

Introduction

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Introduction

Health care presents significant challenges to the measurement success of public health programs. The inputs are many (health resources, institutes, drugs, doctors, technology, etc.) and the outcomes (longer life, reduced illness) not usually traceable to a single effort. Still, the need to measure performance in health care is as great, or greater, than almost any public sector activity. Health care, or the lack of it, affects nearly every citizen and the public investment in health care is enormous.

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 resources 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

Health Statistics report serves as an executive summary of most of the activities encountered in health sector during 2006. It contains health indicators and information on health and health related issues including health care services provision and utilization for all national and residents in the Kingdom of Bahrain. The data presented in the report covers all the services provided by Ministry of Health. It also covers some information on the health services provided by Health Information Directorate. The report is divided into sections on population demography, morbidity, mortality status, hospitals and health centers utilization, health resources and other related matters. Considerable attention was given to the completeness, consistency and validity of the data prior to publication.

In view of continuous efforts of Ministry of Health for improvements, The Assistant Under-secretary for Training and Planning formed a committee in April 2005, from Ministry of Health. The major responsibilities of the committee were to review and improve the quality and presentation of the data. This document summarizes the committee's recommendation of improvements.

Most 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.
- Vital statistics data is presented in chapter three exactly after the census instead of chapter eight as in previous editions of the report.
- Conventions used in the report are presented at the beginning of each 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.
- More chapters were added to show new private hospitals data opened during 2006.
- Most of the data are presented in the tables on gender and nationality base.

This section contains a brief discussion on health status and health services in 2006. 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 nineteen 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 2006 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 11-19 cover the services at Private Hospitals.

Demographic and Socioeconomic Indicators

The estimated 2006 population was 742,562 and 598,625 in 1996. The proportions of the Bahraini Nationals to Non-Bahrainis were relatively constant over the last 10 years. In the year 2006, 61.8% of the population was Bahraini and 38.2% were Non-Bahraini, compared to 61.7% Bahraini and 38.3% Non-Bahraini in 1996.

Population by Census 2006 & 1996

Table 1

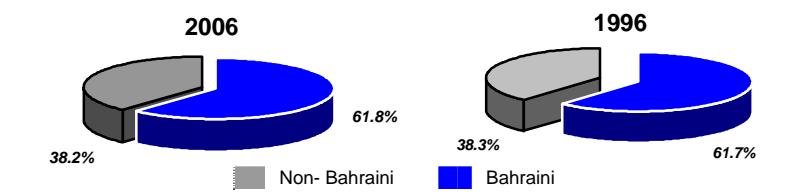
Estimated Population	2006	1996	Annual % Change*
Bahraini	459,012	369,203	2.2
Non-Bahraini	283,549	229,422	2.1
Total	742,562	598,625	2.2

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

* Annual % Change= $[(Pop.2006/Pop.1996)^{1/10} - 1] * 100$

Population Percentage By Nationality

Figure 1



Population Sex Ratio

The sex ratios (male per 100 female) for the total population were relatively high in both years both years irrespective to the nationality (135 in 2006 and 140 in 1996). This is also true Non-Bahraini population; (233 in 1996 and 223 in 2006). This was due to the male-dominant immigration, especially the middle age group (i.e. the working age group). However; sex ratio among the Bahraini was constant at 102 for both years. (see table2)

Population Sex Ratio		Table 2
Nationality	2006	1996
Bah	102	102
Non- Bah	223	243
Total	135	140

*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 2006 from 1996 (as illustrated in table3), but the percentage of people under 15 years of age has decreased since 1996 from 31.2% 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 40.9% in 1996 and 35.8% in 2006, comparing to 15.6 in 1996 and 13.5 in 2006 for Non- Bahraini.

Population Distribution by Age Group & Nationality

Table 3

Population (%)	2006			1996		
	Male	Female	Total	Male	Female	Total
Bahraini						
Pop<15	36.2	35.3	35.8	41.4	40.3	40.9
15 –64	60.2	60.9	60.5	55.2	56.6	55.9
65+	3.6	3.8	3.7	3.4	3.1	3.3
Non-Bahraini						
Pop<15	10.1	21.2	13.5	11.4	25.8	15.6
15 –64	89.4	78.2	85.9	88.2	73.7	84.0
65+	0.5	0.6	0.6	0.4	0.5	0.4
Total (both Nat.)						
Pop<15	24.2	31.4	27.3	27.4	36.4	31.2
15 –64	73.5	65.7	70.2	70.6	61.2	66.6
65+	2.2	2.9	2.5	2.0	2.4	2.2

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 70.2% in 2006 and 66.6% in 1996. The population proportion by Nationality was 60.5% for Bahrainis and 85.9% were non-Bahraini in 2006. However, in 1996 it was 55.9% were Bahrainis and 84.0% 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 2006 and 2.2% in 1996. While the distribution of that age group by nationality showed that, 3.7% among Bahrainis and 0.6% for non-Bahraini in 2006, and 3.3% for Bahrainis and 0.4% for non-Bahraini population in 1996.

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	2006		1996	
	Bahraini	Total	Bahraini	Total
Childhood dependency ratio (0-14)	59.1	38.9	73.1	46.8
Aging dependency (aged 65+)	6.2	3.6	5.9	3.3
Total	65.3	42.5	79.0	50.0

There is a significant drop in the dependency ratio for both nationalities for the past ten years. In year 2006 the dependency ratio was 38.9%, 3.6% and 42.5% for the childhood, aged and the total dependency ratio populations respectively. Comparing to 1996, the dependency ratios were 46.8%, 3.3% and 50.0% .

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 in 2006 respectively. While the dependency to 73.1 %, 5.9% and 50.7% respectively in 1996.

While Table 5 below shows that in 2006 the dependency ratio as total is higher among female than in male. While in 1996 it was the opposite. This reflect the changes in the trends of the labour market in Bahrain.

Dependency Ratios by sex

Table 5

	Bahraini		N.Bahraini		Total	
	Male	Female	Male	Female	Male	Female
1996	81.3	76.7	13.3	35.8	59.1	38.9
2006	66.2	64.3	11.9	27.9	36.0	52.3

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. 8.0 million in 2005 and BD. 9.5. million in 2006. Out of this amount 44.2% 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. 1.7% of the welfare payment goes to disableds.

Health Facilities and Health Resources (2002-2006)

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, regulating 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 Salmania Medical Complex (main hospital in Bahrain). Construction of the new Accident and Emergency Unit expansion was started. The aim is to expand the unit's capacity including new laboratory toxicology, special pharmacy for emergency, patients' waiting room, patients triage and the ambulance services. As well as providing new medical treatment rooms for the Sickle cell diseases at the emergency unit, and minimizing the waiting list of the outpatient clinics appointments. Improving intensive care unit and furnishing it with advanced ICU equipments that comply with international standards. Number of beds was increased by adding 20 beds for the Cardio Vascular ward. New drugs were added to the hospitals pharmacy.

Furthermore, new plans was sat up to establish heredity diseases treatment center for the Sickle Cell and Thalassemia patients which includes inpatients services, outpatient and emergency clinics, blood transfusion and a small ward. The centre will offer day case management of painful crisis to reduce unnecessary hospital admissions. This alternative approach will be established to provide quality, instant and specialized services to heredity diseases patients. The center will represent a quantum leap in serving those patients in the Kingdom of Bahrain. The construction of Al Gazali building at Psychiatric hospital was completed.

However, The Ministry encourages the investment in health care services through private sector. This can be noticeable through the opening of two private hospitals namely: Al-Baraka Infertility hospital at Al Adliyah furnished with 6 beds and Al Hilal Hospital at Muharraq with 48 beds. By doing so number of private hospitals increased to eleven hospitals.

The expansion of the services was not limited to the Secondary Health Care, but it included also the Primary Health Care which can be summarized as follow:

- One of the most successful achievements is the opening of the health centers in the evening in all governorates in the Kingdom. This will increase both accessibilities to the health services and doctors' consultation hours as well as improving quality of the care provided. This step will be followed by the provision of the full health services all sessions at all health centers including the opening of other sections such as medical laboratories and dental services similar to those services provided in the morning session.
- The upgrade of the switchboard operators at health centers to improve appointment system through telephone.

- Introducing patients triage by nurses to minimize the unnecessary doctors' consultations load.
- The opening of National Bank of Bahrain - Dair branch health center to replace the old one. New services were added such as Maternal and Child Health Care, X-Ray and Laboratory with a capacity of 23,000 populations.
- Increasing number of community nurse and midwives to improve the quality of the MCH services.
- The opening of the Anti Smoking Clinic at Al Hoora Health Center to promote anti smoking services as one of the main causes of the Cardio Vascular Diseases.
- The expansion of the diabetic clinics to 20 clinics supervised by qualified nurses.
- The opening of the X-ray department at Budiaya Health Center on February 2006. and establishing ambulance station at Isa Town Health Center.
- Increasing health education campaigns at health centers to increase public awareness in healthy life style.
- Al-Zalaq clinic in Southern Governorate was upgraded to health center a "B" category, and was reopened in the fourth quarter of 2006. The health center provides all the services and equipped with all advanced medical equipments and analyzers. The health center was connected to the Ministry Wide Area Network (WAN) at Health Information Directorate As part of Health Centers Automation project.

Health Facilities

Table 6

		Description	2006	2005	2004	2003	2002	1996
Hospitals	G	9	9	9	9	9	9	
	P	11	9	6	6	6	3	
Beds	G	1714	1741	1,694	1,691	1,680	1,201*	
	P	323	292	215	213	244	138	
Primary Health Care	G	23	23	23	23	23	22	
	P	-	-	-	-	-	-	
Inpatients	G	81,360	84,167	78,356	77,710	76,624	83,443	
	P	15,570	14,094	10,863	8,387	6,838	5,609	
Outpatient	G	4,166,881	3,936,021	3,843,790	3,766,526	3,674,545	3,085,474	
	P	594,071	510,129	483,786	420,463	341,478	164,690	

G. = Government- Including Directorate of Health & Social Welfare (Ministry of Interior), P. = Private

* Excluding BDF hospital

Previous table showed a remarkable increase in the health care facilities especially in private sectors, which nearly doubled from the past five years. In 1996, there were only three private hospitals but the number was tripled by 2006.

Financial Resources

With growing population and aging 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 7), 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 7

Financial data	2006	2005	2004	2003	2002	1996
% of allocated budget to MOH from total Government expenditure	7.5	8.0	7.4	7.5	7.2	9.1
MoH Budget* (BD. in Million)	118.0	103.1	88.4	80.6	71.0	57.1
MoH average recurrent health expenditure/ capita	147.7	138.1	120.9	113.8	103.1	82.0
<u>Average cost per MOH Visits (BD.)</u>						
Primary outpatients	4.4	4.0	3.8	3.4	3.0	2.7
Secondary outpatients (SMC)	42.8	36.6	32.2	30.7	27.8	21
Secondary Inpatients to SMC (per day)	171.2	146.2	129.3	122.7	112.2	83.8
Deliveries (SMC maternity unit)	444.6	369	347.5	343	313	551.6
<u>% MOH recurrent expenditure on:</u>						
Primary & Public Health Care	24.4	22.1	22.5	22.7	22.2	21.0
Secondary H.C.	60.2	56.5	58.2	58.8	59.1	56.5
Total Other	15.4	21.4	19.3	18.5	18.7	21.9

1US\$ = 0.376 BD

* Source: Ministry of Finance - MOH budget include projects received

The Ministry of Health took all the burden of providing free health care with a budget BD. 118.0 million in 2006, approximately 7.5% of the total government expenditure. The Ministry's recurrent expenditure was BD. 109.7 million with an increment of 9.6% from 2005

budget, whereas in 1996 the Ministry's budget was BD. 57.1 million which represented 9.1% as percentage of the total government expenditure. The Ministry's recurrent expenditure was BD. 49.1 million with an increment of 5.6% from previous year.

The Ministry of Health average expenditure per capita has increased from BD. 82.0 (equivalent to U.S \$220 per person) in 1996 to BD. 147.7 (equivalent to U.S.\$ 392.8) in 2006. More than half of the Ministry budget was devoted to Secondary Health Care nearly 60.22% in 2006 and 56.5% for the year 1996. While, only 24.4% of the Ministry's budget was devoted to Primary and Preventive Health Care in 2006 and 21.6 % in 1996.

The average cost per visits for Primary Health Care clinics was BD. 4.4 in 2006 with an increase of 63% since 1996 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 16.2% comparing to the past ten years, as it was BD. 21.0 in 1996 and BD. 42.8 in 2006. Moreover, the cost of the inpatient per day has also increased from BD. 83.8 to BD. 171.2 in 2006. However, there was a decrease in the average cost of the deliveries by 19.4%, which was BD.551.6 in 1996 and BD.444.6 in 2006. (See table 7).

Human Resources

Table 8 below shows the development of the medical resources over the past five years at the national level respectively. During the 1996, per 10,000 populations, there were 11.2 doctors, 1.3 dentists and 26.3 nurses, while these numbers were doubled to 27.6, 4.1, and 55.0 respectively in 2005. The nurse-doctor ratio was 2.0 in 2006 and 2.4 in 1996.

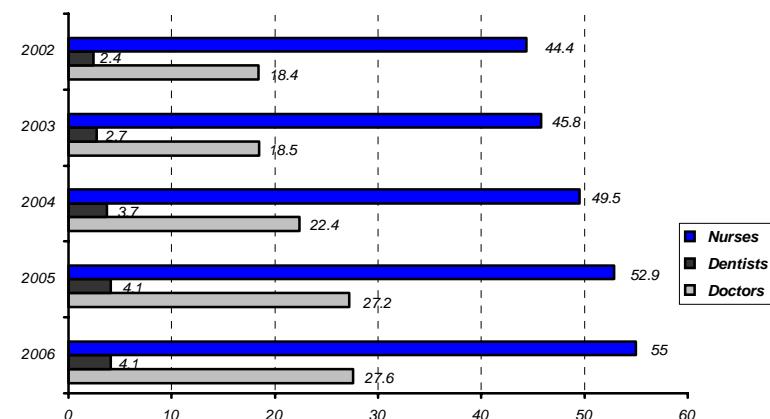
Human Resources

Table 8

Indicators (per 10,000 Population)	2006	2005	2004	2003	2002	1996
Doctors	27.6	27.2	22.4	18.5	18.4	11.2
Dentists	4.1	4.1	3.7	2.7	2.4	1.3
Nurses	55.0	52.9	49.5	45.8	44.4	26.3
Nurse per doctors	2.0	1.9	2.2	2.4	2.4	2.4
Bed	27.4	28.1	27.0	27.6	28.6	22.4

Medical Human Resources per 10,000 population

Figure 2



It is clearly noticeable that there are rapid increases in the medical manpower for the past five years in both government and private health sector. For example the increase in doctors is 22% in the government comparing to 2.3% in private. However; the increment of number of nurses in private sector (120%) is much higher than in government (23.5%). This is also true for dentists; the increment was 33% in government while it is 179% in private sectors. The increase in number of allied health manpower is 49% in government and 216.6% in private. This is mainly due to the opening of new private hospitals and private clinics.

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. 99.4% of births are attended by trained medical staff. There was an average visits to antenatal clinics at health centers was approximately 6 visits per live births in 2006.

Total fertility rates (per woman of age 15-49) were consistent for the past five years at 2.5 in (3.0 for Bahrainis and 2.0 for Non Bahrainis) in 2006.

Births Statistics

Table 9

Health Indicators	2006	2005	2004	2003	2002	1996
Total births*	15,128	15,235	15,039	14,674	13,659	13,100
Total live births	15,043	15,123	14,915	14,568	13,525	12,935
Total deliveries**	14,965	14,992	14,786	14,463	13,488	12,947
Abortion (Miscarriages)	2,297	2,078	1,505	1,630	4,105

* Reported cases excluding those born abroad.

** A delivery may include one or more births

Vital Statistics

Table 10 below shows that most of the vital statistics indicators were floating between 21.6 and 20.2 for the past ten years. For example, crude birth rate per 1000 population was 21.1 for consecutive two years since 2002, while it slightly dropped in 2005 and 2006. Infant mortality rate per 1000 live births recorded a significant decrease in 2006 to 7.6 from 9.1 in 2004 and 9.4 in 1996. The Ministry of Health formed a committee in 2004 to investigate the main reasons behind the increment of the Infant mortality rate and the result was published separately in a supplementary report.

Vital Statistics as reported by Public Health Directorate

Table 10

Health Indicators	2006	2005	2004*	2003	2002	1996
Crude birth/1000 population	20.2	20.9	21.1	21.1	20.1	21.6
Still birth rates/1000 births	6.2	7.4	8.2	7.2	9.8	12.6
Infant mortality rate/1000 live births	7.6	8.9	9.1	7.3	7.0	9.4
Premature birth rate/1000 live births	102.6	98.5	108.4	111.5	86.1	61.5
Sex ratio at birth : Male / (per 100 Female)	102.6	103.8	100.5	101.5	101.6	105.4
Maternal mortality rate/ 100,000 live births	13.3	6.6	20.1	20.6	22.2	38.7
Under 5 yrs mortality/1000 live births	10.1	10.9	10.8	9.5	8.9	11.2
Under 5 yrs mortality/1000 child <5 yrs old	2.4	2.7	2.6	2.2	1.9	0.4
Total Fertility Rate per woman (Female 15-49)	2.5	2.6	2.6	2.6	2.6	2.7
Crude death rate/1000 population	3.1	3.1	3.1	3.1	3.0	3.0
Life expectancy rate at birth both sex	74.8	74.8	73.8	73.8	73.8	72.9

* 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.

Premature birth rate per 1000 live births

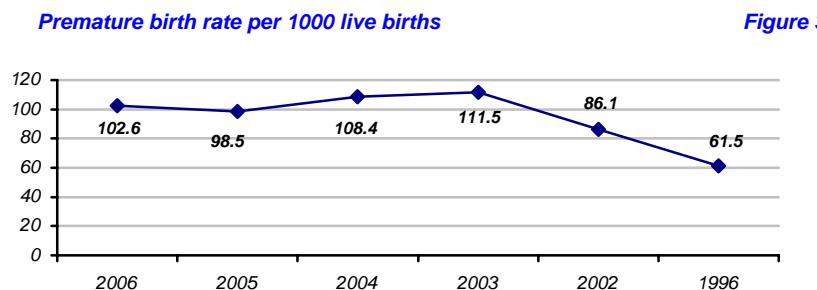


Figure 3

"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 birth; 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 2006, 72.1 for male and 77.3 for female. Comparing to 1996, it was 72.4 for both male and female; while life expectancy 70.4 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 and Post-neonatal mortality. Neonatal mortality is usually associated with prenatal factors, including low birth weight/ prematurely and severe congenital anomalies. However Post-neonatal mortality 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

Infant Mortality Rate per 1000 live Birth 1996-2006

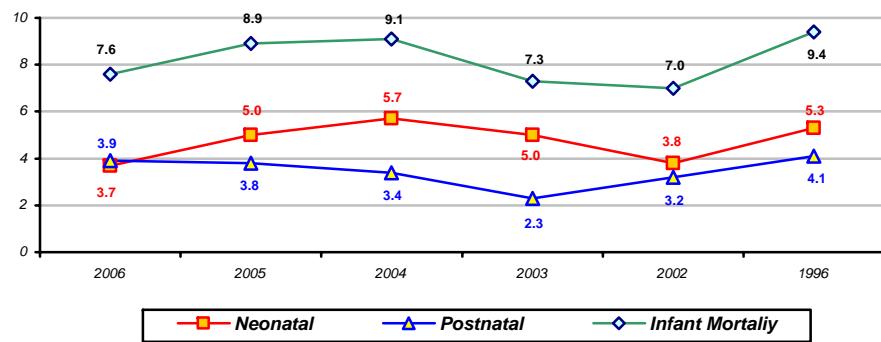


Figure 4

Figure 5 shows that in 2004 The Kingdom of Bahrain were the third in infant mortality rates among the GCC countries as per recent available data.

Infant Mortality Rate/1000 live Birth for year 2004 – GCC Countries

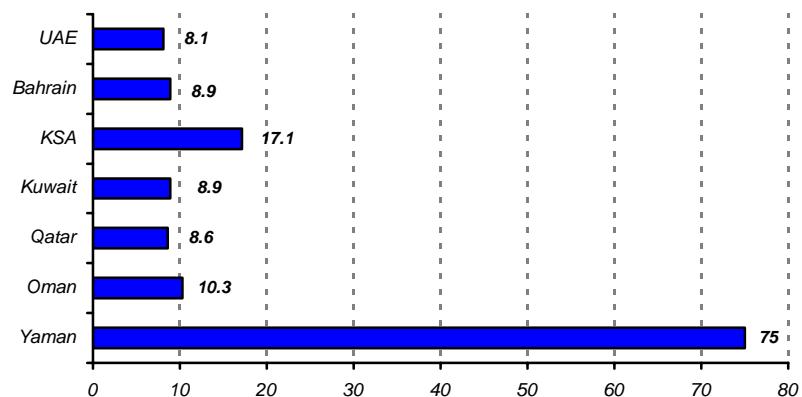


Figure 5

"Vital Health Indicators - 2004", Executive Office of the Health Ministers Council for GCC, 10th 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 92.0%, 92.2%, 91.8%, 90.0%, and 90.4% for the years 2006, 2005, 2004, 2003 and 2002 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 2006, there were 2,317 deaths reported by Public Health Directorate as compared to 1,780 in 1996. Most of the reported deaths occurred in the hospitals (46% of the deaths were discharges dead from Salmaiya Medical Complex). The crude death rate continues to be very low and nearly constant (3.0 per 1000 population) since 1996. In 2006, 39.1% of the deaths were among elderly age 70+ years old. Most deaths by gender recorded in Bahrain were among male 43.8% rather than female.

Diseases of the circulatory system (cardiovascular diseases) constitute the highest single cause of mortality in Bahrain representing 60.5 % per 100,000 populations. 40.1 % out of the cardiovascular deaths was due to hypertension. The rate of deaths from circulatory diseases distributed by gender showed that 57.8% per 100,000 male population and 64% 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 (59.4 per 100,000 population) with an increase of 56.5 from last year which is nearly 19.0% out of the total deaths.

Endocrine, nutritional and metabolic diseases was the third most common cause of death in Bahrain representing 46.3 % per 100,000 populations in 2006; about 14.8% of total deaths with an increase 44.1% from 2005. However, out of these deaths there were 64 deaths every 100,000 female populations, in contrast of 47.8 deaths per 100,000 males. This was mainly due to diabetes mellitus which represent 92.4% out of these deaths.

Deaths from external causes of morbidity and mortality ranked as fourth cause of deaths (11.7% out of total deaths) in the Kingdom with 36.6 per 100,000 populations. 35.7% out of

the total was due to transport accidents and 24.6% was due to drowning and submersion, undetermined intent and 39.7 other accidents and poisoning. However, Neoplasm or Cancer dropped down to be the fifth cause of deaths in Bahrain (34.1 per 100,000 populations), accounting for about 10.9% of total deaths with a decline of -7.2% from 2005. Out of these deaths 49% was males and 51% females. Deaths due to Malignant Neoplasms of bronchus and lungs were the highest especially among male, followed by breast cancer deaths among females. The great majority of deaths (53.8%) from Cancer were in age group over 60 years. (See table 11).

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 11

Causes of Death (rates per 100,000 Population)	2006	2005	2004	2003	2002
Diseases of Circulatory System	60.5	59.9	69.0	86.6	86.5
Symptoms, signs and Abnormal Clinical & Lab. Findings not Elsewhere Classified	59.4	59.2	61.5	39.3	45.2
Endocrine, Nutritional & Metabolic Disorder	46.3	32.2	28.7	24.2	28.1
External causes of morbidity and mortality (accident, injuries & Poisoning)	36.6	28.3	28.1	26.5	26.5
Neoplasm	34.1	36.8	37.2	39.3	41.4
Respiratory System	17.1	19.7	17.7	20.7	18.0
Certain Infectious & Parasitic Diseases	11.4	13.0	11.2	11.9	10.1
Genitourinary System	10.9	12.6	12.0	11.0	7.6
Digestive System	7.8	9.0	9.6	13.8	10.4
Certain Condition Originating in the perinatal period	7.7	8.6	12.0	7.3	6.2

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 12.

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 Complex¹ (Top Ten Morbidity)

Table 12

Morbidity (rates per 100,000 Population)	2006	2005	2004	2003	2002
Complication of pregnancy, childbirth & puerperium (15-44) ²	5513.9	5786.6	6,002.6	6,231.7	6,226.4
Spontaneous abortion	746.8	815.4	885.5	895.0	1,017.4
Hereditary anemia	517.4	456.8	414.3	363.8	277.5
Neoplasm	217.4	217.2	221.4	220.3	237.9
Ischemic heart disease	181.1	174.4	172.7	165.4	159.5
Diabetes	120.5	192.6	106.6	107.2	85.4
Asthma	65.9	61.5	62.4	56.6	66.1
Acute respiratory infection	36.6	26.8	23.9	30.9	43.7

¹ Rates per 100,000 populations

² 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 (78.3), Neoplasm (288.8) and Acute Respiratory Infection (39.9), comparing to more discharges per 100,000 male due to Diabetes (126.4), Ischaemic Heart Diseases (215.4). The decrease of the rates in some health issues was due to both the opening of more specialized clinics at primary health care and the expansion of private sectors.

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 Recommendation 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 13).

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 13

Immunization Against	2006	2005	2004	2003	2002
DPT	98.4	98.2	97.7	97.3	98
Mumps, Measles, Rubella (MMR1)	100	100	99.0	100	100
Mumps, Measles, Rubella (MMR2)	99	99.1	100	99.5	97
Poliomyelitis	98.4	98.1	97.7	97.3	98

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. Bahrain continued its efforts to develop national capacity in diagnosing the diseases, in counseling patients and in providing appropriate medical treatments services, as well as, to strengthen public awareness.

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 in 2003 to 70.8/100,000 population, Syphilis incidence showed that there was a continuous to reach 237 cases (32.7/100,000 pop.) in 2005, while there was a drop in number of cases to 183 (24.6/100,000 pop.).

Furthermore, numbers of incidences nearly remain constant in both 2005 and 2006 such as number of cases in Pulmonary TB 170 in 2006 and 171 in 2005, and number of cases of Malaria (P.vivax) was 57 cases in both years (7.7/100,000 pop.) in 2006 as compared to 81 cases (11.5/100,000) in 2004. There was a decrease also in number of new cases of all types of Viral Hepatitis as shown in the table.

Most of the Sexual Transmission Diseases cases were increased lately due to unsafe relations and among age group (15-24) years old. However, there are sudden drops in the numbers of reported cases of most of the communicable disease. This might be due to patients visited private clinics and cured without taking any laboratory sample for further conformation of the disease. There are drop in number of cases patients were reported under "Other Sexual Transmitted Diseases – STD" or under reporting of the new cases.

Communicable Diseases Rates (Reported Incidences)

Table 14

Disease (rates per 100,000 Population)	2006	2005	2004	2003	2002
Pulmonary TB	22.9	23.6	17.8	19.1	19.0
Gonococcal Infection	31.1	29.3	32.9	70.8	62.0
Syphilis	24.6	32.7	27.0	35.1	36.9
Other Sexual Transmitted Diseases	20.1	59.8	64.8
Viral Hepatitis					
A	19.4	26.1	34.8	34.2	30.6
B	2.8	3.7	4.9	3.0	2.7
C	0.9	0.6	1.6	2.0	-
E	2.2	2.6	4.8	3.2	3.0
Malaria (P.falciparum)	1.5	1.5	0.4	4.6	2.2
Malaria (P.vivax)	7.7	7.9	11.5	8.0	4.5
Malaria Mixed	0.3	0.4	0.1	-	-

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 of Psychiatric Hospital

Table 15

Indicators	2006	2005	2004	2003
In-patients	1,195	1,117	1,197	1,156
Discharges	1,184	1,159	1,152	1,149
Total Patient Day	85,070	93,472	92,438	79,523
Average Length of Stay	71.8	80.6	65.2	69.2
Total Number of Beds	214	204	204	201
Bed Occupancy Rate	5.5	5.7	5.6	5.7

Table 15 above shows that there was a increase of (2.2%) in the number of discharges in 2006, comparing to 2005 and 2.7 from 2003. This increase was due to the increase in the number of admissions by 6.7%. As most of the admissions were planned and usually took place for patients with violent behavior, mental disorder and for those who demand direct follow up and consultation.

In 2006, 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.

Discharges from Psychiatric Hospital by Principle diagnosis

Table 16

Indicators	2006	2005	2004	2003
Schizophrenia	265	281	261	276
Mental and behavioural disorders	241	255	124	240
Acute and transient psychotic disorders	105	62	97	67
Recurrent depressive disorder	100	106	92	63
Mild mental retardation	89	53	79	70
Manic episode	67	44	108	61

New Millennium Development Goals (MDGs)⁷

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" table1.11.

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- 8) <http://www.developmentgoals.org/Goals.htm>