

## Introduction

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### Introduction

Health service is a complex, dynamic system which influenced by different historical, economic, political and other factors. Decision-makers need reliable information on the cost, effectiveness and efficiency of the policies, interventions and programs, targeting the health of the population, in a timely and useable fashion. Particular attention has to be paid to:

- Improve health policy analysis, formulation;
- Promote strategic thinking in health planning and management;

In additions, information on choice of health intervention, system design, quality of care, ways to encourage desirable and discourage undesirable programs. This requires improving the government capacity, especially in the area of stewardship, adjusting approaches to financing and resource generation as well as provision of health services. Better evidence is needed on the relationship between the performance and the organization of different health systems, and on the ways to manage the complex process of change.

Decision-makers at different levels need the tools, information and capacity to assess health needs, choice of health system strategies, design policy options appropriate to their own circumstances, set priorities, monitor performance and manage changes.

Without reliable data, it is impossible to assess effectively the impact of policies, programs or any interventions in the health sector. Without the right indicators, important problems might not be detected; without a system-wide scope, solutions with unintended consequences might be developed. Therefore, World Health Organization (WHO) is continuously developing stronger norms and standards for overall health information systems at national and sub-national levels, with a focus on quality of data, methods for data collection and estimations to enable managers and decision makers to:

- Assess health situation and trends;
- Assess needs for health services;
- Define and measure goals, objectives and targets of health programs;
- Define the functions of health care services and units;
- Set priorities for the allocation of resources and, accordingly, plan the health services;
- Manage the health programs, monitor and evaluate their performance, and assess efficiency of recourses usage;
- Supervise and run training activities for the staff;
- Coordinate activities within the health sector, and with other sectors in the health related matters to avoid unnecessary duplication;
- Control Communicable Diseases.

## General Discussion

Managing by evidence and quality was always a major concern of top management in the Ministry, the health report played as important source of information/ evidence. To grantee the maximum benefits and as apart of continuous improvement for the reports a committee was formulated. The main responsibility of the committee was to study and review the report in terms of the following aspects:

- Comprehensiveness taking into account functions and services of Health system
- Completeness of data with respect of health and economic burden of the diseases and conditions (detailed causes of death, cause specific morality, cancer, medical errors, hospital infections...etc).
- The presentation and structure of the report.
- Timelines: recommendation and emphasis on the data source

The outcome of the review process will be compile in a report containing recommendations on areas of all possible improvements and enhancement.

Some of these recommendations were implemented in this edition; others may be implemented in future editions whenever feasible.

Readers of the report will notify the following major changes:

- Tables' numbering and titles both Arabic and English are shown at the top of the page.
- The main table of contents covers chapters' names, while chapters' details table of contents are presented at the beginning of each chapter.
- Conventions used in the report are presented at the beginning of the chapter after table of contents whenever applicable.
- Long tables are presented in more than one page, table number is prefixed with the word continue to facilitate the validity and sequences data presentation.

This section will tackle a brief discussion on health status and health services in 2005. It is intended to be meaningful to educate members of general public as well as to health care professionals. The body of this report is structured as follows:

- Summary statistics of the population of the Kingdom (Patients who are considered as customers of the health system)
- Health resources (physical, financial, and human resources)
- Health services and activities
- Health status (mortality and morbidity)

The report consists of seventeen chapters. Chapter one shows a summary statistics of all Health indicators for the Kingdom. The chapter covers all the above items such as the socioeconomic & demographic characteristics, health resources, utilization of Health Institutions, and health status. Chapter two presents selected tables that show the population estimates for the year 2005 based on 2001 census. Chapter 3-9 focus on resources, facilities services, vital, morbidity and mortality statistics of Ministry of Health. Chapter ten present some of the activities in Military Hospital and chapters 11-17 cover the services at Private Hospitals.

The report was compiled by the Health Information Directorate and is based on the statistics collected from most of MOH health care business areas; Patient Management Information automated system, Central Informatics Organization (CIO), Ministry of Finance (MoF), and Private hospitals and clinics.

## Demographic and Socioeconomic Indicators

The estimated 2005 population was 707,160 and 586,110 in 1995. The proportions of the Bahraini Nationals to Non-Bahrainis were relatively constant over the last 10 years. In the year 2005, 61.9% of the population was Bahraini and 38.1% were Non-Bahraini, compared to 61.8% Bahraini and 38.2% Non-Bahraini in 1995.

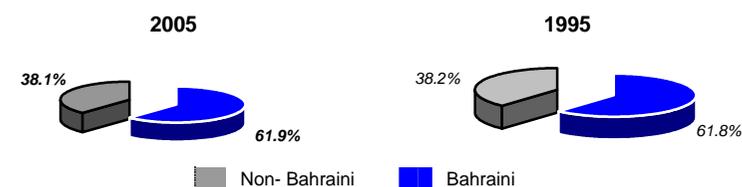
**Population by Census 2005 & 1995** **Table 1**

Estimated Population	2005	1995	Annual % Change*
Bahraini	448,491	362,182	2.2
Non-Bahraini	276,154	223,928	2.1
Total	724,645	586,110	2.1

Ref: Central Informatics Organization, estimates based on 2001 & 1991 census

\* Annual % Change=  $[(Pop.2005/Pop.1995)^{1/t} - 1] * 100$

**Population Percentage By Nationality** **Figure 1**



### Population Sex Ratio

The sex ratios for the entire population were nearly stable in both years irrespective to the nationality (135 in 2005 and 137 in 1995). The sex ratio (male per 100 female) among Bahraini was 119 in 2005 and 102 in 1995. In contrast to the Non-Bahraini population, this was relatively high in both years (227 in 1995 and 260 in 2005). This was due to the male-dominant immigration, especially the middle age group (i.e. the working age group). (see table2)

**Population Sex Ratio** **Table 2**

Nationality	2005	1995
Bah	119	102
Non- Bah	260	227
Total	135	137

*Population Sex Ratio (male per 100 female) = (No. Male/No. Female)\*100*

### Population by Age, Sex and Nationality

As mentioned previously, although there has been an increase in the estimated population in 2005 from 1995 (as illustrated in table3), but the percentage of people under 15 years of age has decreased since 1995 from 30.8% to 27.3%. This was due to mainly the increase of literacy rate among people and good family planning programs provided. In fact, this decrease was also true for both nationalities. Nevertheless, the Bahraini population of this age group took the bulk of these percentages which was 40.3% in 1995 and 35.8% in 2005, comparing to 15.3 in 1995 and 13.5 in 2005 for Non- Bahraini.

**Population Distribution by Age Group & Nationality** **Table 3**

Population (%)	2005			1995		
	Male	Female	Total	Male	Female	Total
<b>Bahraini</b>						
Pop<15	36.2	35.3	<b>35.8</b>	41.1	39.6	<b>40.3</b>
15 –64	60.1	60.9	<b>60.5</b>	55.3	57.3	<b>56.3</b>
65+	3.7	3.8	<b>3.7</b>	3.6	3.1	<b>3.4</b>
<b>Non-Bahraini</b>						
Pop<15	10.1	21.2	<b>13.5</b>	11.5	24.1	<b>15.3</b>
15 –64	89.4	78.2	<b>85.9</b>	88.2	75.4	<b>84.3</b>
65+	0.5	0.6	<b>0.6</b>	0.3	0.5	<b>0.4</b>
<b>Total (both Nat.)</b>						
Pop<15	24.3	31.4	<b>27.3</b>	27.5	35.3	<b>30.8</b>
15 –64	73.5	65.7	<b>70.2</b>	70.4	62.3	<b>67.0</b>
65+	2.2	2.9	<b>2.5</b>	2.1	2.4	<b>2.2</b>

The proportion of middle age group or working group aged (15-64) years out of the overall population was two third of the total population 56.3% in 2005 and 67.0% in 1995. The population proportion by Nationality was 60.5% for Bahrainis and 85.9% were non-Bahraini in 2005. However, in 1995 it was 56.3% were Bahrainis and 84.3% were non-Bahrainis. There was a noticeable increase in the percentage among Non-Bahraini than Bahraini population of the age group 15-64 years in both estimates.

However, the percentage of persons aged 65 years and over has been maintained at a low proportion 2.5% during 2005 and 2.2% in 1995. While the distribution of that age group by nationality showed that, 3.7% among Bahrainis and 0.6% for non-Bahraini in 2005, and 3.2% for Bahrainis and 0.3% for non-Bahraini population in 1995.

As shown in the table above that sex differential is in favour of female in the youngest (age < 15 years) and oldest 65+, but not in the middle age especially among Non-Bahraini. While it is nearly the same percentage for both sex among Bahraini.

## Age Dependency Ratio

The total dependency ratio in Bahrain (defined as the number of persons in a population who are not economically active for every 100 economically active persons in that population). It is usual to use as a rough guide the Childhood dependency ratio (age groups 0-14) and aging dependency ratio (aged 65+), to the population in the age group 15-64 years, since the retirement age in Bahrain is 65 years.

**Dependency Ratios** **Table 4**

Population	2005		1995	
	Bahraini	Total	Bahraini	Total
Childhood dependency ratio (0-14)	59.1	38.9	71.7	46.0
Aging dependency (aged 65+)	6.2	3.6	6.0	3.3
Total	65.3	42.5	77.7	49.3

There is a significant drop in the dependency ratio for both nationalities for the past ten years. In year 2005 the dependency ratio was 38.9%, 3.6% and 42.5% for the childhood, aged and the total dependency ratio populations respectively. Comparing to 1995, the dependency ratios were 46%, 3.3% and 49.3% .

However, the dependency ratio for Bahraini only was 59.1%, 6.2 % and 65.3% for the childhood, aged and the total dependency ratio populations respectively in 2005. Comparing to 71.7% , 6.0% and 50.7% respectively in 1995.

However, the number of individuals receiving welfare payments from the kingdom has increased for the past five years as reported by Ministry of Labour. The value of the payment rose from BD. 3.9 million in 2000 to BD. 4.0 million in 2004 and BD. 8.0 million in 2005. Out of this amount 44% goes for the elderly.

Overall, the rate of disability among Bahraini population represented only less than 1% of the total population as per 2001 census. 1.6% of the welfare payment goes to disables.

## Health Facilities and Health Resources (2001-2005)

### Physical Resources

The Health system delivery is partnership between both government and private sectors. The Ministry of Health played a major role in the provision, improving, and sustaining quality health care services.

Health facilities have improved rapidly during the past five years which illustrated in table 4. This can be witnessed clearly through the remarkable evolution in regard to the type and quality of the services at Salmaniya Medical Complex (main hospital in Bahrain). During the 2005, services were introduced such as Pediatric Oncology expansion in the Intensive care unit, Accident and Emergency Department and ambulatory services. The installation of new sophisticated medical equipment contributed in the diagnosis, treatment and rehabilitation of the patients. In addition to that a great attention was given to improve the quality of the services provided at the Psychiatric Hospital, Geriatric and the five Maternity Hospitals.

The construction work on the new King Hamad General Hospital at Busaiteen in Muarraq governorate was started in Feb. 2006. The hospital will be a huge training medical center for the adjacent Medical University which will be built later in the future. The hospital is a four-level building designed to reflect all the services provided namely Accident & Emergency, Ambulance services, Imaging, Operating theatre suite, Labour and Delivery Unit, Neonatal, Endoscopies, Inpatients services for most of the specialties and Out patients clinics. The hospital considered as an innovation and state of the art high quality that will permit the development of best international clinical treatment practices for the benefit of the people of Bahrain.

However, The Ministry encourages the expansion in the provision of health care in the private sector delivery of health care in the private sectors. With the opening of three new private hospitals namely: Noor Specialized hospitals, Dr.Tariq Hospital and Urology (UPS) & Plastic Surgery Hospitals has increased number of private hospitals to nine hospitals.

The expansion of the services was not limited to the Secondary Health Care, but it included also the Primary Health Care. To maximize the capacities and accessibility to the services in Primary Health Care, many steps were taken during the past five years such as:

- New Dair Health Center in Muharraq Governorate was opened on October 2005 with grade "A" facilities under the name National Bank of Bahrain H.C. – Dair. The health center was connected to the Ministry Wide Area Network (WAN) at Health Information Directorate As part of Health Centers Automation project.
- Upgrading of Al Zallaq Health center form clinic to a category "B" health center. The new health center is expected to be operated by the second half of 2006.

- The opening of the new expansion at Budaiya Health Center including adding X-Ray department, New Mother and Child Health Care, upgrading Medical record, pharmacy, laboratory, nursing services and two new consultation room.
- Automatic queuing systems were introduced into the appointment desk, pharmacy and laboratory areas at Jidhafs and Budyia health centers to improve patient management, quality of the services and patients satisfaction.
- Issuing "Health Centers' guidelines & procedures" booklet for distribution to public. It covers all the services provided at the health centers and how to get them.
- In coordination with the Cancer Society and Batelco the directorate started the implementation of "Early detection Brest Cancer National Campaign" by introducing a Mammogram and X-ray films processor systems at 3 health centers: ( National Bank of Bahrain, Naim and Hamad Kanoo health centers ). The rollout to two other health centers will be soon in near future to cover all the governorates.
- Increase number of social workers to 19 at health canters by recruiting of 15 new ones. As well as recruiting 25 school health nurses distributed all over government school with coordination with Ministry of education as part of implantation of school health program..
- To expand patient services delivery, all health centers opened 4 hours evening sessions using patients file.
- Formulation of the primary health care quality improvement committee to improve the overall performance at the health centers.
- Improving postnatal care services by adding three midwives to the nursing section at all health centers

#### Health Facilities

Table 5

Description		2005	2004	2003	2002	2001	1995
Hospitals	G	9	9	9	9	9	9
	P	9	6	6	6	5	3
Beds	G	1741	1,694	1,691	1,680	1,696	1,568
	P	292	215	213	244	150	177
Primary Health Care	G	23	23	23	23	23	22
	P	-	-	-	-	-	-
Inpatients	G	84,167	78,356	77,710	76,624	71,756	62,141
	P	14,094	10,863	8,387	6,838	4,435	6,353
Outpatient	G	3,953,897	3,854,060	3,766,526	3,674,545	3,532,115	3,138,859
	P	510,129	483,786	420,463	341,478	309,003	162,231

G. = Government- Including Directorate of Health & Social Welfare (Ministry of Interior), P. = Private Health Center Private Primary Health Care is provided through the private companies clinics.

From the above table it showed a remarkable increase in the health care facilities especially in private sectors, which nearly doubled from the past five years. In 1995, there were only three private hospitals but the number was tripled by 2005.

#### Financial Resources

With growing population, health care budgets are coming under mounting strain as the country strives to maintain and improve its services. Financial allocation for medical care has been raised substantially in recent years. But still they are not sufficient for the demands placed upon them.

Nowadays, the major challenge that the Ministry faced is to maintain current health services and strive for health for all. With the continuous increase of public demand on the health care services that has direct impact on the increment on the Ministry's resources (see table 6), the Ministry requires to find alternative sources to bring additional financial resources in order to at least sustain the best quality of health services.

#### Financial Resources

Table 6

Financial data	2005	2004	2003	2002	2001	1995
% of allocated budget to MOH from total Government expenditure	7.0	7.4	7.5	7.2	7.7	8.6
MoH Budget* (BD. in Million)	103.1	88.4	80.6	71.0	64.4	54.9
MoH average recurrent health expenditure/ capita	138.1	120.9	113.8	103.1	96.6	79.3
<u>Average cost per MOH Visits (BD.)</u>						
Primary outpatients	4.0	3.8	3.4	3.0	2.9	2.7
Secondary outpatients	36.6	32.2	30.7	27.8	26.6	19.9
Secondary Inpatients (per day)	146.2	129.3	122.7	112.2	106.6	79.4
Deliveries (maternity Hosp.)	343	327.8	315.5	278	287	412.2
<u>% MOH recurrent expenditure on:</u>						
Primary & Public Health Care	22.1	22.5	22.7	22.2	21.9	21.7
Secondary H.C.	56.5	58.2	58.8	59.1	60.0	55.3
Total Other	21.4	19.3	18.5	18.7	18.1	23

1US\$ = 0.377 BD

\* Source: Ministry of Finance & National Economy - MOH budget include projects received

The Ministry of Health took all the burden of providing free health care with a budget BD.103.0 million in 2005, approximately 7.0% of the total government expenditure. The Ministry's recurrent expenditure was BD. 100.0 million with an increment of 16.6% from 2004 budget, whereas in 1995 the Ministry's budget was BD. 54.9 million which represented 8.6% as percentage of the total government expenditure. The Ministry's recurrent expenditure was BD. 46.4 million with an increment of -1.7% from previous year.

The Ministry of Health average expenditure per capita has increased from BD. 79.4 (equivalent to U.S \$216 per person) in 1995 to BD. 138.1 (equivalent to U.S.\$ 376.3) in 2005. More than half of the Ministry budget was devoted to Secondary Health Care nearly 56.5% in 2005 and 55.3% for the year 1995. While, only 22.1% of the Ministry's budget was devoted to Primary and Preventive Health Care in 2005 and 23 % in 1995.

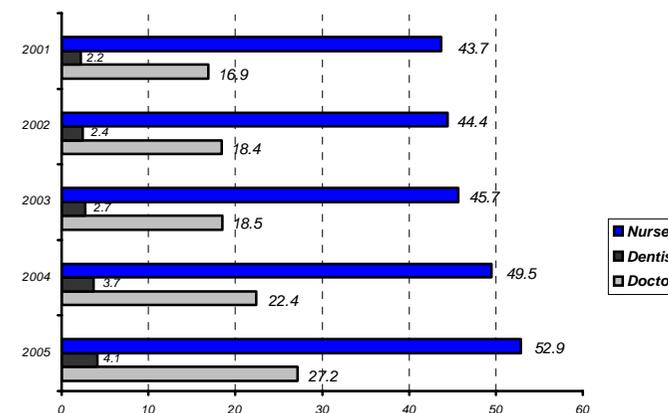
The average cost per visits for primary Health care clinics was BD. 4.0 in 2005 with an increase of 48% since 1995 which was BD. 2.7. Same thing was true for the cost of the services per person in the secondary health outpatients' clinics, the increment was 84% comparing to the past ten years, as it was BD. 19.9 in 1995 and BD. 36.6 in 2005. Moreover, the cost of the inpatient per day has also increased from BD. 79.4 to BD. 146.2 in 2005. However, there was a decrease in the average cost of the deliveries by 19%, which was BD.412.2 in 1995 and BD.343 in 2005. (See table 5).

### Human Resources

Table 7 below shows the development of the medical resources over the past five years at the national level respectively. During the 1995, per 10,000 populations, there were 10.8 doctors, 1.3 dentists and 25.6 nurses, while these numbers were doubled to 27.2, 4.1, and 52.9 respectively in 2005. The nurse-doctor ratio was 1.9 in 2005 and 2.4 in 1995.

Human Resources per 10,000 population

Figure 2



Human Resources

Table 7

Indicators (per 10,000 Population)	2005	2004	2003	2002	2001	1995
Doctors	27.2	22.4	18.8	18.4	16.9	10.8
Dentists	4.1	3.7	2.7	2.4	2.2	1.3
Nurses	52.9	49.5	45.8	44.4	43.7	25.6
Nurse per doctors	1.9	2.2	2.4	2.4	2.6	2.4
Bed	28.1	27.0	27.6	28.6	28.2	29.8

## Health Status of the Community

The following are selected standard health indicators that reflect Bahrain's improving health status.

### Child Birth

Although the birth and fertility rates show a downward trend the volume of births has risen consistently due to the size of childbearing female population. Relevant socio-economic factors affecting childbirths include income, nutrition, and education. Literacy among woman is one of the highest in the Gulf region at 83% (census 2001). It is desirable to improve on woman education in order to improve family health and reduce the incidence of unnecessary premature births, still births and prenatal deaths.

The quality of antenatal care are improved via Mother and Child Health Care services at the Health centers, such as the introduction of ultrasound facilities at MCH units so that abnormalities can be identified earlier thus increasing the chances of survival.

The Ministry give Lots of attention on the quality of antenatal service provided at Mother and Child units at all the Health Centers. A great number of pregnancies have been subject to both primary and secondary care. 99.5% of births are attended by trained medical staff. There was an average of approximately 6 antenatal visits per live births in 2005

Total fertility rates (per woman of age 15-49) were consistent for the past five years at 2.6 in (3.1 for Bahrainis and 2.6 for Non Bahrainis) in 2005.

**Births Statistics**

**Table 8**

Health Indicators	2005	2004	2003	2002	2001	1995
Total births*	15,235	15,039	14,674	13,659	13,555	13,144
Total live births	15,123	14,915	14,568	13,525	13,437	13,015
Total deliveries**	14,970	14,786	14,463	13,488	13,403	12,835
Abortion	2,078	1,505	1,630	4,105	2,165	N.aiv.

\* Reported cases excluding those born abroad.

\*\* A delivery may include one or more births

### Vital Statistics

Table 9 below shows that most of the vital statistical indicators were relatively constant for the past five years. For example, crude birth rate per 1000 population was 21.1 since 2002 while in 2001 was 20.5. Infant mortality rate per 1000 live births recorded a significant increase in 2004 which was 9.5 comparing to 22.2 in 1995. Infant mortality rate is one of the Ministry of health formed a committee to investigate the main reasons behind this increment and the results will be published separately in a supplementary report.

**Vital Statistics as reported by Public Health Directorate**

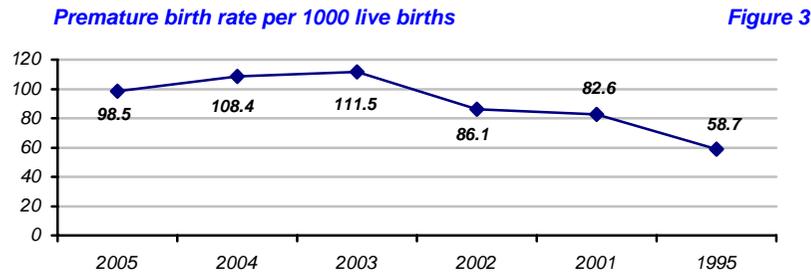
**Table 9**

Health Indicators	2005	2004*	2003	2002	2001	1995
Crude birth/1000 population	20.9	21.1	21.1	20.1	20.5	22.2
Still birth rates/1000 births	7.4	8.2	7.2	9.8	8.7	9.4
Infant mortality rate/1000 live births	8.9	9.1	7.3	7.0	8.7	9.7
Maternal mortality rate/1000 live births	-	0.20	0.21	0.22	0.22	0.46
Under 5 yrs mortality/1000 live births	10.9	10.8	9.5	8.9	12.1	12.1
Premature birth rate/1000 live births	98.5	108.4	111.5	86.1	82.6	58,7
Under 5 yrs mortality/1000 child <5 yrs old	2.7	2.6	2.2	1.9	2.7	2.4
Total Fertility Rate per woman (Female 15-49)	2.6	2.6	2.6	2.6	2.6	2.6
Crude death rate/1000 population	3.1	3.1	3.1	3.0	3.0	3.0
Life expectancy rate at birth both sex	74.8	73.8	73.8	73.8	73.8	71.9

\* Studies on Infant mortalities were conducted and the data were modified accordingly

## Pre Term Births

There seems to have been a rise in the number of premature births (birth occurring earlier than 37 completed weeks of gestation). The trend of the premature birth is tending to go upward see figure 3 above. A team was formed in conjunction with the Pediatric department to study this issue thoroughly and submit a scientific justifications and a proposed solution. The real concern not only because of the implied increase in death and disability but also because of the enormous costs involved in care of premature infants.



"Infants born prematurely have an increased risk of death in the first year of life. More than half of the born before six months gestation die within weeks of births; prematurely account for nearly a quarter of all deaths in the first month of life. (By Warren King, *Seattle Times medical reporter*). They are also at a greater risk for developing serious health problems such as: cerebral palsy, mental retardation, chronic lung disease, blindness or deafness.

Although there are several known risk factors for prematurely (see below), nearly half of all premature births have no known cause. When conditions permit, doctors may attempt to stop premature labor, so that the pregnancy can have a chance to continue to full term, thereby increasing the baby's chances of health and survival. However, there is currently no reliable means to stop or prevent preterm labor in all cases. Listed below are some examples of known factors related to premature births:

- A woman's previous history of preterm birth, or pregnancies that ended in miscarriage.
- Multiple pregnancies (twins, triplets, etc.) are at a higher risk for premature birth. Uterine or cervical abnormalities.
- Certain chronic disease such as high blood pressure, kidney disease and diabetes.
- Infections of the cervix, uterus or urinary tract. Certain STDs, Beta Strep.
- Substance abuse of tobacco, alcohol and other drugs.

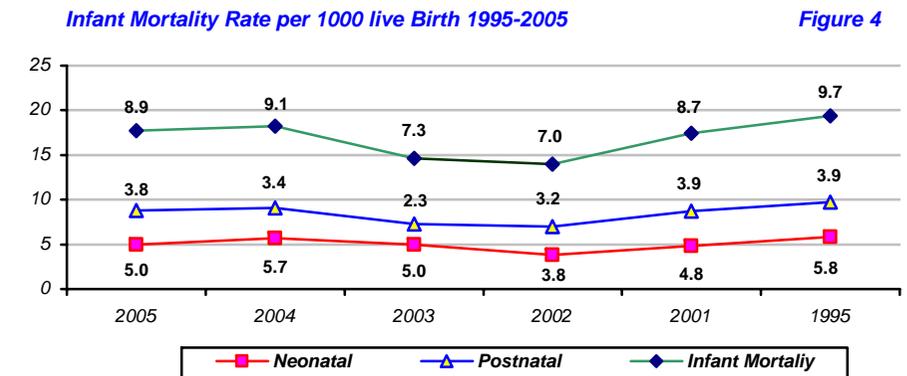
- Women who have tried to conceive for more than a year before getting pregnant are at a higher risk for premature birth. A recent study done by Dr. Olga Basso of the University of Arhus in Denmark and Dr. Donna Baird of the U.S. National Institute of Environmental Health Sciences suggests that women who had difficulty conceiving were about 40% higher risk of preterm birth than those who had conceived easily.
- Women under 18 or over 35 are at a higher risk for premature birth.

Medium Projections of mean life expectancy rate at birth for both males and females was 74.8 years in 2005, 72.1 for male and 77.3 for female. Comparing to 1995, it was 72.9 for sex, 72.1 for male and 75.3 for female respectively. This is a substantial achievement as the Global indicator No.10 stated that [the averaged life expectancy rate at birth should be 62 years].

## Infant Mortality

Infant mortality (IM) is the number of newborns dying under a year of age. In past times, infant mortality claimed a considerable percentage of children born, but the rates have significantly declined in modern times, mainly due to improvements in basic health care, though high technology medical advances have also helped. Infant mortality rate is commonly included as a part of standard of living evaluations in economics (refers to the quality and quantity of goods and services available to people and the way these services and goods are distributed within a population).

Depending on the time of death, infant death can be classified as neonatal death (i.e., death during the first 4 weeks of life) and Post-neonatal death (i.e., death after the first 4 weeks but within one year of life). Neonatal death can be further classified into early neonatal death (i.e., death during the first week of life) and late neonatal death (i.e., death during the 2nd to the 4th week of life).

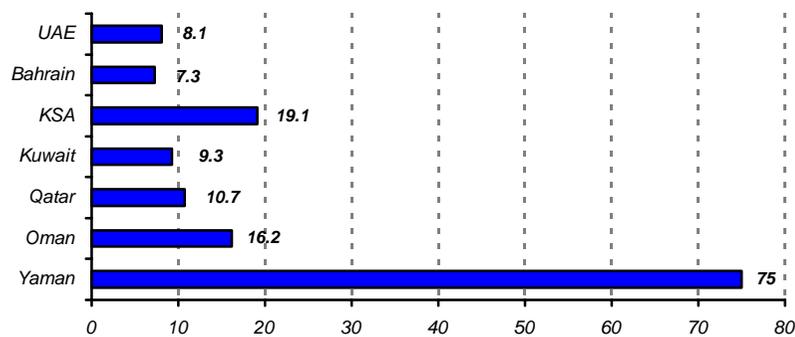


As described previously, the infant mortality rate (IMR) can be partitioned into two components: Neonatal mortality (i.e., death during the first four weeks of life) and Post-neonatal mortality (i.e., death after the first four weeks but within the first year of life). Neonatal mortality is usually associated with prenatal factors, including low birth weight/prematurely and severe congenital anomalies.

Post-neonatal mortality, however, is often associated with factors after birth, including lack of breastfeeding and malnutrition (which predispose the infants to infection), smoking in the household, and injuries. Figure 4 show that, neonatal mortality in Bahrain had already started to increase in 2003. However, this increase was partially masked by the decline in Post-neonatal

Figure 5 show that in 2003The Kingdom of Bahrain was the lowest infant mortality rates among the GCC countries as per recent available data.

**Infant Mortality Rate/1000 live Birth for year 2003 – GCC Countries Figure 5**



“Vital Health Indicators - 2003”, Executive Office of the Health Ministers Council for GCC, 9<sup>th</sup> edition.

### Nutritional Status of Children

Birth weight is an indicator of the health and nutritional status of mothers, as well as a prediction of infant health and development. In Bahrain, the percentage of newborns with birth weight at least 2.5 kg. has remained relatively constant for the past five years at 92.2%, 91.8%, 90.0%, 90.4% and 90.3% for the years 2005, 2004, 2003, 2002, and 2001 respectively. In addition to that, the percentage of children below five years with weight-for-age values corresponding to acceptable standard reference values has significantly increased since the early Nineties from 77% to remain relatively stable around (92±.5%) for the past five years.

### Mortality

In 2005, there were 2,222 deaths reported by Public Health Directorate as compared to 1,786 in 1995. Most of the reported deaths occurred in the hospitals (47% deaths occurred at Salmaniya Medical Complex). The crude death rate continues to be very low and nearly constant (3.0 per 1000 population) since 1995. In 2005, 31% of the deaths were among elderly age 75+ years old. Most deaths by gender recorded in Bahrain were among male 59.7% rather than female.

Diseases of the circulatory system (cardiovascular diseases) constitute the highest single cause of mortality in Bahrain representing 69.9 per 100,000 populations, accounting for more than 22% of total deaths at Salmaniya Medical Complex. The rate of deaths from circulatory diseases distributed by gender showed that 60.6 per 100,000 male and 59.1 per 100,000 female population in total.

The known risk factors for CVD such as smoking, and raised blood cholesterol, and the risk makers such as lack of physical activity, obesity, and alcohol consumption are expected to have increased in Bahrain over the last two decades. In addition to that, the continuing rises in the incidence of the cardiovascular in association with the rise in the size of the population over sixty five years of age who represent nearly 2.5% of the total population.

Deaths from Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified (Ill defined) was the second cause of deaths (59.2 per 100,000 population) with an increase of 56.5 from last year which is nearly 19.6% of the total deaths.

Neoplasm or Cancer is the third most common cause of death in Bahrain accounting for about 12% of total deaths with a decline of -0.9% from 2004. However, out of these deaths there were 46.8 deaths every 100,000 female populations, in contrast of 31.9 deaths per 100,000 males. Deaths due to Malignant Neoplasms of bronchus were the highest, followed by breast cancer deaths among females. The great majority of deaths (61.6%) from Cancer were in age group over 60 years.

Deaths from endocrine, nutritional & metabolic disorders in 2005, an increment of 12% from previous year, while Injuries and poisoning stand as the fifth cause of death 28.3 (per 100,000 population). Out of these, 45% was due to traffic accidents and more than 20% was due to intentional self-harm by hanging. Other major causes of death were due to diseases of respiratory system; infectious and parasitic; genitourinary diseases; and diseases of the digestive system. (see table 10).

One of the recommendations of the World Health 2003 Report “Reducing Risks report” was that “countries should give top priority to developing effective, committed policies for the prevention of globally increasing high risks to health.” The main risk factors as defined by WHO are high blood pressure and high blood cholesterol are closely related to excessive consumption of fatty, sugary and salty foods. They become even more lethal when combined with the deadly forces of tobacco and excessive alcohol consumption and unsafe sex in connection with HIV/AIDS.

**Top Leading Causes of Death****Table 10**

Causes of Death (rates per 100,000 Population)	2005	2004	2003	2002	2001
Diseases of Circulatory System	59.9	69.0	86.6	86.5	86.3
Symptoms, signs and Abnormal Clinical & Lab. Findings not Elsewhere Classified	59.2	61.5	39.3	45.2	49.6
Neoplasm	36.8	37.2	39.3	41.4	36.9
Endocrine, Nutritional & Metabolic Disorder	32.2	28.7	24.2	28.1	24.9
Injuries & Poisoning	28.3	28.1	26.5	26.5	28.1
Respiratory System	19.7	17.7	20.7	18.0	16.2
Certain Infectious & Parasitic Diseases	13.0	11.2	11.9	10.1	7.5
Genitourinary System	12.6	12.0	11.0	7.6	8.2
Digestive System	9.0	9.6	13.8	10.4	9.6
Certain Condition Originating in the perinatal period	8.6	12.0	7.3	6.2	7.8

**Morbidity**

The health problems of Bahrain are those generally found in countries passing through the stage of transition from developing to developed nations. Communicable diseases are declining as the major causes of mortality and morbidity. They are being replaced by non-communicable ones such as cardiovascular diseases, cancer, metabolic diseases, congenital anomalies and accidents. The main causes of hospital admissions, based on the statistics of Salmaniya Medical Complex are illustrated in table 11.

Spontaneous abortion/miscarriages were the most common complication in pregnancies throughout the world. The SMC data showed that most of the listed morbidity has risen for over the past five years. This may highlight that more attention should be given to the environmental risks, community lifestyle, anti smoking campaigns, and health education and practices.

**Discharges from Salmaniya Medical Complex<sup>1</sup> (Top Ten Morbidity)****Table 11**

Morbidity (rates per 100,000 Population)	2005	2004	2003	2002	2001
Complication pregnancy, childbirth & puerperium (15-44) <sup>2</sup>	5786.6	6,002.6	6,231.7	6,226.4	6,132.1
Spontaneous abortion	815.4	885.5	895.0	1,017.4	1,057.2
Hereditary anemia	456.8	414.3	363.8	277.5	227.2
Neoplasm	217.2	221.4	220.3	237.9	241.5
Ischemic heart disease	174.4	172.7	165.4	159.5	148.6
Diabetes	192.6	106.6	107.2	85.4	88.6
Asthma	61.5	62.4	56.6	66.1	61.1
Acute respiratory infection	26.8	23.9	30.9	43.7	41.7

<sup>1</sup> Rates per 100,000 populations

<sup>2</sup> Rates per 100,000 females age 15-44 yrs

It was noticeable that there were more female discharges per 100,000 females due to Asthma (74.1), Neoplasm (286.8) and Acute Respiratory Infection (30.2), comparing to more discharges per 100,000 male due to Diabetes (494.8), Ischaemic Heart Diseases (205.9).

**Immunization**

Due to an efficient Expanded Program on Immunization (EPI) and high immunization coverage more than 98%, childhood communicable diseases have been almost eradicated in Bahrain. According to the World Health Organization (WHO) Immunization Schedule, Measles vaccine as single antigen dose1 and MMR as dose2 were replaced by MMR1 given to children at one year of age MMR2 at 4-6 years of age since 1999. (See table 12)

The EPI team coordinates with the Ministry of Education to carry out the immunization activities on the schools children at all levels for both government & private under the umbrella of school health program.

**Immunization Coverage Percentage****Table 12**

Immunization Against	2005	2004	2003	2002	2001
DPT	98.2	97.7	97.3	98	99
Mumps, Measles, Rubella (MMR1)	100	99.0	100	100	97
Mumps, Measles, Rubella (MMR2)	99.1	100	99.5	97	99
Poliomyelitis	98.1	97.7	97.3	98	99

## Communicable Diseases

Bahrain made remarkable achievements in eradicating most of the communicable diseases for the past decade, there were no cases reported of the Diphtheria, Whooping Cough, Neonatal Tetanus, Haemophilus meningitis and Poliomyelitis. Nevertheless, table 13 below shows that there were some variations in the rates trend of some of communicable diseases for the past five years. Although there was a marked rise in Gonococcal Infection (36.4/100,000 in 2001 to 70.8/100,000 in 2003), Syphilis incidence showed that there was a continuous rise to reach 237 cases (32.7/100,000) in 2005 from 149 cases (22.8/100,000) in 2001. However, the sudden drops in the numbers of reported cases of Gonococcal Infection since 2004; was due to patients visited private clinics and cured without taking any laboratory sample for further conformation of the disease. These patients were reported under "Other Sexual Transmitted Diseases – STD" with total of 458 cases in 2004 and 433 in 2005.

Furthermore, these were a substantial increase in number of cases in Pulmonary TB 171 there was also a decrease in the number of Malaria (P.vivax) cases from 57 cases (7.9/100,000) in 2005 as compared to 81 cases (11.5/100,000) in 2004. There was a decrease also of the Viral Hepatitis cases to reach 33.0/100,000 in 2005 from 64.1/100,000 in 2004. Most of the sexual transmission diseases cases were increased lately due to unsafe relations and among age group (15-24) years old.

**Communicable Diseases Rates (Reported New Cases) Table 13**

Disease (rates per 100,000 Population)	2005	2004	2003	2002	2001	
Pulmonary TB	23.6	17.8	19.1	19.0	16.8	
Gonococcal Infection	29.3	32.9	70.8	62.0	36.4	
Syphilis	32.7	27.0	35.1	36.9	22.8	
Other Sexual Transmitted Diseases	59.8	64.8	NA	NA	NA	
Viral Hepatitis						
	A	26.1	34.8	34.2	30.6	27.3
	B	3.7	4.9	3.0	2.7	3.2
	C	0.6	1.6	2.0	-	-
	E	2.6	4.8	3.2	3.0	6.3
Malaria (P. vivax)	7.9	11.5	8.0	4.5	7.0	

## Mental Health

Today, mental illnesses have become an increasingly universal problem in their distribution due to the rapid changes in our socio-economic status, education and life style. Although Bahrain is a considerably small country, it has its own share of the problem in terms of frequencies distribution of socio-demographic characteristics, patterns trends and their relationship. A Simple analysis was conducted on the data of inpatients at the Psychiatric Hospital over the past five years. The Psychiatric hospital is the only hospital in the country, which provides mental health care through the following services:

- ⇒ Outpatient Department
- ⇒ Inpatients Facilities for short term, medium and long stay
- ⇒ Drug & Alcohol Rehabilitation Unit
- ⇒ Psycho geriatric Unit
- ⇒ Community services and day care center
- ⇒ Liaison services.
- ⇒ Child and adolescent Services
- ⇒ Al Farabi Rehabilitation Unit (For Long stay)
- ⇒ Psychology Facilities provide behavioral Counseling and other kind of psychotherapies.
- ⇒ Social Work department

Researches showed that there is an increase in mental disorder patients due to the population increase and the difficulties in coping with changes in the new world of technologies. Also the services have become more accessible. These changes have a direct impact on the need to expand the services provided by opening new specialized clinics to help patients. New clinics for obsessive-compulsive disorders, anxiety disorders and sexual dysfunction have been established as well as day treatment centre for preschool children and Consultation Liaison Psychiatry.

**Summary Statistics 2001-2005 Table 14**

Indicators	2005	2004	2003
In-patients	1,117	1,197	1,156
Discharges	1,159	1,152	1,149
Total Patient Day	93,472	92,438	79,523
Average Length of Stay	80.6	65.2	69.2
Total Number of Beds	204	204	201
Bed Occupancy Rate	5.7	5.6	5.7

Table 14 above shows that there was a decrease of (6.7%) in the number of discharges in 2005, comparing to 2004 and 3.4 from 2003. This decrease was due to the decrease in the number of admissions. As most of the admissions were planned and usually took place for patients with violent behavior, and for those who demand direct follow up and consultation.

In 2005, the distribution of discharges (1,159) according to the principal diagnosis showed that, 24.2 were Schizophrenics, 23% were Depressed, 22 % were Drug Dependent, and 30.8% other mental disorders. 67.3% of all the discharges were between male patients. It was clear that throughout the selected four years males of age group 15-44 years took the bulk of the total discharges 44.2%. There is a plan to expand the inpatient wards to include new facilities for Adolescent and Forensic psychiatry

The total numbers of beds (204) only since 2004. Bed occupancy rate were nearly constant. The increase in the average length of stay and patients days total indicates that Psychiatric Hospital policy focused on providing more day care centers. It put more emphasis on admitting patients who are severely ill and present basically severe psychotic conditions.

### **New Millennium Development Goals (MDGs)<sup>7</sup>**

At the United Nation Millennium Summit in 2000, world leaders from around the world (189 countries) endorsed a set of goals and targets for the year 2015. The eight goals, known as the Millennium Development Goals (MDGs) cover a range of development issues, such as reducing poverty, fighting various infectious diseases, and promoting gender equity.

The eight Millennium Development Goals comprise 18 targets and 48 indicators. The targets set quantitative targets for poverty reduction and improvements in health, education, gender equality, the environmental and other aspects of human welfare. These goals are:

- Goal 1: Eradicate extreme poverty and hunger
- Goal 2: Achieve universal primary education
- Goal 3: Promote gender equality and empower women
- Goal 4: Reduce child mortality
- Goal 5: Improve maternal health
- Goal 6: Combat HIV/AIDS, malaria, and other diseases
- Goal 7: Ensure environmental sustainability
- Goal 8: Develop a global partnership for development.

Three goals, Eleven targets and seventeen indicators were directly related to health which WHO is responsible in terms of reporting at global level.

The MDGs are being used to focus and reorient the work of individuals and programs, and as a benchmark against which to assess overall county and organizational performance. These goals were covered in chapter one "Summary Statistics" table 1.11.

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