals?

Findings – Ministry officials indicate that the attraction and retention of qualified health professional health staff is the Ministry's most pressing human resource issue. As noted in the above discussion of the Human Resource Development program and as evidenced by the recent strike of clinical care physicians, past approaches have not worked. Innovative and long-term measures need to be explored and introduced, if the Ministry is to have the numbers and types of health professionals it needs. Many countries have faced this issue and have adopted a variety of successful initiatives to deal with it.

Recommendation -- The Ministry should prepare a report for consideration as part of the 2013 Budget Law submission to GBD that explores the feasibility, desirability, and costs of alternative initiatives to increase recruitment and retention of clinical physicians and other health professionals needed by the Ministry. The report should demonstrate where specific recruitment and retention difficulties exist and consider moving away from an entitlement ethic, based on formal training, to a market ethic in which incentives are tied to jobs that are difficult to fill and keep filled, such as specialized clinical care.

Such a report should make recommendations for incorporation in the 2013 Budget Law and address the desirability of:

- A program of stipends, tuition, and book expenses and other benefits for medical students in return for service commitments as clinicians in Ministry of Health, upon graduation;
- Contracts and signing bonuses for those completing residency training commitments to extend their service in the Ministry of Health; and
- In both cases, significant deterrent penalties for failure to complete commitments, e.g., repayment of a multiple of the direct costs and associated costs of training, should be identified.

The report's recommendations should also address measures to attract and retain other health professionals if it can be demonstrated that such shortages are affecting the amount and quality of care that the Ministry is able to deliver.

In addition, the Ministry's Annual Statistical Book for 2012 should be broadened to provide information on health professions utilization within the Ministry, i.e., an annual breakdown of physician:

- Utilization, by assignment, identifying specialty, program, and job assignment;
- Location, i.e., headquarters, center and hospital assignment, clinical administrative assignment, etc.; and
- Departures, by length of Ministry of Health service and job category, versus retirements, transfers to other ministries or the university hospitals, etc.,

Annex D illustrates how such data should be presented. Similar information for dentists, nurses, pharmacists, etc. should also be tracked and presented in the Annual Statistical Book.

Serums, Vaccines, Medicines, and Medical Consumables

Issue: What should the Ministry of Health do to enable its drug procurement program do to contribute to better pharmaceutical prescribing practices?

Findings - This procurement program is a large and critical component in the delivery of health services by the Secondary Health Care/Hospitals and Primary Health Care/Health Services Centers. The program is primary an agent of the hospitals and clinics it serves. It has no direct role in the prescribing practices in the hospitals and the centers. Nevertheless, it can contribute to the resolving problem of excessively high rates of prescription drug practices by providing information.

The NHA 2007 has identified the amount of drugs prescribed in both the public and private sectors as excessive. The Ministry has identified in one of its performance indicators the need to reduce the prescribing of brand name pharmaceuticals. The Serum, Vaccines, Medicines, and Medical Consumables program has the ability to monitor the prescribing practices of hospitals and centers based on distribution of pharmaceuticals. This can complement the Clinical Pharmacology Department's efforts to change prescribing practices by identifying alternatives that are cheaper and equally effective. These combined efforts offer an opportunity for substantial savings to the extent they are successful in modifying prescribing practices.

Recommendations – The Ministry should direct this program to:

- Work with Clinical Pharmacology Department and prepare an end of year report for the Ministry and the public to be placed on the Ministry's website on the costs and value of the most frequently prescribed drugs, by individual Ministry hospitals and centers; and
- Explore opportunities to sell, at a significant discount, pharmaceuticals that have a year to go until expiration, but that it estimates the Ministry will not require during the year to come.

Expanding Health Insurance Umbrella and the Civil Health Insurance Fund (CHI)

Issue: What coverage, financing, and reimbursement reforms the Ministry of Health undertake in the coming years to make the CHI program more equitable and efficient?

Finding – The CHI program covers public employees, the categorically eligible due to diseases specified by the Prime Minister's office, and the poor. Public employees are classified into three grades for purposes of hospital stays; the most important practical difference is the option that grade one employees have to receive care in university or private facilities and have part of those costs paid by the CHI.

All employees pay the same 3% of total compensation, up to JD 30 monthly, for CHI coverage. This raises the equity issue of employees paying percent of their compensation in premiums, but having different entitlement. Moreover, there is no direct relationship between the premiums collected and the costs of services received by public employees in Ministry of Health facilities or other public and private facilities.

The Government subsidizes public employee health care through Ministry of Health general funding because CHI makes no payments to Ministry facilities for that care. The extent of that subsidy cannot be determined in the absence of data. Unlike many health insurance arrangements, both public and private, however, the Government does not match employee premium payments that go into a health insurance fund, although the general funding of Ministry of Health could be considered an “implicit” match. Over time, CHI premiums charged public employees and the matching Government shares need to reflect the costs of care received in Ministry hospitals and centers that will be paid by CHI to the Ministry, as well as RMS, private, and university hospitals. This would permit a reduction in general budget funding for hospitals and centers and, eventually, put the Ministry facilities on a competitive financial footing wherein their income is related to the costs of services delivered.

CHI provides incentive payments to Ministry of Health employees, based on amounts received from the Royal Court for Ministry of Health treatment. These “incentive” payments are paid to both clinical and administrative Ministry employees, based on a point system that builds on longevity and hierarchical position. These payments amounted to JD 27 million each in 2009 and in 2010. Nevertheless, the payments are not, strictly speaking, incentives for the quality or extent of health care delivered, since all professional staff in the Ministry receive them, including administrative staff, by virtue of their academic training. If CHI reimbursed Ministry of Health facilities for care delivered to its beneficiaries, any necessary incentives could be part of those reimbursements. Alternatively, if the compensation reforms being considered by the Government are enacted, the incentive payments from CHI that supplement Ministry of Health employee compensation could be dropped.

Recommendations – Over the medium term, a set of integrated steps should be taken to reform CHI. Among other things, the costs of beneficiary health services should be reflected in the premiums that insured employees and others pay and the existing implicit Government subsidies for employee care should be reflected explicitly in matching premium payments, rather than as general fund subsidies to hospitals. As part of such reforms:

- CHI should start paying Ministry hospitals and clinics for the costs of care rendered to public employees, just as the Royal Court funnels funds to CHI for the categorically eligible individuals and indigent who receive care in Ministry facilities;
- CHI should develop public employee choice options under which all employees would be given coverage choices, i.e., access to private or university facilities and different types of accommodation that they may desire and for which they are willing to pay higher premiums;
- Government should contribute a matching premium to CHI for public employees; and
- “Incentive” payments for longevity, etc., from CHI should be terminated and should be funded in the annual Ministry of Health budget as employee compensation, if needed to deliver health services.

As part of its 2013 Budget request, the Ministry should prepare a report that analyzes each of these issues and alternatives and makes recommendations on implementation and timing.

Administration and Support Services

Issue: Should the Ministry of Health develop and present performance information on individual Ministry headquarters units?

Finding – There is a lack of program performance information for the activities undertaken in the Administration and Support Services program. These activities represent a 2011 funding level of JD 37 million and staff of 670, but little information about results achieved by each of these units is published for public information, e.g., on the Ministry’s website.

The headquarters activities of the Ministry of Health are critical components in the effort to assure the efficient and effective delivery of health services. The activities include the:

- Health Directorates Administration that oversees the health directorates in the governorates, which, in turn oversee the individual hospitals and centers in the governorates;
- Administrative Affairs Administration that supervises procurement, information technology, human resources, and the General Court Directorate activities;
- Services Administration that manages transportation, hostelry, engineering, buildings and maintenance, and supply and procurement services;
- Planning Administration that oversees planning and projects, information and studies, and health economics activities; and
- Financial Administration, responsible for budgeting and expenditures, tenders and contracts, and financial auditing.

As mentioned earlier, in the discussion of performance indicators for this program, it is important to develop performance indicators that capture targets and results for these units.

The Annual Statistical Book 2009, for example, presents useful utilization, extensive morbidity information, and other descriptive materials, but it does not supply any cost information for the Ministry’s programs that in total spend over JD 500 million (including Civil Health Insurance).

Recommendation – In addition to developing program information for the individual units in Administration and Support Services, the Ministry should revamp its Annual Statistical Book for 2012 to provide essential program data and cost information on each Ministry program, along the lines of the data preparation and maintenance recommendations on the specific programs discussed above.

Annexes C, D, E, and F are tables that show how the Annual Statistical Book could be made more programmatically useful and descriptive of the Ministry’s hospital, centers, and human resources programs. An individual Annex E should be used for each type of the three centers.

Current Services Projections

The Public Expenditure Perspectives project sets out current services budget estimates, i.e., expenditure levels for 2010 -2016 period, needed to maintain the current levels of services, starting with the 2010 actual and the current budget (2011), and projecting estimates for the upcoming five years, 2012 through 2016.

In the current services budget projections for the Ministry of Health, no attempt was made to adjust the out-years for inflation (other than those implicit in the projected increases in energy and utility costs estimates) in line with General Budget Department prohibitions on budgeting generally for inflation.

Table 26 - Current Services Budget Projections -- 2010 to 2016

Ministry of Health Programs	2010	2011 Budget	Current Services Projections*				
			2012	2013	2014	2015	2016
Secondary Health Care/Hospitals	151.4	157.8	169.4	169.3	165.1	165.1	165.1
Primary Health Care/Health Services Centers	74.5	82.2	83.2	84.3	83.9	83.9	83.9
Serums, Vaccines, Medicines, and Medical Consumables	64.4	60.0	73.7	90.4	63.0	63.1	63.1
Human Resource Management	4.1	4.2	4.3	4.8	4.5	4.5	4.5
Expanding Health Insurance Umbrella	125.5	95.5	95.5	96.5	96.5	96.5	96.5
Administration and Supportive Services	28.6	36.1	35.6	35.9	35.9	36.0	36.0
Total Ministry of Health	448.5	435.8	461.7	481.2	448.9	449.1	449.1
*Other than increased costs of energy, no inflation adjustments per se are reflected. GBD does not permit inflation adjustments. Costs of some new capital projects not included pending refinement of estimates. No funds are included for the new salary structure, which have not been decided in sufficient detail to permit estimates.							

Source: Ministry of Health Budget Directorate

The current services budget projections in Table 26 above for the Ministry of Health include adjustments for:

- Estimated increases in energy costs;
- Annualizing partial year costs from the previous year;
- Completion of projects in the previous year;
- Previously approved program expansions and eliminations; and
- Scheduled capital facilities openings and closing.

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Annex A

Ministry of Health Hospital Proximity, Staffing, and Service Analysis -- 2009									
Ministry of Health Hospital and Indicators		Nearest Public and Private Hospitals							
		Hospital 1	Hospital 2	Hospital 3	Hospital 4	Hospital 5	Hospital 6	Hospital 7	Hospital 8
Name of Hospital	Al-Basheer	Prince Hamza							
Governorate	Amman	Amman							
Distance (in kilometers)	---	?							
2007 Expenditures (JD in millions)									
2008 Expenditures (JD in millions)									
2009 Expenditures (JD in millions)									
Number of Beds	930	399							
Occupancy Rate	79.40%	50.80%							
ALOS	3.3	3.4							
Admissions	76,771	20,860							
Outpatient Visits	576,001	105,343							
Emergency Room Patients	490,748	137,782							
Physicians:									
Specialist	278	85							
Qualified	329	126							
General	17	9							
Dentists	21	4							
Veterinarians	1	---							
Nursing Staff	802	268							
Pharmacists	19	17							
Allied Health Professionals	395	133							
Other Support Staff	304	156							

Annex B

Ministry of Health Primary Health Care/Health Services Centers Proximity, Staffing, and Sevice Analysis -- 2009									
Ministry of Health Primary Health Center and Indicators		Nearest Public and Private Hospitals							
		Center 1	Center 2	Center 3	Center 4	Center 5	Hospital 1	Hospital 2	Hospital 3
Name of Center	Amman Al-Shameli	Al-Amira Basma	Al-Weibdeh Al-Sharqi	Al-Hashimi Al- Shamali			Al-Basheer	Prince Hamza	
Governorate	Amman	Amman	Amman	Amman			Amman	Amman	
Distance (in kilometers)	---	?	?	?	?	?	?	?	
2007 Expenditures (JD in millions)									
2008 Expenditures (JD in millions)									
2009 Expenditures (JD in millions)									
Rent	---	---	2,843	---			---	---	
Doctor Visits	166,615	126,000	62,576	139,003			576,001	105,343	
Nurse Visits	66,484	37,417	14,363	6,021					
Total Visits	233,099	163,417	76,939	145,024					
Emergency Room Patients							490,748	137,782	
Physicians:									
Specialist	23	7	6	2			278	85	
Qualified	---	---	---	---			329	126	
General	6	7	7	6			17	9	
Dentists	6	3	2	3			21	4	
Nursing, Mid-Wife Staff	3	3	1	3			802	268	
Pharmacists							19	17	
Allied Health Professionals	7	5	5	4			395	133	
Other Support Staff	37	33	14	30			304	156	
Total Staff	112	78	45	66			2,165	798	
Services:									
Ophthalmology	x	---	X	---					
Ear, Nose, and Throat	x	---	---	---					
Mother and Child Section	x	X	X	x					
Family Section	x	X	X	x					

Annex F

Physician Utilization in the Ministry of Health, 2009 - 2010						
Program	End of Year, 2009			2010 Activity		Totals 2010 End of Year
	Headquarters	Hospitals	Centers	Departures	New Hires	
Administration and Support Services						
Specialists						
Qualitified						
General						
Administrative Assignment						
Secondary Health Care/Hospitals						
Specialists						
Qualitified						
General						
Administrative Assignment						
Primary Health Care/Health Services Centers						
Specialists						
Qualitified						
General						
Administrative Assignment						
Serums, Vaccines, Medicines, and Medical Consumables						
Specialists						
Qualitified						
General						
Administrative Assignment						
Human Resource Development						
Specialists						
Qualitified						
General						
Administrative Assignment						
Ensuring Health Umbrella Expansion						
Specialists						
Qualitified						
General						
Administrative Assignment						
Totals						