

## Primary Health Care - Summary

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### **Primary Health Care in 2000**

Since the inception of Primary Health Care in Bahrain, attempts has been made to address the issues facing the development of PHC in line with the declaration of Alma Ata. In the year 2000, the last year of the last millenium based on the strategic plan the Primary Health Care continued working on improving services in the context of the two major dimensions, quality and quantity. In order to further improve diabetic patients' care more clinics were operated. In addition, social services were introduced to explore and properly handle social problems that incapacitate health status. To maximize the capacity of the health centers and improve accessibility to allied services in Primary Care, two class "A" health centers were opened to replace class "C" health centers, and a new children dental clinic was added. Furthermore, on line with breast-feeding support policy two breast-feeding clinics were opened on trial basis.

Being trained on the basic principles of quality improvement, the twelve regional officers (Doctors, Nurses, and Administrators) in coordination with their teams successfully identified and prioritized areas in need for improvement. Additionally, medical students and residents from the Family Practice Program were directed to do their researches in areas related to quality improvement. Also quality improvement procedures were implemented, such as arranging earlier appointments for pregnant ladies and premarital counseling clients, improving the quality of cervical smear in periodic women screening, organizing the referral of high risk children and patients with breast problems to secondary health care, and upgrading of the computer systems in maternal and child health services. The efforts to maximize utilization of the consultation time has continued through adding more "Simple Consultation Clinics" for medical services. To further cope with the communication development, the electronic mail was introduced in one health center.

Collaboration with the public community had resulted in providing a wide range of oral Health programs, such as educational sessions arranged by dental hygienist for children in schools, kindergartens, and children with special needs, summer clubs and social societies. Adolescence health workshop was also organized by adolescence health committee for community leaders and social societies, in addition to many health education sessions about the major health problems. Finally, more involvement of public community in the decision making took place through participation of more community representatives in the Health Centers Councils.

### **Primary Care in the Last Decade / Statistical Analysis**

Analyzing Primary Care data during the last decade 1990 – 2000 certainly gives a clear picture about the status and the trend of change. This is not only of prime importance for decision makers, but also to all Primary Care personnel and the community, as all will see the picture which they had a major role in its shape.

### **Medical Surgical Services**

In general the medical surgical visits to Primary Care has increased by an annual rate of 2.37% during the decade 1990 – 2000. This trend is in parallel with the population growth in Bahrain, which is 3.2%.

**Medical/Surgical Visits Annual Change Rate 1990 – 2000** **Table 1**

<b>Visits</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>	<b>Annual Change Rate</b>		
				<b>1990-1995</b>	<b>1995-2000</b>	<b>1990-2000</b>
Morning Visits	1,093,526	1,260,008	1,360,525	2.87	1.55	2.21
Evening Visits	451,876	476,601	545,792	1.07	2.75	1.91
Weekends and Holiday Visits	185,512	220,572	281,960	3.52	5.03	4.28
<b>Total</b>	<b>1,730,914</b>	<b>1,957,181</b>	<b>2,188,277</b>	<b>2.49</b>	<b>2.26</b>	<b>2.37</b>

However the increase in the visits during weekends and holidays (annual change rate of 4.28% during the decade), was more than the increase in morning visits (annual change rate of 2.21%), and in evening visits (annual change rate of 1.91%), the above information are summarized in Table 1. This trend can be explained by doubling the number of weekend days to include Thursdays that took place in February 1990. Also in the same year the service days were extended to cover weekends and holidays in Isa Town Health Center. Other factor is extending the working hours in the evening up to midnight all through the week in 1989 at Naim Health Center, and in 1999 at North Muharraq and Isa town Health Centers. This obviously has resulted in increasing evening visits during the second half of the decade.

## Oral Health Services

### General Dental Services

The visits to dentists has generally increased by an annual rate of 1.34% during 1990 – 2000, again this change is in parallel with population growth. However the trend in various sessions showed a significant change in the profile during the period 1995 – 2000. As evening visits increased annually by 7.75%, and holiday visits by 31.75% , while morning visits decreased annually by 0.21% (Table 2).

**Dental Visits Annual Change Rate 1990 – 2000** **Table 2**

Dental Visits	1990	1995	2000	Annual Change Rate		
				1990 -1995	1995 -2000	1990 -2000
Morning Visits	123,603	131,761	130,360	1.29	-0.21	0.53
Evening Visits	16,719	17,797	25,843	1.26	7.75	4.45
Weekends and Holiday Visits	1,608	1,510	5,995	-1.25	31.75	14.06
<b>Total</b>	<b>141,930</b>	<b>151,068</b>	<b>162,198</b>	<b>1.26</b>	<b>1.43</b>	<b>1.34</b>

The profile in the second half of the decade can be explained by expansion of dental service in weekends and holidays by operating a new clinic for each of Naim Health Center, North Muharraq Health Center, and Isa town Health enter. Also the treatment capacity in evening has increased by operating a new clinic in four health centers, versus closing the clinic in Jidhafs Health Center. However the decrease in morning visits annual change rate could be attributed to introduction of appointment system aiming at improving the service quality.

### Preventive Oral Health Services

Oral Health services grant Educational and Preventive Programs for different target groups in the community. The service was launched in 1986, and expanded in 1988 to cover school children aged seven, eight, and nine years, and parents. In 1990 other patients categories were included such as handicapped students, pre – school children, and pregnant mothers. The service was then extended to cover students aged 15 years, the elderly and social workers.

**Preventive Oral Health Service Educational Sessions % of Change 1995 – 2000**

**Table 3**

	1995	1998	2000	% of Change	
				1995 – 1998	1998 – 2000
Total Educational Sessions	3,802	3,254	5,031	-14.4	54.6

The number of educational sessions conducted for various patient categories decreased during 1995 – 1998 by 14.4 %, then increased by 54.6 % during 1998 – 2000, as indicated in Table 3. This profile was due to reduction of number of sessions conducted to parents to one session for every three schools instead of one school. This was as a result of reorganization done by school management. Also the number of sessions conducted for pregnant ladies was reduced to one session per month instead of four sessions, but the later change was reversed in some health centers during the following years.

**Preventive Oral Health Activities Annual Change Rate 1995 – 2000**

**Table 4**

	1995	2000	1995-2000
Fissure Sealant By Tooth	17,171	37,254	16.8
Preventive Program Treatments	19,836	84,804	33.7

The number of fissure sealant by tooth increased annually by 16.8% during 1995-2000, while preventive program treatments increased dramatically by an annual rate of by 33.7%, (refer to Table 4). In addition to population growth, the increase in number of dental hygienists by 22.7%, and expansion of the service in more health centers by 50% during this period has a significant impact on the service capacity. This has allowed to accommodate more fissure sealant program coverage and prevntive treatments.

## Maternal and Child Health Services

### Antenatal Care

The number of pregnancy checks per pregnancy is one of the key indicators of the standard of antenatal care, which comes after the proportion of women who had antenatal checks and the date of their first check.

**Antenatal Visits Average Number Per Pregnancy 1990 – 2000**

**Table 5**

	1990	1995	2000
Average Number of A.N.C. Visits/Pregnancy	5.6	5.9	6.0

The average number per pregnancy, which is around 6 visits remained the same during the years 1990, 1995 and 2000 as shown in Table 5. Referring to the results of Bahrain Family Health Survey conducted in 1995 (BFHS-95), 57 % of births in the proceeding three years to the survey were to mothers who received five or more checkups, and at least 52 % were to

mothers who had seven or more checkups. Another finding of this survey was that 89 % of pregnant women who had at least one checkup, were satisfied with antenatal care they received during their last visit. (58.1% of the children were born to mothers who received antenatal care from a health center)

### Postnatal and Postabortal Service

The postnatal consultation is a principal step to evaluate mother's health and explore the standard of care they provide to their babies. During 2000 45 % of the initial antenatal visits, has resulted in postnatal or post abort visits, with marginal reduction in the coverage in comparison to 46.7 % in 1995, as clarified in Table 6. The results of BFHS-95 showed that 62 % of the births in the three years preceding the survey had postnatal care. The higher coverage in the survey could be attributed to the fact that a considerable percentage of ladies seek this service at secondary care such as cesarian delivery patients, or at private facilities.

**Postnatal/Postabortion First Visit Rate 1990 – 2000** **Table 6**

	1990	1995	2000
Postnatal/Postabortion First Visit Rate		46.7	45.0

The low use of postnatal care services is a trend seen in many countries (WHO,1998). The BFHS-95 showed that the most important single reason for not receiving postnatal care, according to 26 % of mothers, was the embarrassment of having a vaginal examination by a male doctor. The second important reason, was the absence of complaints, which accounted for 23 % of the cases. Unawareness of the need for postnatal care and the mothers previous experience accounted for 7 and 4 %, respectively, while other unspecified reasons accounted for the remaining 40 % of the cases.

### Family Planning Service

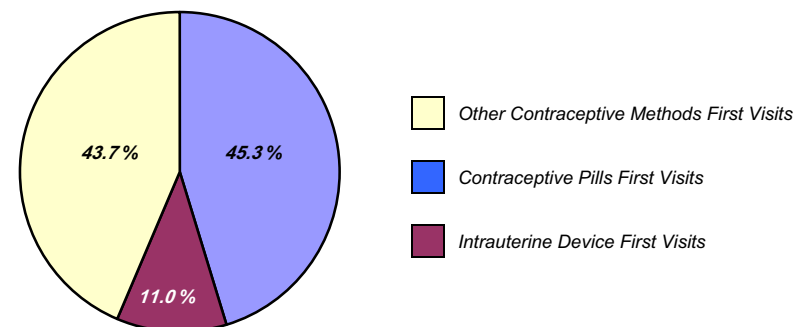
The number of initial visits for family planning service increased by 31 % from 1990 to 1995, and by 51% from 1995 to 2000 (Table 7).

**Family Planning Initiated Visits Percentage Of Change 1990 – 2000** **Table 7**

	1990	1995	2000	% of Change	
				90 - 95	95 - 2000
Number Of Family Planning Initial Visits	1,845	2,424	3,666	31.4	51.2

According to Child Health Survey conducted in 1998, the contraceptive prevalence rate was 54 %, and it increased to 62 % in 1995 ( BHFS-95). The rise was almost accounted for the increase in the use rate of withdrawal method from 19 % in 1989 to 26 % in 1995. However the multiple indicator cluster survey conducted during the year 2000 (MICS-2000) indicated that the contraceptive prevalence rate has declined to 53.4 %.

**Family Planning Methods Relative Distribution by Initial Visits 2000** **Chart 1**



The relative distribution of contraceptive methods initiated in Primary Care during 2000, was 45.3 % for contraceptive pills, 11 % for intrauterine contraceptive device (IUCD) (56.3 % for both methods), while the remaining 43.7 % initiated other methods, as illustrated in Chart 1. However the BFHS-95 and MICS-2000 showed that the percentage of married women who were using contraceptive pills, and IUCD were 10.9 and 2.9 % respectively in the first survey, ( 13.8 % for both), and 9 and 2.5 % respectively in the second survey( 11.5 % for both). This difference in the percentages between the health centers data and the results of the two surveys is logical since figures from a health care facility, as consultation with physicians before using these methods is essential, are compared with results of household surveys.

### Children Screening Service

Children screening service was introduced in 1986, as children are evaluated at various ages according to a pre-determined schedule.

In overall there is a marginal change in the percentage of children fully screened in their first year, second year, and third year of age, 66 %, 55 %, and 37.3 %, respectively for the year 1995, and 65.7 %,58.1 %, and 37.8 %, respectively, for 2000 (Table 8).

**Percentage Of Children Fully Screened By Age In 1995 And 2000** **Table 8**

Percentage Of Children Fully Screened	1995	2000
First Year	66%	65.7%
Second Year	55%	58.1%
Third Year	37.3%	37.8%

A study was conducted in 1996 to identify the factors influencing completion of children in their first year of age and the reasons beyond the considerable wide range of coverage between various health centers ( 26.7 % and 96.3 % in 1995). The results showed that it is more likely for the visits to be completed when children are Bahraini nationality, female, with second and third birth, who are from families with seven or more members, of extended type, of low and average socioeconomic status, and had transportation means. The statistical significance was only evident with the nationality in one health center, and the type of family. However the vast majority of the mothers exhibited positive health belief towards children screening service. Also the majority of the mothers were satisfied with the service.

On the other hand the level of satisfaction between the completed and not-completed group, in the health centers with higher coverage in relation to those with lower coverage was compared. The results did not show significant difference in the dimension of general satisfaction, satisfaction with the staff technical competence, and their communication and attitude, but it showed difference of statistical significance in the dimensions of accessibility and environmental circumstances.

Studying the organizational factors in the health centers showed that health centers with higher coverage applied more flexible system to accommodate the children visits.

### Immunization Service

Immunization activities almost always form the main bulk of Maternal and Child Health contacts in Primary Care.

In overall the immunization coverage is increasing in Bahrain. In the year 2000 the immunization coverage reached to 95 % for BCG vaccine, 97 % for the third dose of Diphtheria, Pertussis, and Tetanus vaccines, third dose of oral polio, and third dose of Hepatitis B vaccine, as around 85 % of the registered live births were immunized by the health centers. The coverage of first dose of measles, mumps, and rubella reached to 98.4 % with 87.4 % covered by the health center, while the coverage of second dose of the same vaccine reached to 92.4 % with health centers coverage of 87.4 %. Also 71.8 % of pregnant women received two doses or more of Tetanus Toxoid with 65.5 % covered by the health centers (Table 9).

**Immunization Coverage in Bahrain 1990 – 2000**

**Table 9**

Vaccine	1990	1995	2000	
	Overall	Overall	Overall	Health Centers
Bcg	69	83	95	
Third Dose Of Diphtheria-Pertussis-Tetanus	94	95	97	85.2
Third Dose Of Oral Polio	94	95	97	85.2
Third Dose Of Hepatitis	NA	95	97	85.4
Third Dose Of Haemophilus Influenzab	NA	NA	97	85.2
Measles	87	95	NA	NA
Mumps, Measles, Rubella- Dose 1 (MMR1)	NA	NA	98.4	87.4
Mumps, Measles, Rubella- Dose 2 (MMR2)	82	96	92.4	87.4
% Of Pregnant Women Received 2 Or More Doses Of Tetanus Toxoid	21	49	71.8	65.5

NA: not applicable

### Premarital counseling Service

Premarital counseling service was launched during 1993, it offers an opportunity to every couple planning to get married to be evaluated and counseled.

When data of the first 500 clients during 1993 – 1994 were analyzed the results showed that 1.6 % had sickle cell disease, 13.0 % had sickle cell trait, 2.0 % had beta thalassaemia trait, and 26.0 % had glucose-6-phosphate dehydrogenase deficiency. Out of the couples attended, 8.1 % were found to be at risk of having affected offspring, while the consanguinity rate among these couples was 15.4 %.

In 2000 the coverage rate increased to 25.3% in comparison to 6.3% in 1995. Thus it is progressing annually by 4.4% towards the full coverage (Table 10).

**Premarital Counseling Change of The Rate Of Coverage 1995 – 2000**

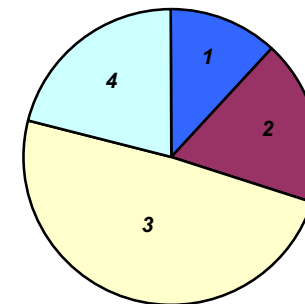
**Table 10**

	1995	2000	1995 – 2000
Premarital Counseling First Visits	397	1,770	
Premarital Councelling Coverage	6.3%	25.3%	
Change of Coverage Rate			+4.4

The deferential of the four regions in 2000 indicated that the relative distribution of premarital service visits for region three followed by region four 49 % and 21% respectively, was more than that for regions one and two 12 % and 18 % respectively as shown in Chart 2. This can be explained by the more proportion of rural areas which have more prevalence of hereditary blood disease in the former regions.

**Premarital Counseling Visits Relative Distribution 2000 by Region**

**Chart 2**



- 1- Region One: Premarital Counseling Visits 12%
- 2- Region Two: Premarital Counseling Visits 18%
- 3- Region Three: Premarital Counseling Visits 49%
- 4- Region Four: Premarital Counseling Visits 21%

## Periodic Women Screening

The periodic women screening service was initiated in December 1992. It aims at early detection of breast cancer and cervical cancer by yearly screening of the females at the age of 30 - 64 years for breast cancer, and every five years screening at the age of 35 - 64 years for cervical cancer.

During the year 2000 the coverage rate of breast cancer screening increased to 8 % , in comparison to 6.2 % in 1995, as indicated in Table 11. However the stated rate is low, and the progress to full coverage is very slow since the rate of increase in the coverage is only 0.38 %. It is presumed that underestimation is the reason for this trend in some of the health centers, since breast examination is also performed during other preventive services for example antenatal and postnatal examination, and on patients' demand during routine consultations with out inclusion in the statistics.

**Periodic Women Screening Coverage Rate** **Table 11**

	<b>1995</b>	<b>2000</b>
Number of Breast Cancer Screening First Visits	3,086	4,571
Coverage Rate of Breast Cancer Screening	6.22	8.01
Rough Coverage Rate of Cervical Cancer Screening	37.3	43.1

The cervical screening coverage is calculated by utilizing the first three years (93 – 95) initial visits for 1995 coverage, and the following five years (96-2000) for 2000 coverage, since the service started with a three years period screening and changed later to five years period. The coverage rate increased from 37.3 % in 1995 to 43.1 % in 2000 (Refer to Table 11). It is presumed that the relatively low coverage of periodic screening is due to embarrassment from vaginal examination, unawareness of the service, and absence of symptoms.

## Home Visits

The community health nurses visit the patients at homes for reasons related to maternal and child health such as premature newborn, handicapped children, abused children, and defaulter tracing. They also visit other adults for reasons like elderly patients, cardiovascular accident patients with special needs like nasogastric tube and catheter replacement or caring of bedsores, and for follow up of bedridden patients with chronic disease such as diabetes mellitus or hypertension.

**Annual Rate of Change In The Home Visits** **Table 12**

Home Visits	1991 – 2000		
	Annual Rate of Change		
	Total	Adult	Mother/Child
Region One	6.0	11.3	-5.2
Region Two	0.6	5.9	-12.6
Region Three	0.9	8.6	-14.7
Region Four	7.5	15.0	-17.1
<b>Total</b>	<b>3.5</b>	<b>10.0</b>	<b>-11.8</b>

In general the rate of annual change in total number of home visits ( which is calculated by utilizing the average number of visits for each five years period) is 3.5 % , while the annual rate of change in home visits for adults, and home visits to mothers and children was 10 % , and (-11.8 %) respectively, the above information are summarized in Table 12. Although there is variation in the said percentages between the four Primary Care Regions, yet they all nearly had the same trend. This change seems logical as it is presumed that the development in communication and transport facilities contributed in reduction of visits to mothers and children, while the emergence of the sequels of non communicable disease had an impact on the number of visits to adults. However it is still believed that there is a need for further study this trend.

## Allied Health Services

### Nursing services

In the first half of last decade, the nursing activities increased by annual rate of 5.88 % , while the rate of annual change in the second half increased dramatically to 14 % , resulting in 10.21% annual change during the decade, as clarified in Table 13. In general the trend of increase in nursing activities can be attributed in addition to increase of medical surgical and antenatal visits, to introduction of pre-school screening in 1986, and shifting the pre-employment checkup to Primary Care in 1988. Also extending of working hours in Naim Health Center up to 12 mid night in 1989, and in Isa Town and N. Muharraq Health Centers in 1999 has affected the trend.

The figures shown in Table 13, indicate that nursing procedures and injections has influenced this change all through the decade. This profile can be explained by a number of modifications such as introduction of cryotherapy procedure which was initiated in Shaikh Sabah Health Center in 1986, and extended to Hamad Town Health Center in 1988, and further performed in

all other health centers by 1997. Diabetic patients care clinics which was initiated in Hoorah and Ibn Sinna Health Centers in 1994 and applied thereafter in various health centers had a major impact on the increase of nursing procedures and health education activities, since qualified trained nurses has a fundamental role in evaluating and educating patients in these clinics. Additionally training of nurses on starting intravenous drip in 1994 has a significant effect in increase of nursing procedures.

**Nursing Activities Annual Change Rate 1991 – 2000****Table 13**

Nursing Activities	1991	1995	2000	Annual Change Rate		
				1991 - 1995	1995 - 2000	1991 - 2000
Nursing Procedures	201,572	285,632	699,103	9.10	19.60	14.66
Doctors/Nurses Procedures	11,688	39,379	29,580	35.48	-5.56	10.75
Dressing	235,637	258,083	380,096	2.30	8.05	5.40
Insulin Injections	113,295	81,288	135,210	-7.96	10.71	1.96
Other Injections	65,506	123,948	257,839	17.28	15.78	16.27
Total Injections	178,801	205,236	393,049	3.51	13.88	9.05
Health Education		516	17,041		101.27	
<b>Total</b>	<b>627,698</b>	<b>788,846</b>	<b>1,518,869</b>	<b>5.88</b>	<b>14.00</b>	<b>10.21</b>

The modifications in pilgrims immunization schedule and organization has a major influence on the change in the number of injections as Tetanus and Diphtheria vaccine (T.d.) was added in 1995, and Influenza vaccine to high-risk group was also introduced in 1998. The meningococcal immunization was distributed to the health centers in addition to Public Health during pilgrim seasons four years back, and meningococcal immunizing of pilgrims contacts was initiated three years back. Although combined doctors and nurses procedures had significantly increased during the first half of the decade, a minor reduction took place in the second half which can be explained by gradual replacement of considerable percentage of cauterization procedures conducted by doctors with cryotherapy conducted by qualified staff nurses, in addition to lack of the clamps used for circumcision in majority of health centers which resulted in considerable decrease in number of circumcision.

### Laboratory Services

The number of laboratory tests done in the health centers was increasing annually by a rate of 6.5 % during the period 1990 – 2000 (Refer to Table 14). However the requested laboratory tests indicated in the same table, was increasing by an annual rate of 9 % during the period 1995 – 2000, since some requested laboratory tests are performed in Salmaneya Medical Complex.

**Laboratory Tests Annual Change Rate 1990 - 2000****Table 14**

	1990	1995	2000	Annual Change Rate		
				1990 – 1995	1995 – 2000	1990 – 2000
Laboratory Tests Done	444,744	604,935	835,637	6.3	6.7	6.5
Laboratory Tests Drawn		668,292	1,030,295		9.0	

In addition to the increase of medical surgical and antenatal visits, introduction of new services has a major effect on increase of the laboratory tests, such as pre – school screening in 1986, Periodic Women Screening and Premarital Counseling during 1992, and 1993 respectively. More changes has also contributed to the increase in laboratory tests such as transferring of pre-employment checkup to Primary care in 1988, and also shifting of glucose tolerance test (G.T.T.) samples collection and considerable proportion of the test processing to the health centers, in addition to replacing class “C” health centers without laboratory services by class “A” health centers such as National Bank of Bahrain Health Center in 1990, Hamad Kanoo and Aali Health Centers in 2000. Also expansion of the laboratory service to the weekends in the three main health center in 1990, and in the evening session in two of them in 1999 has also influenced this increase. Additionally continuing doing biochemistry tests in Naim Health Center for more health centers instead of conducting these tests at Salmaneya Medical Complex laboratory has an impact on the change in the number of tests done.

### Radiology Services

The annual rate of change in radiology service shows significant discrepancy during the two periods 1990 – 1995, and 1995 – 2000, as the rates were 16.9 %, and 0.4 respectively, and the annual rate of change during the decade was 8.4 %, as clarified in table 15. The significantly high rate of increase can be clearly explained by shifting of pre-employment checkup to primary care in 1988 resulting in increase of radiology procedures in Naim Health Center by 101.9% (from 7058 in 1987 to 14253 in 1988).

**Radiology Procedures Annual Change Rate 1990 2000****Table 15**

	1990	1995	2000	Annual Change Rate		
				1990 – 1995	1995 – 2000	1990 – 2000
Total Radiology Procedures	42,864	93,557	95,628	16.9	0.4	8.4
Radiology Procedures*	37,461	47,872	65,985	5.0	6.6	5.8

\*After excluding Alrazi H.C. procedures

Thereafter there was a dramatic increase in 1992 when radiology procedures were shifted to Alrazi Health Center. However the significant decline that took place in the second part of the decade was merely due to technical problems in Alrazi Health Center. Thus recalculating the rate of annual change after excluding all the radiology procedures of Alrazi Health Center resulted in an annual rate of change of 5.8 % for the decade, 5 % and 6.6 % for the first and the second five years respectively, as illustrated in Table 15. The stated increase can be attributed in addition to the increase in medical surgical and dental visits, to opening a new radiology section at Jidhafs Health Center in 1990, shifting the examination of the housemaids and private drivers to other Health Centers by catchment area in 1994. Also opening National Bank of Bahrain Health Center in 1990, and Hamad Kanoo Health Center in 2000, and expansion of the radiology service to the weekend days in 1990, and to evening sessions at two health centers in 1999 had an impact on the trend .

### Primary Care Referral

Primary Care Health Centers network is strongly backed up by secondary health care represented mainly by Salmanya Medical Complex, Psychiatric Hospital, and Bahrain Defense Force Hospital.

**Rate Of Referral To Secondary Care 1990 – 2000**

**Table 16**

<b>Rate Of Referral</b>	<b>1990</b>	<b>1995</b>	<b>2000</b>
To Out Patient Clinics/Medcal Surgical	1.5	1.4	1.9
Antenatal Referral Rate	14.0	11.8	8.8
To Out Patient Speciality Dental Clinics	0.1	1.1	1.6
To Accident And Emergency	1.0	0.8	0.8
To Secondary Care Including Antenatal	2.3	2.0	1.7

### Referral to Out Patient Clinic / Medical Surgical

In general the referral rate of medical surgical encounterers to out patient clinics was stable during 1990 and 1995, 1.5 and 1.4 % respectively, with marginal increase during 2000 to 1.9% (see Table 16). Bearing in mind that the above percentage include referral to physiotherapy facilities which were introduced in Ibn Sinna Health Center in 1992, in National Bank Health Center in 1996, and recently in Isa Town Health Center during 2000.

### Antenatal Patient Referral to Secondary Care

There is a significant decline in referral rate of antenatal patients to secondary care from 14 % in 1990, to 11.8 % in 1995, and to 8.8 % in 2000, as shown in Table 16. This change is mainly explained by introduction of ultrasound examination of pregnant ladies in the health centers in 1994 with actual operation in 1995, as the percentage of the antenatal visits ended by performing ultrasound examination was 3.8 % in 1996, and increased to 5.1 % in 2000.

### Referral to Specialty Dental Clinics

The rate of referral of dental visits to specialty dental clinics increased from 0.1 % in 1990 to 1.1 % in 1995, and 1.6 % in 2000, as indicated in Table 16. The specialty clinics were initiated in 1990, and the increase in referral rate can be attributed to the significant increase in the number of the speciality clinics during the decade to reach to around ten clinics in the year 2000.

### Referral to Accident and Emergency

The rate of referral of medical surgical and dental visits to Accident and Emergency Departments has marginally decreased in 1995 and 2000 to a rate of 0.8 % in comparison to 1.0 % in 1990 (Table 16).

### overall referral rate to secondary care

The overall referral rate to secondary care, including antenatal pointed out in Table 16, has declined from 2.3 % in 1990 to 2.0% in 1995 and to 1.7% in 2000, as it was affected by the decrease in antenatal referral.

### Conclusion

Looking back to Primary Health Care profile during last decade clearly indicates that in overall the visits increased in parrallel with the population growth in Bahrain. The coverage of preventive services of Maternal and Child Health services and Preventive Oral Health Services is generally in progress. However opportunities for improving the performance is always there. Introduction of new services has a considerable impact on allied health services wokload. Although the significant increase in Home Visits due to adult other than MCH reasons can be presumably attributed to the sequels of Non-Communicable disease, yet it is still believed that there is a need to further study the matter. Empowerment of Primary Health Care is not only of great impact on the health status in Bahrain, but it is economical and costeffective.

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