



United Nations Relief and Works Agency  
For Palestine Refugees in the Near East (UNRWA)



# **ANNUAL REPORT OF THE DEPARTMENT OF HEALTH 2007**





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**THE DEPARTMENT OF HEALTH**  
**2007**

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## Foreword

### Foreword from the Director of the Health Programme

It is a pleasure for me to present the Department of Health Annual Report for 2007 – a comprehensive document that overviews the health and medical assistance that has been provided by UNRWA to Palestine refugees in Jordan, the West Bank, Gaza, Lebanon and Syria.

As I traveled through the West Bank and Gaza over the past year, there is no doubt in my mind that 2007 has been particularly difficult for many Palestinian families. The general feeling is one of frustration, disappointment and hardship, especially from those refugees affected by the imposed movement restrictions and the subsequent economic crisis, which is consequently reflected in their health status.

Despite the modest resources available and the adverse circumstances in West Bank, Gaza, and in Lebanon during the outbreak of fighting in May 2007, the level of assistance by the UNRWA Health Programme has been maintained, and in some Fields, health and medical services were expanded. The additional health care needs of the refugees brought on by these 'states of emergency' did not prevent the Health Programme from improving its service standards and enhancing the process of decentralization and institutional capacity building in line with the UNRWA Organizational Development (OD) process. However, the capacity of the services provided by the Health Programme has now been stretched to the limits, and unless additional resources are made available, the current high level of health service delivery will be adversely impacted.

The UNRWA Health Programme continues to be an example of how a properly managed health care system can achieve notable outcomes with modest expenditures by choosing effective medical interventions. However, this standard of health care would not be possible without the support of the host governments, who assist in health care delivery to the Palestine refugees, and the invaluable advice that the WHO and other governments provide along with significant donations of resources and funds. The efforts of non-governmental organizations should also be commended, particularly in the emergency situations in Gaza and Lebanon, as without their contributions UNRWA would struggle to meet the many competing health care needs of the refugees during these crises.

I would like to thank the UNRWA health staff for their concerted efforts in all Fields, and commend them on their amazing ability to respond to new challenges. They have continued to make significant progress in disease prevention and health promotion by focusing on the needs of their beneficiaries, and ensuring that quality health care is their number one priority.

Finally, I would like to thank the Commissioner General of UNRWA and the Regional Director of WHO Eastern Mediterranean Regional Office for their ongoing guidance and support which is sincerely appreciated.



**Dr Guido Sabatinelli**

*WHO Special Representative and Director of the UNRWA Health Programme*

## Message from UNRWA

### **Message from UNRWA Commissioner General and the Director WHO Eastern Mediterranean Region**

Health is fundamental to human development and an area where change and challenges are constant. Every year brings new technological and scientific advances, new risks and threats to public health and ever greater societal expectations for higher standards of health. When UNRWA first opened its doors almost 60 years ago with 12 clinics, it must have been hard to conceive that the Health Programme would evolve to serve Palestine refugees on its present scale. The Agency now caters for a population of some 4.5 million refugees in Jordan, Syria, Lebanon, Gaza and the West Bank with 129 health centers, 114 laboratories, 17 radiology units, and one hospital in the West Bank. The growth of the Health Programme has been in response to the ever increasing needs of the refugees, including in the most difficult humanitarian situations.

In Lebanon, the conflict from May to September 2007 led to the displacement of over 31,000 Palestine refugees with many of them requiring emergency health care from UNRWA. In the occupied Palestinian territories, UNRWA's responsiveness to health needs has been sorely tested by the extreme conditions of recurrent armed conflict and severe movement restrictions for people and goods. In Gaza in particular, socio-economic decline and stagnated public services have raised public health risks and curtailed access of many communities to essential services.

Although these challenges come at a time when UNRWA is experiencing a serious funding shortfall, the Health Programme continues to rise to the challenge of servicing the needs of the refugees against the odds. By continuing to take an innovative approach and harnessing the technological advances of modern health care, three new mobile clinics were established to ensure that the primary health care needs of refugees are met.

UNRWA's achievements notwithstanding, the need to improve the resources and quality of health services remains urgent. The Health Programme functions with limited equipment and supplies and many of the Agency's doctors see more than 100 patients a day. This situation is neither sustainable nor desirable and must be addressed if UNRWA is to retain its place as a reliable provider of effective health services to Palestine refugees.

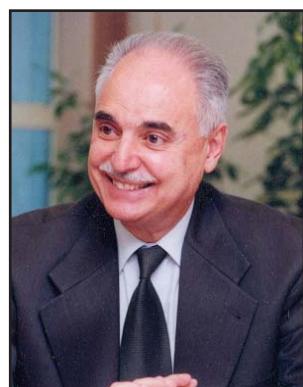
UNRWA's Health Programme staff deserve to be applauded for their commitment and hard work. It is due to them that refugee camps have been free of disease outbreaks in 2007, that immunization of infants continues to be at an all time high and that many refugees enjoy the same health status of host country communities.

Given this level of dedication, we look forward to further achievements in 2008.



**Karen Koning Abu-Zayd**  
UNRWA Commissioner General

A handwritten signature in black ink, appearing to read "Karen Koning Abu-Zayd".



**Dr. H. Gezairy**  
Regional Director, WHO/EMRO

A handwritten signature in black ink, appearing to read "Dr. H. Gezairy".

## Year in Summary 2007

### General UNRWA and Palestine Refugee statistics

Number of registered Palestine refugees Agency-wide at end of 2007	<b>4,562,820</b>
Average number of members per refugee family Agency-wide	<b>5.26</b>
Total number of official UNRWA camps	<b>58</b>
Number of refugees who accessed UNRWA primary health care services	<b>3.03 million</b>
Total number of UNRWA Health Centres	<b>128</b>
Number of out-patient medical consultations	<b>9 million</b>
Average number of consultations per doctor per day	<b>95</b>
Number of physical obstacles, including checkpoints, in the West Bank in 2007	<b>563</b>
Percentage of families in Gaza relying on humanitarian aid	<b>80%</b>

### Emergency Humanitarian Assistance

Number of civilians injured during fighting between the Lebanese Army and FAI in May 2007	<b>175</b>
Number of children that received the measles vaccine during the campaign in Lebanon in June 2007	<b>11,091</b>
Amount of potable water pumped by UNRWA daily into the water network in Beddawi Camp	<b>3000m3</b>
Amount of sewer pipeline constructed by UNRWA at Beddawi Camp	<b>200 meters</b>
Number of rigid PVC water tanks installed in all areas adjacent to Beddawi Camp	<b>250</b>
Number of PVC refuse bins and steel refuse bins distributed in all sectors adjacent to Beddawi Camp	<b>244</b>
Number of refugees treated by UNRWA Mobile Clinics in 2007	<b>133,122</b>

### Medical Care Services

Number of specialist consultations provided to refugees through UNRWA health care facilities	<b>265,821</b>
Total number of laboratories providing comprehensive laboratory services	<b>114</b>
Number of new Laboratory Technicians recruited to Gaza	<b>14</b>
Number of Haemoglobin tests performed to screen one year olds for anaemia	<b>84,107</b>
Number of Haemoglobin tests performed to screen pregnant women at registration for anaemia	<b>105,006</b>
Number of Fasting Plasma Glucose tests performed to screen pregnant women at registration	<b>172,149</b>
Number of Postprandial Plasma Glucose tests performed as follow-up tests for diabetic patients	<b>343,231</b>
Average expenditure on medical supplies per served refugee Agency-wide	<b>USD \$5.4</b>
Total number of UNRWA health facilities providing dental services	<b>111</b>
Total number of radiology units UNRWA operates	<b>17</b>
Number of x-rays performed in UNRWA health facilities	<b>88, 033</b>

### Health Protection and Promotion

Number of pregnant women among the refugee population cared for by UNRWA	<b>99,794</b>
Percentage of pregnant women who paid four or more antenatal visits to UNRWA	<b>90.3%</b>
Number of women who received post-natal care in 2007	<b>86,238</b>
Number of continuing users of modern contraceptive methods Agency-wide	<b>123,899</b>
Amount of contraceptives dispensed through UNRWA's family planning services	<b>115,641 CYP</b>

## Year in Summary 2007

Number of infants and children below 36 months receiving preventive care at UNRWA	<b>261,884</b>
Number of newly registered children at UNRWA schools that received immunization and a medical	<b>49,682</b>
Number of hearing impairment cases detected by the UNRWA hearing screening programme	<b>482</b>
Percentage of children in 1st, 2nd and 3rd elementary class covered by the deworming programme	<b>98%</b>
Number of mental health education sessions and classes delivered	<b>21,205</b>

## Disease Prevention and Control

Number of disease outbreaks in the refugee community in 2007	<b>0</b>
Percentage of immunization coverage of children over two for primary and booster series in all fields	<b>95%</b>
Percentage of 12 month olds immunized against Hib, Hepatitis and Poliomyelitis	<b>99.7%</b>
Number of HIV/AIDS cases reported in 2007	<b>2</b>
Number of patients with diabetes and/or hypertension under UNRWA supervision	<b>164312</b>

## Environmental Health

Number of tests carried out on water samples collected from the water supply serving the ten camps	<b>1291</b>
Number of camps partially or fully served by UNRWA mechanized waste systems	<b>44</b>
Number of shelters treated in Jordan Field for cockroaches and bedbugs	<b>984</b>
Amount of domestic and commercial waste removed	<b>65,000 tons</b>



The UNRWA Health Programme staff are committed to serving the needs of the Palestine refugees. Many of the patients the health staff see are the most vulnerable members of the refugee community – children and the elderly – and they often require additional attention from health care workers to ensure their medical requirements are met.

## Executive Summary

The primary goal of the UNRWA Health Programme is to protect, preserve and promote the health status of the registered Palestine refugees within the Agency's five areas of operations (Jordan, West Bank, Gaza, Syria and Lebanon) by providing access to quality basic health services, consistent with the Millennium Development Goals (MDGs) and the Convention on the Rights of the Child, as well as with the policies and strategies of the World Health Organization.

In 2007, 4199 health care workers, and administrative and support staff of the UNRWA Health Programme provided services to over three million Palestine refugees. These services were delivered via the Health Department's five main sub-programmes:

- 1) Curative Medical Care Services;
- 2) Health Protection and Promotion;
- 3) Disease Prevention and Control;
- 4) Environmental Health; and
- 5) Emergency Preparedness and Response.

These sub-programmes were complemented by the Programme Management stream which outlines the accountability and governance mechanisms required to deliver effective and efficient health care services.

The Annual Report of UNRWA's Department of Health is divided into seven chapters beginning with introductory remarks and the demographic and epidemiological profile of the Palestine refugees followed by the chapters on the activities of the five main sub-programmes listed above. The Report concludes with the chapter on Programme Management and the annexes containing facts at a glance and abbreviations. As the Year in Summary at the beginning of this report contains key statistical data for the Health Programme for 2007, the following overview of the chapters will not provide detailed statistical outcomes.

### Chapter 1 Demographic and Epidemiological profile of the refugee population

At year's end over four and a half million Palestine refugees were registered with UNRWA. Almost 1.8 million of these refugees (registered with UNRWA) reside in the occupied Palestinian territories in Gaza and the West Bank, while the remaining refugees are spread over three other countries – the Syrian Arab Republic, Jordan and Lebanon. Only one third of the refugees live in camps, with the remaining refugees residing in unofficial camps or amongst host country communities.

The ongoing concern arising out of UNRWA's study of the epidemiological profile of the refugees is non-communicable diseases with an increase in diabetes mellitus, hypertension and cancers in 2007.

### Chapter 2 Curative Medical Care Services

In 2007 UNRWA's health care professionals provided over nine and a half million consultations. This was complemented by 737,601 dental consultations and 251,592 dental screenings. UNRWA continued to assist refugees with hospital treatment either through the UNRWA run hospital in the West Bank or by contracting beds at non-governmental and private hospitals. The provision of this vital service by Medical Care Services meant 73 985 patients who were hospitalised in 2007 were assisted through the hospitalisation scheme.

## Executive Summary

### Chapter 3 Health Protection and Promotion

A continuing focus on the health of the most vulnerable refugees – women and children, has seen the Health Protection and Promotion sub-programme deliver preventative care to almost 100,000 pregnant women and over 260,000 children below 36 months of age in 2007. Ongoing family planning campaigns have had high coverage amongst the Palestine refugee community and although infant mortality appears to be stable, a worrying trend is a noticed increase in maternal mortality. Inadequate nutrition continued to be of major concern with a rise in anaemia and Vitamin A deficiencies in expecting mothers and children. Therefore continued emphasis was placed on UNRWA's nutritional supplementation programme, particularly Vitamin A supplementation in infants.

### Chapter 4 Disease Prevention and Control

In 2007 there were no disease outbreaks amongst the Palestine refugee communities in the five fields of operation. Given the ongoing crises in Lebanon and Gaza, and the difficult conditions in the camps with thousands of refugees living in close quarters, this is a major achievement for UNRWA's Disease Prevention and Control sub-programme. Immunization coverage of infants and children remained high and maintained the zero incidence of polio and tetanus. However, deaths from non-communicable diseases increased, which is a concerning trend as noted in the epidemiological profile.

### Chapter 5 Environmental Health

UNRWA's Environmental Health sub-programme maintained its delivery of essential sanitation and water services to Palestine refugees in the five fields. In 2007 water supply systems in 10 camps in Jordan were tested to monitor the bacteriological quality of water, and in Lebanon 80 cubic meters of water were tankered into Wavel Camp daily in response to the camp's well failure. Also the ongoing rodent control programme treated 1710 shelters in Jordan, and insect control was regularly carried out to control houseflies at refuse collection points within the camps.

### Chapter 6 Emergency Preparedness and Response

The humanitarian crisis in the occupied Palestinian territories intensified in 2007 with movement of essential items such as food and medical supplies all but impossible. In parallel, the ongoing unrest in Lebanon left thousands of Palestinian refugees from Beddawi Camp in North Lebanon displaced. UNRWA provided emergency interventions comprising emergency medical care, medical supplies, food aid and environmental health assistance in the way of sanitation, water testing and waste removal. Additional medical mobile teams were established in 2007 to service the needs of these particularly vulnerable Palestine refugees.

## Executive Summary

### Chapter 7 Programme Management

In 2007, the Health Programme expenditure was just over USD \$80 million. A total of 4199 staff worked for the Health Department across the five fields including staff at Qalqilia Hospital, specialists, school medical officers, pharmacists, lab technicians and x-ray technicians. The staff to population ratio per 100,000 served population was 16 for physicians and 34 for nurses. In 2007, the UNRWA Health Department continued to maintain and foster a number of key partnerships with other United Nations agencies, NGOs and Host Authorities, and regardless of ever increasing workloads training of staff in essential areas such as technical guidelines, best practice in their area of operation, and rational prescribing of medicines was maintained.

## Chapter 1

In this time of extraordinary hardship for Palestinians, we must remain firm in our determination to assist and protect them [...] we should continue to demand that all sides respect and observe international law, protect civilian lives and property, and act within the bounds of restraint and reason.

UN Secretary-General, 19 November 2007



It is not uncommon for there to be standing room only in UNRWA health centers. Many Palestine refugees require regular medical consultations, due to the constant stress their health is under, particularly in the occupied Palestinian territories. Given the cost of private health care and the barriers refugees face getting public health care in some host countries, the UNRWA primary health care service is the best option. While the UNRWA health staff are ever mindful of the long cues of patients waiting for treatment, funding shortfalls and increased workloads have placed greater demands on the UNRWA health care system.

# Chapter 1

## The UNRWA Health Programme and the Demographic and Epidemiological profile of Palestine Refugees

### **1.1 The population served in 2007**

Over three million refugees accessed UNRWA primary health care services, both preventive and curative, during 2007. This figure was calculated using UNRWA patient clinical files and family files to control duplication.

Compared with 2006, the proportion of served population decreased slightly from 73% to 66%. All Fields showed a slight decrease with the exception of Gaza and the West Bank where the proportion remained constant.

*Table 1, Proportion of the served population from total registered refugees in 2007*

Field	Registered populat	Served population	%
Jordan	1903490	1142094	60%
Lebanon	413962	231046	56%
Syria	451469	319064	71%
Gaza Strip	1048125	838500	80%
West Bank	745776	499670	67%
All Fields	456 2822	303 0374	66%

#### **1.1.1 Challenges**

The growing vulnerability of the population it serves, the financial burden of the increased cost of medicines, supplies and staff salaries as well as access restrictions and logistic problems are the main challenges faced by UNRWA's Health Programme today.

The deteriorating socio-economic conditions among Palestine refugees, in particular in the occupied Palestinian territories (oPt), has caused an increase in the number of people living under the poverty line of \$2.8 USD per capita daily expenditure. The increased need for health care among the refugee population is not only the result of a demographic increase, but a consequence of the swelling numbers of a highly vulnerable group of newly poor with no alternative health care provider.

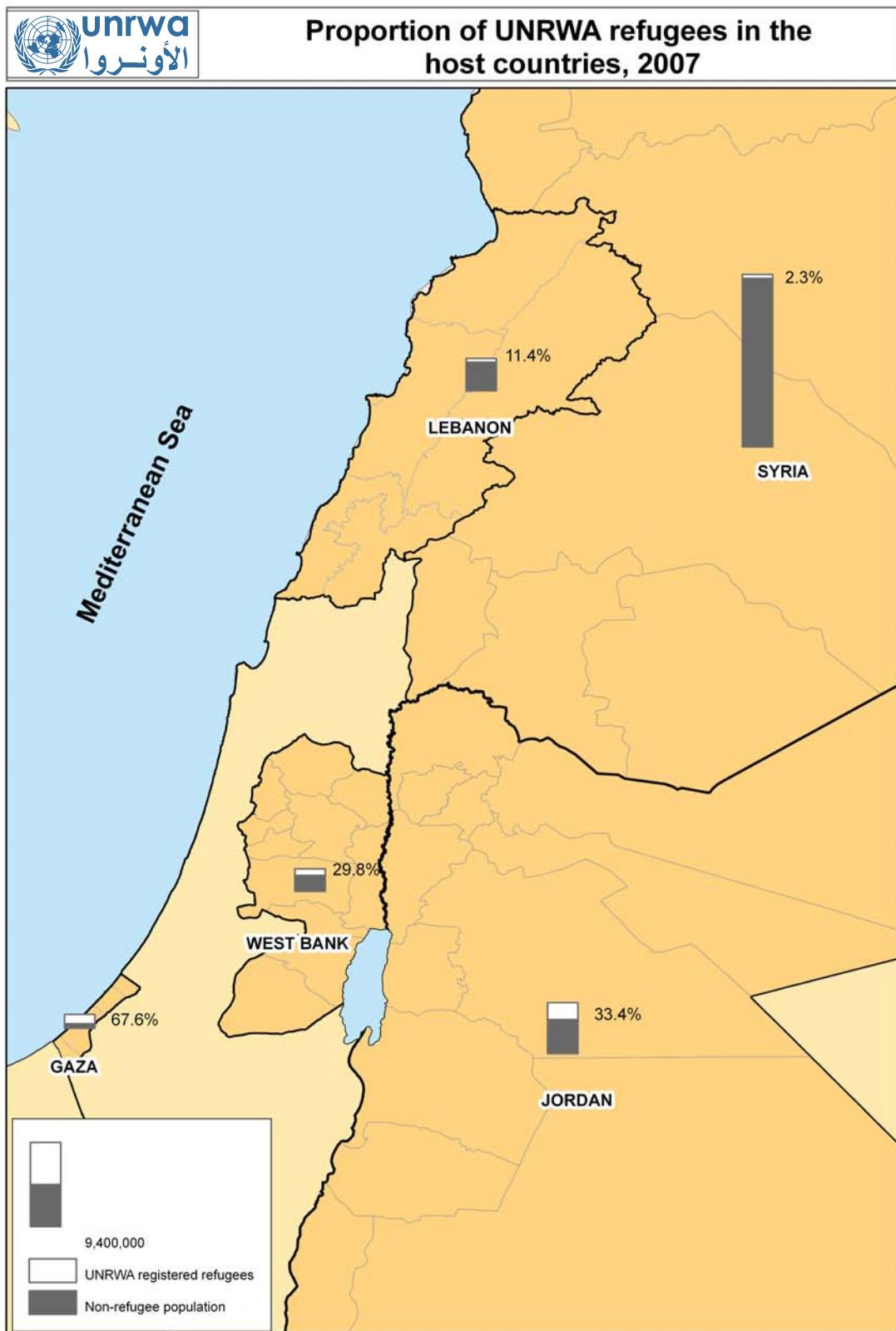
Furthermore, movement restrictions in the oPt remain a complex problem for the resident population and a severe drawback for UNRWA. The oPts are suffering from the long term effects of socio-economic hardship and the observed trend is towards a tightening of restrictions with increased isolation of Gaza, and a growing lack of geographic continuity in the West Bank.

A combination of rapid population growth, increased demand for services and integration of new activities within primary health care is overstressing UNRWA's Health Programme. For example, utilization of out-patient services in 2007 increased to over nine million medical consultations per year with an average of 95 visits per doctor per day.

# Chapter 1



# Chapter 1



## Chapter 1

### **1.2 *The Health Programme today***

UNRWA continues to provide one of the most cost-effective and efficient health delivery systems in the region, despite the increasingly unstable operational environment; however access restrictions have compelled the Agency to increase its delivery of services in order to maintain standards of care. This has involved recruitment of more personnel, establishment of mobile clinics and an increase in the number of health centres. In 2007, a new health centre was established in Shouka, in the south of Gaza, bringing the number of UNRWA health centres in the Fields of operation to 128. Also the prioritization of the health care services delivered and increased efficiency through the establishment of a networked health information system at health centre level along with updating of management guidelines and revision of available drug lists, are helping the Health Programme to better respond to the needs of the refugees.

Possible changes in the attitudes of host countries towards the refugees within the context of their national health service are not foreseeable in the near future. Therefore UNRWA faces a long term commitment to Palestine refugees.

Quality assurance is a primary concern for the Health Programme. Studies addressing patient flow analysis to optimize doctor-patient contact time and avoid overcrowding; quality evaluation of care in health centres and contracted hospitals, and analysis of the outcome of visits and the nature of repeat visits (whether due to patient follow up, new conditions or lack of improvement after treatment) are providing the keys to reorganization of services and increased internal efficiency.

The increased awareness of non-communicable diseases morbidity also has sustainability implications for the Agency due to the higher cost of patient care and the duration of treatments. On the one hand, early detection and case management of hypertension and diabetes have become one of the cornerstones of the Disease Prevention and Control Programme in response to the generalized epidemiological shift in the region. On the other hand, old enemies such as communicable diseases and micronutrient deficiencies are still major public health concerns. The double burden of communicable and non-communicable diseases remains an issue to be tackled by the UNRWA Health Programme in the years to come. Moreover, the nutritional status particularly of vulnerable groups such as the extreme poor, pregnant women and children has to be monitored.

Notwithstanding the difficulties it faces, UNRWA cannot avoid addressing unmet health needs in particular mental health, cancer screening and treatment and physical rehabilitation services. Mental health and psychological wellbeing are expected to become major issues in the next few years given the growing poverty and social segregation of the Palestine refugees. Furthermore, early detection and management of cancers will become a future challenge as it will fall on the health care system to continue to provide this specialist service on a limited budget.

### **1.3 *Demographic and epidemiological profile of Palestine refugees***

#### **1.3.1 *Demographic characteristics***

The data presented in this report originates from two different sources: the registration records kept by the Department of Relief and Social Services (RSS) and the Health Information System that gathers information at health centre level.

# Chapter 1

Overall refugee population size and demographic stratification are calculated from UNRWA's registration statistical records. As all registration data is acquired on a voluntary basis, this implies that it is potentially incomplete. In particular this is true for crude birth and death rates as no enforced reporting system is in place. For this reason the rates and indices provided in this report are calculated on the basis of the hosting country data, based on the assumption that the refugee population has similar birth and death patterns to the population of the host countries. The estimation of denominators regarding access, coverage, and utilization of services also presents difficulties due to the data referring to the juridical status of individual refugees but not to refugee mobility over time (e.g. if refugees moved in or outside camps, or if they presently reside within or outside the Agency's area of operations).

The second source of data is service based, and consequently has the advantage of being updated, validated and of providing disease/service specific information. However, it has the disadvantage of only being representative of the refugees accessing UNRWA's health services, and not the refugee population as a whole.

### 1.3.2 Demographic profile of the registered Palestine refugee population

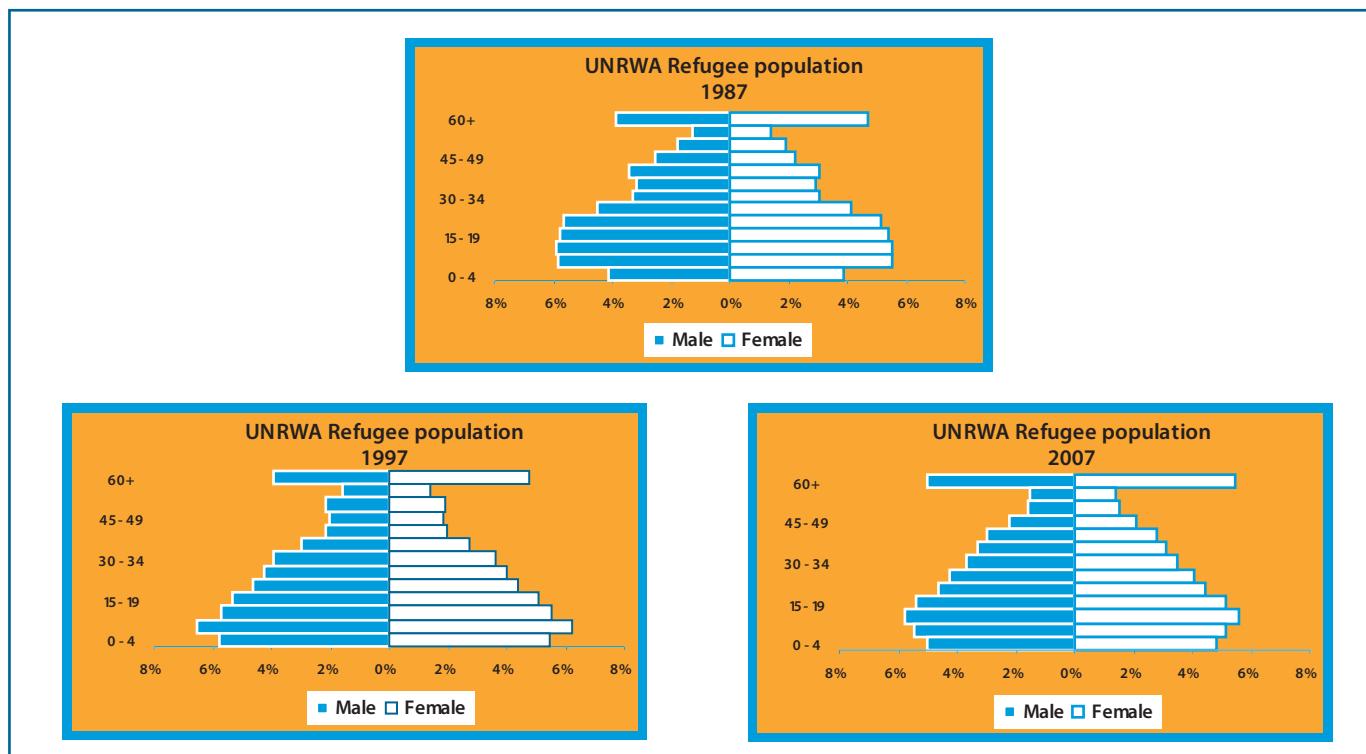
The number of registered Palestine refugees had increased by 2.5% at the end of 2007 compared with the same period in 2006. The total number of Palestine refugees registered was 4,562,820 Agency-wide and was distributed as follows: Jordan 1,858,362, Lebanon 413,962, Syria 451,467, Gaza Strip 1,048,125, and the West Bank 745,776.

The registered Palestine refugees are a young population - 38.3% are children below 18 years of age. This rate is as high as 46.9% in Gaza. Children below 18 years of age and women of reproductive age constitute 63.5% of the total refugee population.

The male to female ratio for the total refugee population and among children enrolled in UNRWA schools and accessing the Agency's primary health care facilities is close to one.

Although changes in the demographic pattern of a population take place over several decades, during the past 20 years minor differences can be observed such as a slight proportional increase in the extreme age-groups and in particular in the population aged 60 and over (see Figures 1, 2 and 3).

*Figures 1-3 UNRWA Registered population pyramids 1987-2007*



## Chapter 1

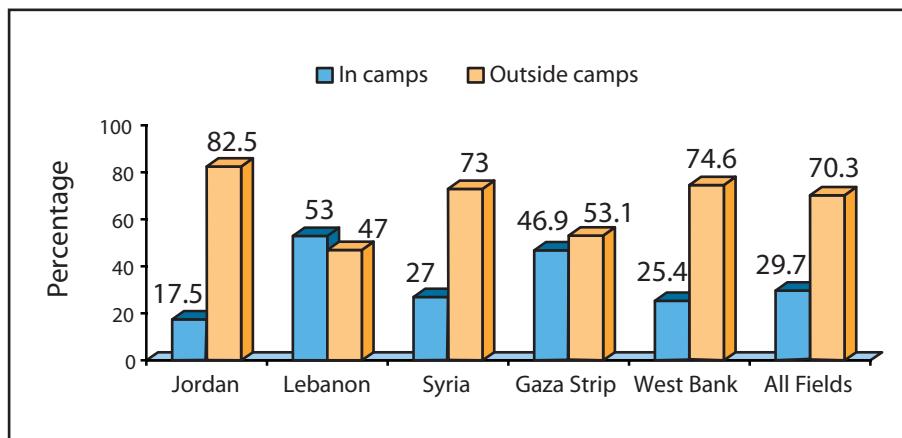
The refugee population is undergoing a shift from an early demographic transition to an intermediate one. While early stage transition is characterized by successive age groups being smaller than the preceding age group, with the 0-4 class being the most populated one overall; the intermediate phase is dominated by the working age groups.

In this phase, if low unemployment is maintained, the population is potentially capable of supporting the younger and older age groups. For this reason this kind of population is considered to be in a particularly favourable, if transitory, economic position and has been described as having a "demographic gift" or demographic "dividend".<sup>1</sup> The observed trend is in fact of a subsequent shift towards a late phase demographic transition where the growing proportion of elderly are supported by a smaller proportion of working age people with a population pyramid that grows almost rectangular in shape.

When applied to the Palestine refugee population these considerations are a cause of concern. Where no particular economic advantage is currently observed in hardship stricken populations in the oPTs due to high unemployment and poverty, and in socially and economically discriminated populations in Lebanon, the future trend will be towards an ageing refugee population which could make them even more vulnerable and dependant on external aid.

### 1.3.3 Place of residence of the registered Palestine refugee population

Consistent with previous years, approximately one third of the registered refugees were found to be living in the 58 official UNRWA camps with great variations among the Fields (Figure 4). The highest proportion of camp residents was reported in Lebanon and Gaza, and the lowest in Jordan. The remaining population lives in unofficial camps, towns, and villages in close contact with the host country population.



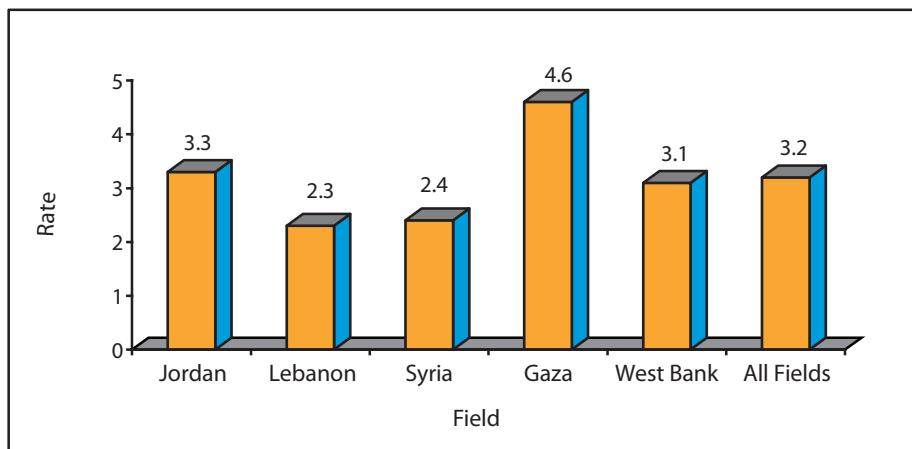
*Figure 4, Distribution of the refugee population in and outside camps*

<sup>1</sup>- J.F. Barker 'The Demographic Transition and the Demographic Dividend', June 2004. Accessed at <http://www.population-growth-migration.info/essays/DemographicDividend.html> 11 February 2008

# Chapter 1

### 1.3.4 Fertility rate

Over the last two decades fertility rates among the refugee population underwent a significant decline. The most recent survey by UNRWA was undertaken in 2005 and reported a fertility rate of 3.2 Agency-wide ranging from 4.6 and 3.3 in Gaza and Jordan to 2.3 and 2.4 in Lebanon and Syria (Figure 5).



*Figure 5, Fertility rates by field*

### 1.3.5 Family size

Data on the average family size is assumed to have remained fairly constant since the last UNRWA family size study conducted in 2005. These details were reported on in the 2006 Department of Health Annual Report and the data for the previous years is available in Annex 1. The next UNRWA Family Size survey is planned for 2015.

### 1.3.6 Population density

Although the number of registered refugees who were internally displaced or took refuge in neighbouring Arab countries has increased by more than six times since 1948, the number of people residing in camps has not increased proportionally over the last decade. This is inconsistent with the observed growth rates among the general refugee population and with the traditionally higher fertility rates among the camp residents. The slow population growth has been attributed to refugee mobility. High population density in the camps coupled with expansion limitation are two of the leading factors that encourage refugee emigration from camps.

Field-wise growth rates continued to be high in Gaza and in the West Bank. The Palestinian Central Bureau of Statistics (PCBS) estimated the population residing in the oPt to have increased to four million in 2007 (3.8 million in 2006).

Although population density is high throughout the oPt, overcrowding is particularly severe in Gaza, which is estimated to be the most populated area in the world. Population density in the West Bank is 439 persons/sq.km (411 in 2006) while it has reached 4033 persons/sq.km (3780 in 2006) in Gaza where 1.4 million people live on approximately 365 sq. km of land.

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### 1.3.7 Infant and child mortality rates

Post delivery and neonatal assistance is mainly provided by contracted public health care services in the host countries and, infant mortality rates are similar to those of the host countries. The UNRWA Infant and Child Mortality survey conducted in 2003 confirmed the declining trend in infant mortality rates that has been observed over the last two decades, in all Fields (Figure 6).

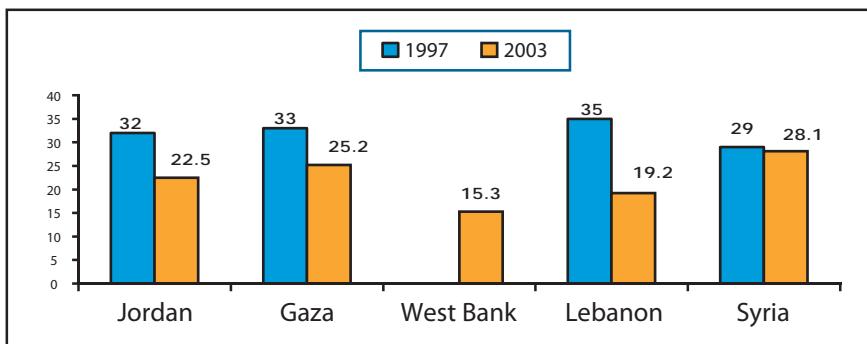


Figure 6, Infant mortality rates /1000 live births, UNRWA surveys 1997<sup>2</sup> - 2003

As the leading causes of infant death were prematurity, low birth weight and malformations, the Agency focused its attention on:

- carefully monitoring pregnancy and referring high risk and alert cases for hospital delivery;
- encouraging early registration of new borne children and carrying out a close clinical follow up especially in the neonatal period; and
- implementing community awareness on the risk of pregnancies at extreme ages (too young, too old), of high parity, or of interfamily marriage.

Table 2, Social and Health indicators for the UNRWA served population and Ministry of Health data for countries of the Eastern Mediterranean<sup>3 4</sup>

Country/ served population	Year	% of the population aged 0-14 Years	Fertility Rate	Infant mortality rate/ 1000 live births
Syria( MoH )	2000-05	39.5	3.47	16
Syria ( URWA )	2003-2006	30.2	2.4	28.1
Jordan ( MoH )	2000-05	37.1	3.53	19
Jordan ( URWA )	2003-2006	30.3	3.3	22.5
Lebanon ( MoH )	2000-05	27.3	2.32	22
Lebanon ( UNRWA )	2003-2006	23.7	2.3	19.2

2 - The West Bank was not surveyed in 1997 therefore data for this field for that year is not available.

3 - WHO EMRO website accessed at [www.emro.who.int](http://www.emro.who.int), 12 February 2008

4 - UN Demographic and social statistics accessed at <http://unstats.un.org> 12 February 2008

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Country/ served population	Year	% of the population aged 0-14 Years	Fertility Rate	Infant mortality rate/ 1000 live births
Palestinian Authority (MoH)	2000-05	46.3	5.57	18
West Bank (UNRWA)	2003-2006	33.8	3.1	15.3
Gaza (UNRWA)	2003-2006	40.1	4.6	25.2
Israel (MoH)	2000-05	28.35	2.85	5

Nevertheless harsher living conditions experienced by refugees especially in Gaza might change this positive trend. Preliminary surveillance data indicates that infant and maternal deaths have increased in 2007. An infant mortality survey to assess the current situation started in January 2007 and will be concluded by July 2008.

### 1.3.8 Dependency ratio

The combined reduction of fertility and infant-child mortality rates over the years, and increased screening and treatment of diseases such as diabetes and hypertension that typically affect the older population, is likely to result in increased life expectancy among the refugees. However, rising poverty and high unemployment rates especially in the oPts, is likely to increase the economic burden on families due to the consequent dependency ratio growth (measured as children below 15 years and elderly above 60). According to data from UNRWA's Relief & Social Services Department at end of 2007, the dependency ratio reached 69.2% in Jordan, 75.4% in the West Bank, 89.6% in Gaza Strip, 56.8% in Lebanon and 69.3% in Syria. As the dependency ratio is a slow onset indicator these proportions are comparable to those reported in 2006.

## 1.4 Epidemiological profile

The impact of communicable diseases on morbidity and mortality among the refugee population is decreasing. Vaccine-preventable diseases are well under control and communicable diseases such as tuberculosis and HIV/AIDS are of low endemicity. However communicable diseases associated with poor environmental health, such as viral hepatitis and enteric fevers, are still a public health threat reflecting endemicity patterns observed in the region.

The reduction of communicable disease incidence combined with a longer life expectancy and modifications in lifestyle have led to a change in the refugees' morbidity profile with the emergence of non-communicable diseases (NCD) such as cardiovascular diseases, diabetes mellitus and cancer. Facility based data from 2007 indicates that the observed prevalence of diabetes mellitus and hypertension among NCD clinic attendees was 10.3% and 15.8% respectively. Prevalence rates reported in the hosting countries are higher suggesting that these diseases are still under-detected among UNRWA served refugees.

Micronutrient deficiencies, especially iron deficiency anaemia and vitamin-A deficiency, remain public health problems, and are most probably due to the combined effect of several causes. Nutritional deficiencies related to a combination of poor consumption, linked to poverty or poor availability of specific foods, and/or to an increased biological need (for example during pregnancy), have been identified as causes of micronutrient deficiency in all Fields.

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Also high met-haemoglobin (Met-Hb) levels, which were the result of toxic environmental pollutants such as nitrates<sup>5</sup>, and medical conditions such as thalassemia<sup>6</sup>, are possible causes of the observed high prevalence of anaemia especially in closed and hardship stricken communities such as in Gaza.

Prevention and treatment of post-traumatic stress and other psychological and behavioural disorders, that are a consequence of exposure to traumatic events<sup>7</sup>, are an emerging health priority for Palestine refugees. The chronically harsh living conditions coupled with long term political instability, violence and uncertainty are starting to take their toll, particularly on children and adolescents in the oPt and Lebanon. In Lebanon, the severe internal political tensions throughout the country and the aftermath of the 2006 conflict are keeping the population in a state of chronic distress. While in the oPt the escalation of violence since September 2000 has led to the destruction and demolition of homes, siege, closures, curfew conditions and spiralling poverty among the civilian population. The erection of the "Separation Wall" has divided families, limited access to schools, work and basic services contributing to the decline of mental health in particular among Palestinian youth<sup>8</sup>. As per the Agency's Medium Term Plan (2005-2009), special emphasis is being placed on developing system-wide strategies to address psychosocial wellbeing, especially among children and youth, and structured mental health programmes are being implemented in Gaza and West Bank.

<sup>5</sup> - Abu Naser AA, Ghbn N, Khoudary R. 'Relation of nitrate contamination of groundwater with methaemoglobin level among infants in Gaza.' *La Revue de Santé de la Méditerranée Orientale*. 2007; 13(5): 994 – 1004

<sup>6</sup> - Sirdah M, Bilto YY, el Jabour S, Najjar K. 'Screening secondary school students in the Gaza Strip for beta-thalassemia trait.' *Clin Lab Haematol*. 1998; 20(5): 279-83

<sup>7</sup> - Qouta S, El Sarraj E. 'Prevalence of PTSD among Palestinian children in Gaza Strip.' *Arabpsynet journal* 2004 accessed at <https://arabpsynet.com/Archives/OP/OPj2.Qouta.PTSD.pdf> in February 2008

<sup>8</sup> - Giacaman R, Saab H, Nguyen-Gillman V, Naser G. *Palestinian Adolescents coping with Trauma*. Birzeit University, 2004, pp. 1-89

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Dozens of patients in the Gaza Strip are unable to receive medical treatment, in some cases life-saving procedures, due to the continued border closures with Israel and Egypt. At least three patients denied exit permits have died since June, and others have lost limbs or sight.

Human Rights Watch, October 2007



The UNRWA Health Programme provides a broad range of medical services including laboratory testing. Samples sent to any one of UNRWA's 114 laboratories that provide comprehensive services, are tested on-site and results are delivered as quickly as possible. For example, pregnant women and children usually receive their results within one hour. This in-house service provided by the UNRWA Health Programme ensures timely delivery of results to patients and streamlines the process for UNRWA medical staff.

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### **Curative Medical Care Services**

#### **2.1 Objective**

The objective of the Curative Medical Care Services Programme is to reduce disability and mortality from acute and chronic illnesses by providing diagnostic and treatment services to Palestine refugees through UNRWA's network of primary health care facilities and contracted government hospitals or institutions.

#### **2.2 Programme activities**

Curative Medical Care Services are an integral part of UNRWA's comprehensive primary health care activities, where the physical, human and financial resources allocated to this programme are shared with, and complement, disease control and health prevention and promotion activities. The specific activities of this programme consist of out-patient medical care including issuing medicines, laboratory investigations, radiology services, oral health services, physical rehabilitation and hospital services. Services at the primary level are provided to the served population free-of-charge, and policies for cost sharing are in place with respect to hospital services and other outsourced services such as advanced medical investigations and prostheses.

Medical care services are provided through a network of 128 primary health care facilities Agency-wide. Of these facilities, five health centres located in the largest camps in Gaza were operated on a double-shift. Introduced 15 years ago, this unique arrangement was maintained because of the Agency's inability to establish additional health care facilities that would help to reduce excessive workloads resulting from rapid population growth, increased demand for services and integration of new activities within the Agency's primary health care services. Owing to their critical socio-economic conditions, some 24,000 Palestine refugees displaced from Gaza since 1967, continued to receive UNRWA health services in Jordan. In addition, health services are being provided to some 13,000 Palestine refugees who are on the official records of the Lebanese authorities, but are not registered with UNRWA. Likewise, Bedouin tribes who took refuge in Syria since 1948 and were not previously registered with UNRWA have been included in Agency records.

#### **2.3 Progress in 2007**

##### **2.3.1 Out-patient care**

Upgrading of primary infrastructure, projects for expansion, and upgrading and rehabilitation of primary health care facilities in 2007 consisted of the following:

- In Syria, a number of reconstruction projects were implemented in 2007, namely Sbieneh Health Center (funded by the German Government), Deraa Health Center (funded by the Austrian Government), Khan Eshieh Health Center (funded by the US Government), and finally the renovation of the Polyclinic laboratories and of Qaboun and Jouber pharmacies;

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- In Lebanon, a new laboratory was established at Ein Hilweh Health Centre and at Nabatieh. The Ghazieh Health Centre was renovated, while new premises were rented in Bar Elias, Kfar Bedda, and Wadi El Zeineh to be used as part-time clinics;
- In Gaza, Tal Sultan-Rafah and Khan Younis Health Centers were completed in 2007 but are as yet not operational due to medical equipment and furniture for the centres not being allowed through the checkpoints. Similarly, the Jabalia Health Center reconstruction was not completed due to the building material not passing through the checkpoints into the Gaza Strip. However, an additional laboratory was added to Shoka Health Center; and
- In West Bank, Jalazone and Arroub Health Centers were demolished and reconstructed, and are now fully operational. Expansion of the infrastructure and capacity of the laboratories was done in Balata, Dair Ammar, Doura, Dheisheh, and Kalandia Health Centers, and a new laboratory was added to Budros Health Center.

Special mention must be made of the Excellent Health Services Initiative (EHSI), launched by the UNRWA Gaza Field in 2007 and aimed at improving services, quality of care and staff motivation. The first step was the re-distribution of the catchments population for each health center - a necessary action which will lead to better deployment of health personnel and a more equitable workload across the health centres.

### *Utilization trends*

Utilization of out-patient services in 2007 was higher than that in 2006 with approximately 9.5 million medical consultations compared to 8.8 million in 2006 provided by the Agency's primary health care facilities. Of these consultations, 265,821 were specialist consultations (see Table 1).

*Table 1, Utilization of outpatient services in 2007*

Field	Jordan	Lebanon	Syria	Gaza	West Bank	All Fields
Registered refugees	1903490	413962	451467	1048125	745776	4562820
<b>a. Medical consultations</b>						
First visits	440560	168026	237419	674446	325272	1845723
Repeat visits	1686155	853424	695132	2773242	1372125	7380078
Ratio of repeat to first visits	3.8	5.1	2.9	4.1	4.2	4.0
Sub-total	2126715	1021450	932551	3447688	1697397	9225801
<b>b. Specialist care</b>						
Ob/Gyn	45369	19910	14401	82345	10288	172313
Cardiology	6391	9893	79	13874	1689	31926
Others	4892	17054	6	33660	5970	61582
Sub-total	56652	46857	14486	129879	17947	265821
Grand total a+b	2183367	1068307	947037	3577567	1715344	9491622

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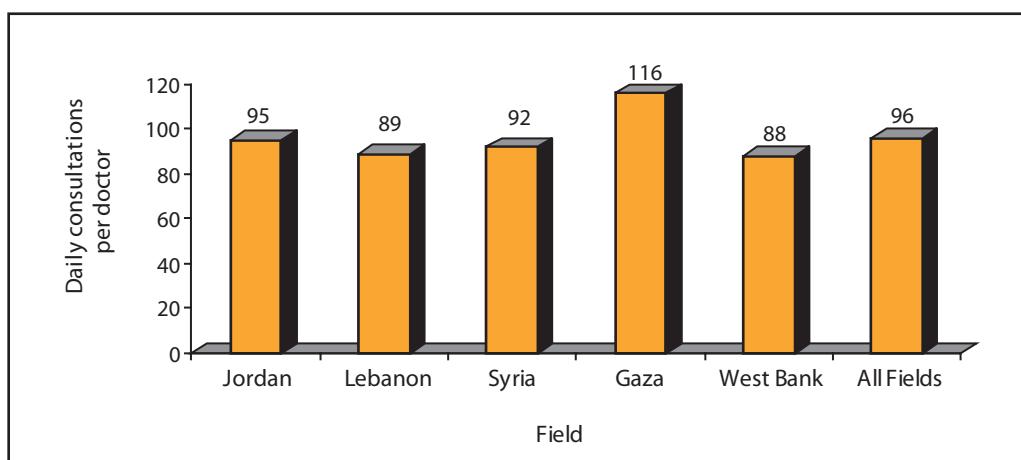


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The ratio of repeat to first visits decreased from 4.2 in 2006 to 4.0 in 2007. This ratio is currently under scrutiny for it has a very wide variation among Fields, and among health centers in the same Field with some health centers reaching 13. The revision has the two-fold purpose of understanding whether the visits are for the same illness or for different ones, and if in the case of the former, a possible explanation for the high number of visits for a single illness may be poor quality of care (i.e. incomplete treatment that brings the patient back to the doctor). In Fields where the refugees endure particularly harsh conditions, it is common to see an over-utilization of health facilities by a community with all the signs of profound psycho-social distress (particularly in the Gaza and Lebanon fields). The Excellent Health Services Initiative in Gaza is trying to address this problem with outreach work within the communities.

### *Staff workloads*

While in 2006 the workload in the primary health care facilities was reduced to 95 consultations per medical officer from 110 in 2005, in 2007 the results were less satisfying. The workload per medical officer was 96 across all fields with differences ranging from 88 in West Bank to 116 in Gaza, where despite the recruitment of new doctors, the attendance was too high to maintain the good results achieved last year (See Figure 1).



*Figure 1, Average daily workloads per doctor*

### 2.3.2 *In-patient (hospital) care*

UNRWA continued to provide assistance towards essential hospital services either by contracting beds at non-governmental and private hospitals or through partial reimbursement of costs incurred by refugees on their treatment at governmental or non-governmental hospitals. Data on utilization of hospital services in 2007 is shown in Table 2.

*Table 2, Utilization of outsourced hospital services in 2007*

Indicators	Jordan	Lebanon	Syria	Gaza	West Bank	All
<b>Patients hospitalized</b>	12457	21118	10890	4008	19037	67510
<b>Difference in % from 2006</b>	-30.9	6.7	10.0	8.9	8.3	2.1
<b>Patients days</b>	27088	46888	14438	13907	41930	144251
<b>Average stay in days</b>	2.2	2.2	1.3	3.5	2.2	2.1

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In 2007, the number of patients who benefited from hospital services Agency-wide, excluding Qalqilia Hospital, decreased by 2.1% from 68,986 in 2006 to 67,510 patients. Overall all Fields, with the exception of Jordan, had an increase in the number of patients using hospital services. The significant decrease in Jordan, however, must be interpreted as a consequence of the hospitalization agreement with the Jordanian MoH, which was implemented in 2007. Under this agreement, the patient is no longer reimbursed for hospital costs; rather reimbursement of costs is made directly to the MoH after submission of claims, which is beneficial to the patient as it reduces time and effort. However, it has shifted the burden of the claim submission to the MoH, which now has huge delays in obtaining reimbursement, therefore causing underestimation of the actual number of referrals to hospitals for the year. The average length of stay (LOS) continues to be low - 2.1 days Agency-wide.

### *Qalqilia Hospital*

In addition to outsourced services, UNRWA operates a 63-bed hospital in Qalqilia, West Bank, which accommodates 14 surgical, 12 medical, 20 paediatric, 15 obstetricians/gynaecologists and two intensive care beds in addition to a five-bed emergency department.

The hospital has seen a surge in demand for its services in 2007 from both non-refugees and refugees who previously attended private hospitals or Nablus Hospital. Increased demand stems from restriction of access to increased poverty and strikes by health care personnel. In fact, the number of non-refugees, including municipality-referred poor patients and non-refugee emergency cases, was twice as high in 2007 compared to 2006 (see Table 4).

The average daily bed occupancy in Qalqilia Hospital during 2007 reached 55.6%, a slight decrease from the previous year in which the daily bed occupancy was 57%. A total of 6545 people were admitted to the hospital, including UNRWA refugees and non refugees from the municipalities.

Table 3 and 4 below provides data on utilization of Qalqilia Hospital in the West Bank and shows changes in the utilization of the hospital since 2004.

*Table 3, In-patient care at UNRWA facilities in 2007*

Indicators	Qalqilia hospital, West Bank
<b>Number of beds</b>	<b>63</b>
<b>Persons admitted</b>	<b>6545</b>
<b>Bed days utilized</b>	<b>12785</b>
<b>Average daily bed occupancy (%)</b>	<b>55.6%</b>
<b>Average stay in days</b>	<b>2.0</b>

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*Table 4, Inpatients admitted by category in 2004-2007*

	2004	2005	2006	2007
<b>Refugees</b>	<b>4351</b>	<b>4901</b>	<b>5649</b>	<b>5470</b>
<b>Municipality-referred Poor Patients</b>	<b>229</b>	<b>319</b>	<b>611</b>	<b>377</b>
<b>Married to Non Refugees</b>	<b>Non existing category</b>	<b>Non existing category</b>	<b>57</b>	<b>227</b>
<b>Non Refugee Emergency Cases</b>	<b>150</b>	<b>124</b>	<b>60</b>	<b>433</b>
<b>Total Non Refugees</b>	<b>379</b>	<b>443</b>	<b>928</b>	<b>1037</b>
<b>Total Admission*</b>	<b>4794</b>	<b>5406</b>	<b>6657</b>	<b>6545</b>

\*Total admissions also include UNRWA employees and Intifada patients. The figures for these groups are not included above; therefore the Total Admission figure is not equal to the sum of the categories above.

### *Age distribution of patients*

Analysis of the age distribution of patients hospitalized during 2007 reveals that 22.8% were children below 15 years of age (see Table 5).

*Table 5, Age distribution of hospitalized patients in 2007*

Field	No. of hospitalized patients	Age group (years) in %				All age groups
		0-4	5-14	15-44	45+	
Jordan	12457	3.8	6.1	77.3	12.8	100
Lebanon	21118	17.1	12.4	41.2	29.4	100
Syria	10890	15.4	7.3	55.5	21.8	100
Gaza	3944	6.6	9.1	50.7	33.6	100
West Bank <sup>1</sup>	25576	16.9	7.7	52.7	22.7	100
All Fields	73985	14.0	8.8	53.9	23.4	100

<sup>1</sup> Data includes patients hospitalized in Qalqilia and outsourced hospitals

### *Distribution of patients by sex*

Almost 63% of hospitalized patients were women, with the highest rate of 81.5% in Jordan and the lowest of 42.8% in Gaza. This variation in sex is mainly due to the pattern of resource allocations and the different referral and reimbursement policies implemented in each Field (see Table 6).

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*Table 6, Distribution of hospitalized patients by sex in 2007*

Field	No. of hospitalized patients	Sex	
		Male%	Female%
Jordan	12457	18.5	81.5
Lebanon	21118	47.0	53.0
Syria	10890	43.2	56.8
Gaza	3944	57.2	42.8
West Bank	25576	32.1	67.9
All Fields	73985	37.1	62.9

The reason the patient is admitted to hospital and the type of intervention used, as shown in Table 7, reveal significant variations from one Field to the next, with a predominance of surgical conditions in Syria and Gaza, internal medicine in Lebanon and the West Bank, and deliveries in Jordan.

Similar to distribution by sex, these variations are not related to major differences in the prevailing morbidity patterns, but are rather due to implementation of different referral policies and to the level of Agency assistance provided in each Field.

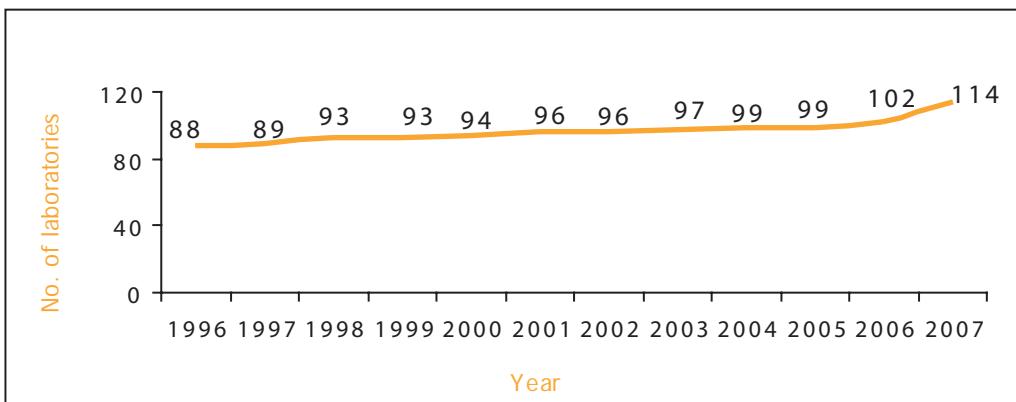
*Table 7, Distribution of hospitalized patients by cause of admission in 2007*

Field	No. of hospitalized patients	Surgical%	Internal medicine%	ENT%	Ophth.%	Deliveries%
Jordan	12457	21.5	23.5	.6	.4	53.9
Lebanon	21118	24.7	59.0	4.0	1.3	11.0
Syria	10890	52.9	10.9	9.6	8.8	17.8
Gaza	3944	79.0	20.0	0.0	0.3	0.8
West Bank	25576	22.4	43.5	2.8	3.3	27.9
All Fields	73985	30.4	38.5	3.7	2.9	24.5

### 2.3.3 Laboratory services

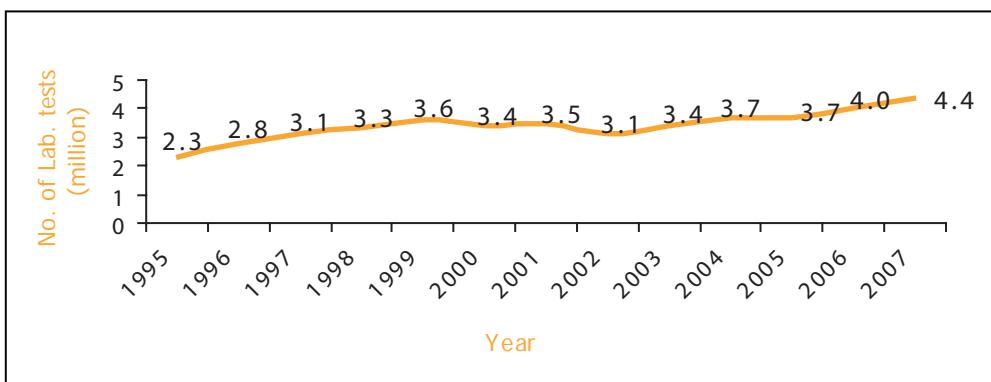
In line with the policy of integrating laboratory services within UNRWA's primary health care activities and in order to meet the increasing demand on basic laboratory services, laboratories at 11 health points in the West Bank and one laboratory at Shoka Health Centre in Gaza were established. This increased the number of laboratories providing comprehensive laboratory services to 114. The remaining 14 health facilities (nine in Lebanon, two in Syria and three in Gaza) continued to provide basic laboratory support (blood glucose, blood haemoglobin and urine tests by dipstick) through well-trained nursing staff using basic laboratory equipment. Figure 2 shows the number of laboratories in the five Fields from 1996 to 2007.

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*Figure 2, No. of laboratories integrated within UNRWA health facilities*

In order to meet the approved plan of activity to expand bacteriology services to area level, an additional health centre laboratory started providing bacteriology services during 2007 at El Buss Health Centre in Lebanon. This increased the number of laboratories providing this service from 26 in 2006 to 27 in 2007. Arrangements were also made for the referral of patients or samples to those laboratories to ensure better utilization of this service. In relation to the utilization of laboratory services, the number of tests performed increased by 8.7% Agency-wide in 2007 compared with 2006. The rates of increase were 12.8% in Gaza, 8.8% in the West Bank, 7.4% in Lebanon, 7.6% in Jordan and 0.6% in Syria. This increased utilization of laboratory services is consistent with the expected population growth and demand. Figure 3 shows the trend in utilization of laboratory services during the period 1995-2007.



*Figure 3, Trend in utilization of laboratory services*

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### *Periodic self-evaluation*

A comparative study of workloads and efficiency of the laboratory services was carried out based on the 2007 statistical data as part of UNRWA's periodic self-evaluation of the programmes. The WHO approach for workload measurement was used.<sup>1</sup>

Table 8 shows the actual productivity in Work Load Units (WLUs)/hour during the period 2001-2007. The productivity target of 45 to 55 WLUs/hour was almost achieved or exceeded in Jordan, Lebanon, Gaza and the West Bank Fields, while it was below target in Syria.

The highest ratio of productivity (77.1 WLUs/hour) continued to be reported in Gaza due to the limited number of available laboratory technicians. The recruitment of 14 laboratory technicians under a job creation programme was necessary to compensate for the deficit in the number of staff. The low productivity in the Syria Field is mainly attributed to working five instead of six days a week.

*Table 8, Actual productivity (WLUs/hr) of laboratory services by Field, 2001-2007*

Year	Jordan	Lebanon	Syria	Gaza	West Bank	Average
2001	43.3	58.4	60	66.3	48.7	55.3
2002	50.8	55	47.1	72.3	47.2	53
2003	54.2	49	47.9	76.6	58.4	58.7
2004	58.5	49.9	49.4	65.7	56.6	55.9
2005	59.9	41.7.4	49.4	67.0	36.6	50.8
2006	58.6	42.7	46.1	66.4	51.4	52.7
2007	50.2	44.6	42.0	77.1	44.0	54.2

Automated haematology analyzers were introduced at all laboratories in Lebanon, Gaza and the West Bank and at three both in the Syria and Jordan Fields. Chemistry analyzers were introduced at area level in Lebanon, Gaza and the West Bank. This technology replaced the need for labour-intensive manual procedures and the recruitment of additional laboratory technicians. Workload unit calculation has been updated using the automated equipment, and efforts are being exerted to secure similar equipment in Jordan and Syria through the regular budget, donations or extra-budgetary funding.

The cost of laboratory services provided by UNRWA including staff, non-staff and equipment (general funds and donations), continued to be far below the public rates for equivalent services. This suggests that UNRWA's experience in integrating laboratory services into its

<sup>1</sup> - The workload unit method is a standardized counting method for measuring technical workload in a consistent manner. With this method, one work unit is equal to one minute of productive technical, clerical and aide time. Each test has a unit value (UV), that is, the mean number of units involved in performing all activities (except specimen collection) required to complete that test. In 1997, UNRWA calculated the necessary time to perform each test by analysing in detail each step of it and the various persons involved. The analysis was conducted in 25 laboratories in the five fields (5 laboratories per field). This resulted in the definition of the standard unit value for each test, for instance: five UV for Glucose test, three for Haemoglobin, seven for stool examination, etc.). The standards UV were consistent with other settings. The workload for each test is then obtained by multiplying the raw count of each test (i.e.: the actual number of tests performed for a year) by its unit value and expressed in minutes. The total number of each test type is then multiplied by its own UV to obtain the total workload attributable to the test. All workload units are finally added together to express the total workload for each laboratory. The productivity at each laboratory is expressed in the ratio of output (total workload units) to input (total available person-hours). In Jordan, for example, a total of 4,518,454 workload units (WLUs) were used to perform 1,120,756 different tests in Jordan Field by 54 laboratory technicians during 266 working days (6.25 hours/day). Productivity/Tech./hour = 4,518,454 / 54 / (266\*6.25) = 50.2 WLUs/h, which is within the WHO-recommended limits.

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primary health care activities remains very cost-efficient vis a vis referring patients to external services, which would lead to additional costs (see Table 9).

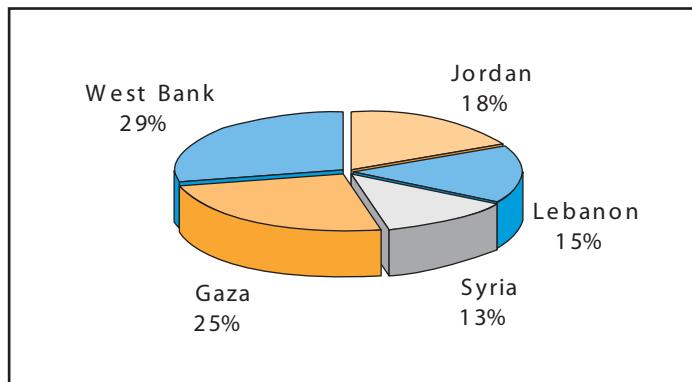
*Table 9, Comparative analysis on annual cost of laboratory services performed at UNRWA facilities and cost of same services if outsourced to Host Governments (USD)*

	Jordan	Lebanon	Syria	Gaza	West Bank	All Fields
Public Cost	3 131 107	1 265 387	1 024 420	4 405 877	2 245 973	12 072 764
UNRWA Cost	817 115	442 217	400 988	874 896	801 845	3 337 061

The cost of laboratory supplies procured under UNRWA's General Fund through the cyclic review indents for 2007 amounted to USD \$876,231 (see Table 10). Procurement of these supplies enabled the smooth running of laboratory services, hence no stock ruptures were observed against laboratory supplies and reagents during the year.

*Table 10, Expenditure on Laboratory Supplies and Equipment in 2007*

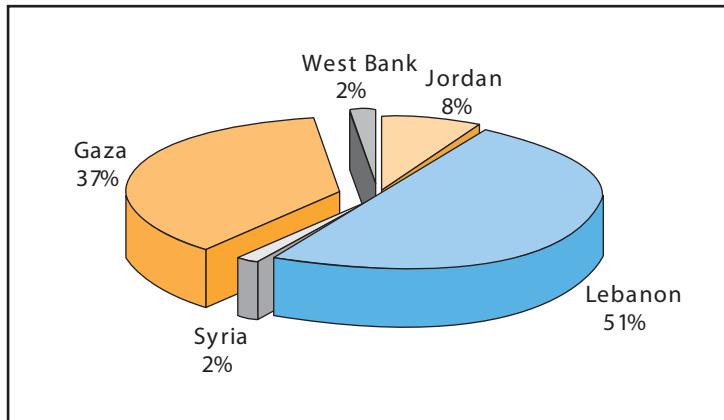
Expenditure (USD)	Jordan	Lebanon	Syria	Gaza	West Bank	All Fields
Laboratory supplies	161 714	133 844	110 991	219 318	250 364	876 231
Equipment	50 642	339 151	13 087	246 635	13 545	663 060



*Figure 4, Expenditure on laboratory supplies (USD)*

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The required laboratory equipment for 2007 was procured through emergency funds, project funds and/or donations and amounted to USD \$663,062 (see Figure 5).



*Figure 5, Expenditure on laboratory equipment (USD\$)*

In 2007, UNRWA continued to follow-up on the performance of laboratory personnel and on the proper provision and utilization of laboratory services. To this effect, the following activities were conducted:

- Training courses for all laboratory technicians and in-service training (according to a standard training package) for newly recruited technicians were conducted in all Fields. A training course on identification of Tuberculosis by direct microscopy was organized by the Jordanian Government's National TB programme for all laboratory technicians in the Jordan Field.
- Special training on the use and preventive maintenance of the Automated Haematology Analyzer from Sysmex, Japan, was organized by the local agent in Lebanon, Biotic for Field Laboratory Services Officers from all Fields and similar training was organized by Biosystem in Spain for the Automated Chemistry Analyzer.
- The quality of laboratory services was followed up on a daily basis through an internal quality control system in place at all laboratories, and a six-monthly control check of the laboratory testing procedures which included pre-analytical, analytical and post-analytical phases using a pre-prepared control sample.
- UNRWA laboratories, with the exception of West Bank, were subjected to external quality control measures utilizing the Biosystem control samples which were provided free of charge from September to December 2007, with a good overall outcome. The West Bank Field agreed to participate in the quality control exercise in 2008 at a reasonable cost of USD \$400 per laboratory per year.
- An annual assessment of the trends in utilization and productivity of laboratory services at health centre level was conducted in each Field.
- The quality of laboratory supplies was checked on a regular basis in coordination with relevant staff at the procurement division.
- Complementing the review of supplies, a set of generic standard specifications for all laboratory equipment was prepared and distributed to laboratory technicians.
- Arrangements were made with the public health laboratories of the host countries with respect to referral of patients or samples for surveillance of diseases of public health importance.

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Analysis of data collected from all UNRWA laboratories in 2007 revealed:

- Out of 107,863 stool examinations performed 17,672 (16.4%) were positive for intestinal parasites, of which 61.7% were Entamoeba histolytica, 25.8% Giardia lamblia and 3.5% Ascaris lumbricoides.
- A total of 84,107 Haemoglobin (Hb) tests were performed to screen one year old children for anaemia. The percentage of anaemic results among Hb tests performed on this group varied from 68.1% in Gaza, 49.9% in the West Bank, 45.8% in Jordan, 40.9% in Lebanon to 37.6% in Syria. Most of the results ranged from moderate to mild types of anaemia.
- A total of 105,006 Hb tests were performed to screen pregnant women at registration and 79,326 tests at 24 weeks of gestation for anaemia. The percentage of anaemic results among Hb tests performed on pregnant women at 24 weeks varied from 51.4% in Gaza, 44.6% in Lebanon, 37.4% in the West Bank, 28.9% in Jordan to 27.5% in Syria. Results revealed moderate to mild forms of anaemia.
- A total of 172,149 Fasting Plasma Glucose tests were performed to screen 101,487 pregnant women at registration and at 24 weeks of gestation to improve the detection rate of gestational diabetes.
- A total of 343,231 postprandial plasma glucose tests were performed as follow-up tests for diabetic patients. The percentage of results reflecting non-control status varied from 57.3% in the West Bank, 55.4% in Lebanon, 52.4% in Jordan, 50.3% in Syria to 45.2% in Gaza.
- A total of 96,206 plasma glucose tests were performed to screen individuals at 40 years of age and over for diabetes mellitus to increase diabetes detection rates.
- A total of 184,239 Creatinine tests were performed to screen diabetic patients for nephropathy and 154,038 cholesterol tests to screen for hypercholesterolemia.

### 2.3.4 Oral health services

In order to meet the increasing demand for oral health services and to screen children for dental abnormalities, oral health services were expanded in 2007 to reach a total of 101 fixed and 10 mobile clinics. This increased the number of health facilities providing dental services from 104 to 111.

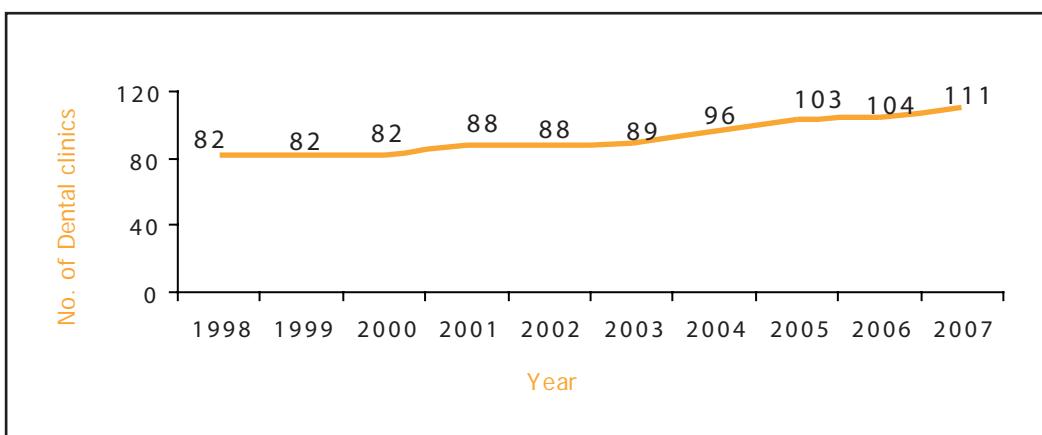


Figure 6, No of dental clinics

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The major achievements on the provision of oral health services during 2007 included the following:

- Some of the dental clinics in Jordan Field providing part-time services shifted to full-time.
- All dental clinics started providing the full range of dental procedures including root canal treatment.
- A total of 11 old unserviceable dental units were replaced with new units.
- Additional steam sterilizers were secured to ensure the smooth running of services.
- New dental surgeon posts were established.
- An annual assessment of oral health services was conducted, with an overall positive review of the service.
- The coordination between UNRWA mobile dental teams and education teams at school facilities was strengthened.
- A new technique (Crown Down) for root canal treatment was introduced in 12 clinics in the Lebanon Field.
- Wireless led light curing units and glass bead sterilizers were introduced in three dental clinics in the West Bank.

The major challenges UNRWA faced in the smooth running of oral health services in 2007 included:

- Lack of regular supervision due to limited transport facilities;
- High turnover of practical nurses assigned to dental clinics;
- Budget limitations which prevented the integration of dental services at three health facilities in Gaza, two in Jordan and four in Syria, and contributed to the failure to recruit 12 dental surgeon posts in Gaza;
- Movement constraints in the oPts due to closures; and
- Absence of training guidelines for dental clinics.

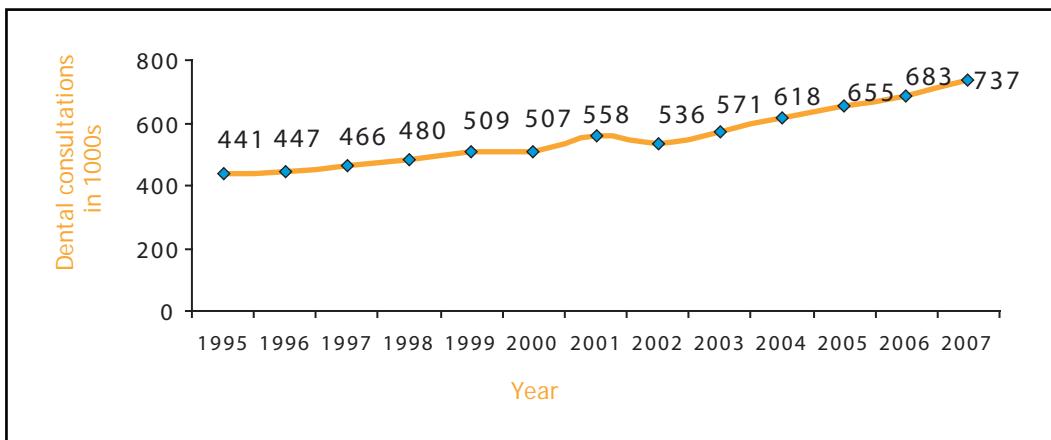
Analysis of the trends of utilization of dental services in 2007, as shown in Table 11, revealed that there was a 7% increase in dental consultations and an 8% increase in screening activities compared to 2006. Daily workload increased in Gaza from 43 consultations per day in 2006 to 57 in 2007 – the result of vacant dental surgeon positions not being filled. The average workload increased from 28 consultations in 2006 to 32 per dental surgeon in 2007.

*Table 11, Utilization of dental services in 2007*

Indicator	Jordan	Lebanon	Syria	Gaza	West Bank	All Fields
Dental consultations	187 434	85 332	96 895	239 662	128 278	737 601
Dental screening	55 310	28 563	44 283	95 639	27 797	251 592
Daily dental surgeon workloads	34	33	37	52	32	38

## Chapter 2

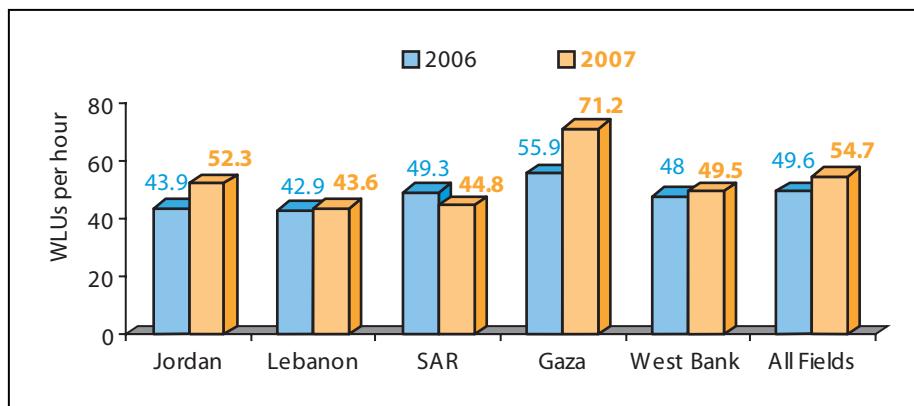
The steady increase in the number of dental consultations over the last eleven years is shown in Figure 7 below:



*Figure 7, Trend in utilization of dental services*

An assessment of workloads, productivity and efficiency of oral health services was conducted in the five Fields. The assessment, based on standardized protocol, was carried out as part of the periodic evaluation of system performance and is used to identify staffing requirements and the need for re-organization of services.

A comparative analysis between 2006 and 2007 of productivity ratios in relation to the defined target of 50 workload units per hour is shown in Figure 8.



*Figure 8, Productivity of dental services by Field 2006-2007*

Gaza continued to report the highest workload (60.4 WLUs/h) and Lebanon the lowest.

The Head of Laboratory and Diagnostic Services, whose post was established in 2007 to ensure coordination and follow up of procurement of relevant supplies and equipment, was assigned as focal point of the inter-field coordination of oral health services.

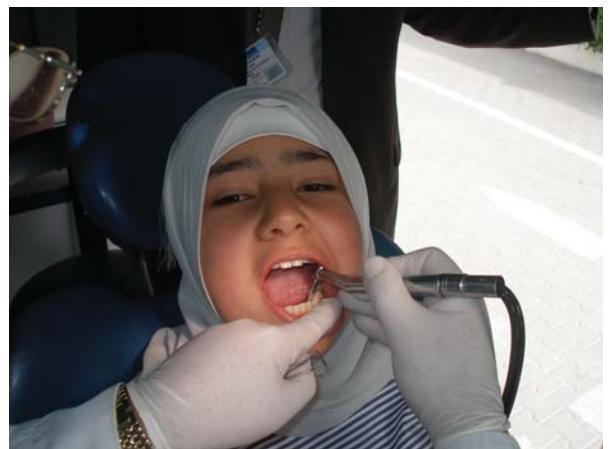
The UNRWA Field Senior Dental Surgeons met for the first time in August 2007 to consider the impact of oral diseases on individuals and communities, and how to effectively treat oral disease which is the fourth most expensive disease to treat.

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The meeting achieved the following:

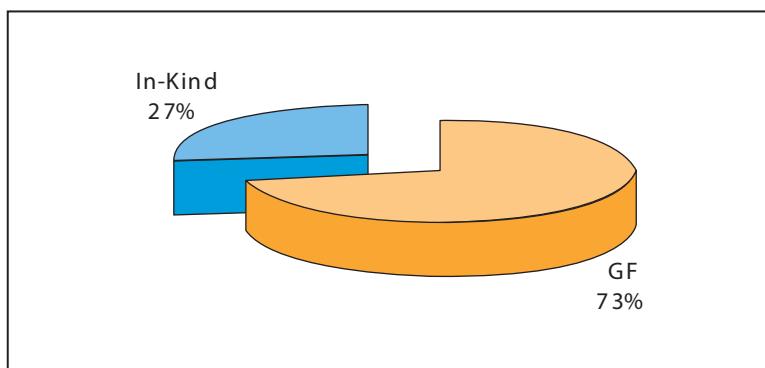
- Technical instructions on oral health services were revised, with a view to them being adopted by May 2008;
- Guidelines describing each dental procedure were established and distributed;
- Specifications of dental supplies, tools and equipment were revised;
- A standard checklist for annual assessment of oral health services was established;
- The establishment of dental hygienist posts to replace the practical nurses was considered;
- Service contracts for the preventive maintenance of equipment were developed;
- Norms (standards) for the dental clinics were developed and are now being prepared; and
- A new system for auto-calculation of dental workload, productivity and key performance indicators at health centre level for monthly and annual calculations was adopted for 2008, and will include 11 dental procedures.

UNRWA's oral health service ensures school children of all ages receive oral health care. Oral health is a priority issue for all children, but especially for those from low income families who are susceptible to common dental diseases like tooth decay. Oral health is no less a priority for other population groups served by UNRWA, such as adults and the elderly. However, it is during the school years, that the formation of good oral health habits can assist in preventing tooth decay and other oral diseases in the longer term.



### 2.3.5 Medical supplies

The total value of medical supplies and equipment from all funds (regular cash budget, in-kind contributions and emergency appeals) in 2007 was approximately USD \$16.26 million, representing an increase of 4% from 2006. The total amount spent from the UNRWA General Fund was approximately USD \$11.82 million (73%), while the total value of in-kind and emergency appeals funds spent was approximately USD \$4.43 million (27%). Medical supplies and equipment represented approximately 21% of the total expenditure on medical care services (See Figure 9).



*Figure 9, In-kind contributions and General Fund expenditure (GF)*

## Chapter 2

### *Expenditure by Field*

The annual UNRWA assessment of medical supply utilization trends revealed that expenditure by Field was as follows: Gaza was the highest at USD \$6.48 million (40%), followed by Jordan at USD \$3.51 million (21.6%), West Bank at USD \$2.87 million (17.7%) and Lebanon at USD \$1.88 million (11.6%). The lowest was Syria USD \$1.5 million (9.1%) (see Figure 10).

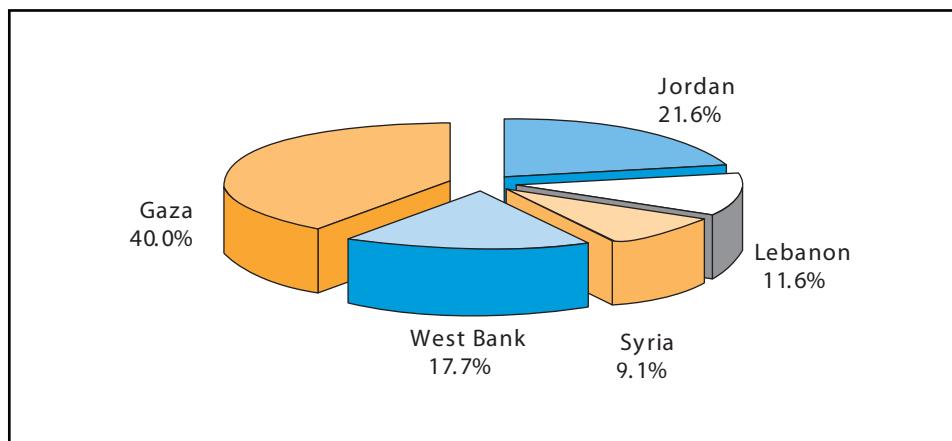


Figure 10, Expenditure by Field in 2007

Average expenditure on medical supplies per outpatient medical consultation was USD \$1.76, Agency-wide (see Figure 11). The highest rate of USD \$1.88 per medical consultation was in Gaza, followed by Lebanon at USD \$1.84, West Bank at USD \$1.70 and Jordan at USD \$1.65. The lowest rate observed was in Syria at USD \$1.6.

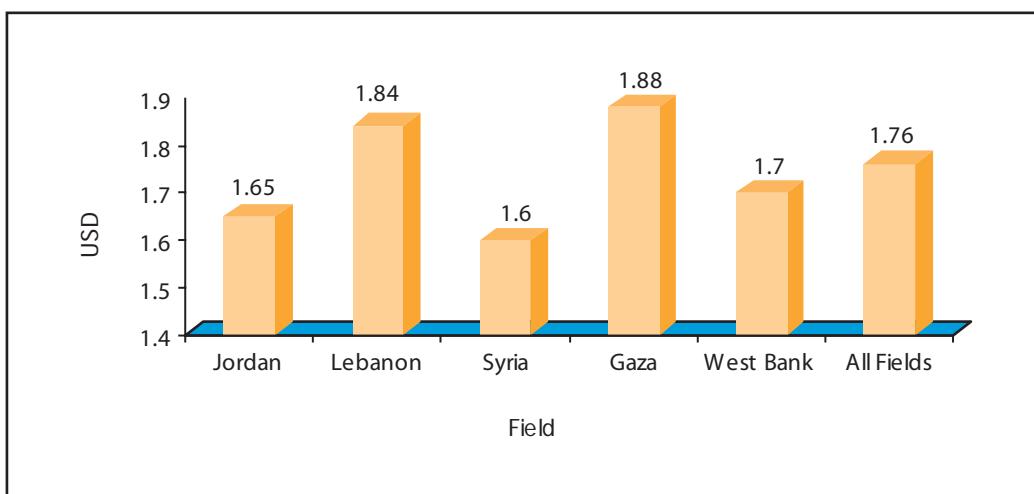
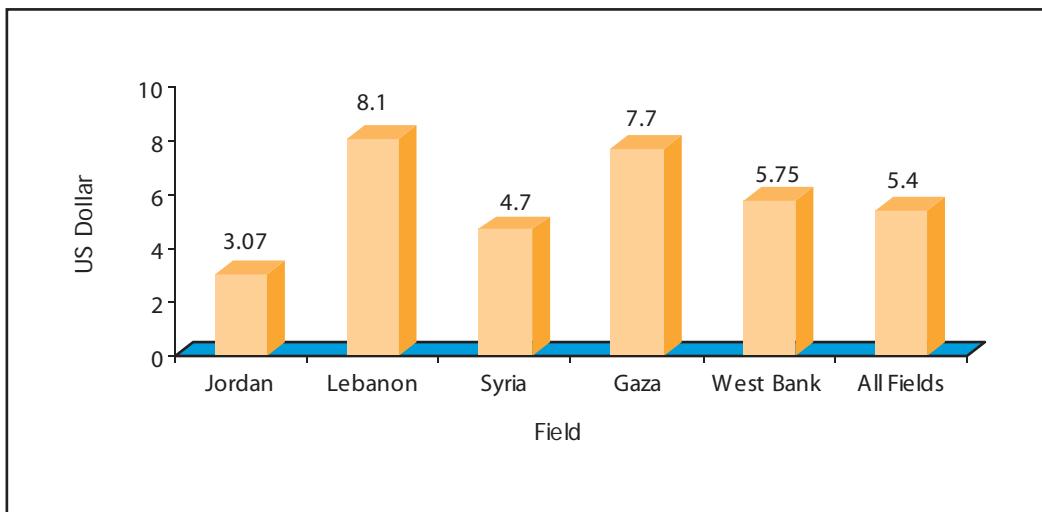


Figure 11, Average expenditure on medical supplies per outpatient medical consultation in 2007

In 2007, average expenditure on medical supplies per served refugee was USD \$5.4, Agency-wide (see Figure 12). The highest rate of USD \$8.1 per served refugee was in Lebanon, followed by Gaza at USD \$7.7, West Bank at USD \$5.75 and Syria at USD \$4.7. The lowest rate was observed in Jordan at USD \$3.07.

## Chapter 2

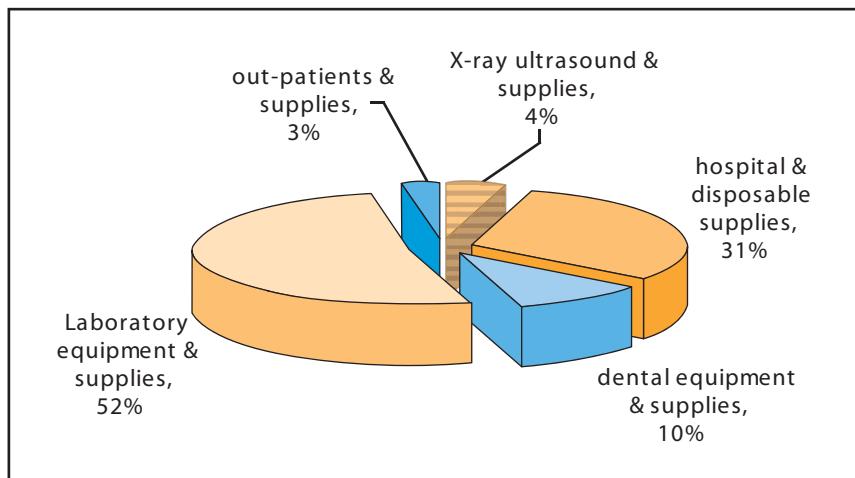


*Figure 12, Average expenditure on medical supplies per served refugee in 2007*

The above figures reveal that the total expenditure in Jordan is the highest, although the expenditure per capita is the lowest. The opposite is shown for Lebanon where the expenditure per capita is the highest but, due to a lower number of refugees, the total expenditure is very low.

### *Expenditure by service*

Figure 13 shows that USD \$2.93 million (18%) of the total expenditure (USD \$16.26 million) was on medical equipment and related supplies. This was distributed among various services provided by the Health Department as shown in Figure 13. Laboratory services ranked first with 52.6%, followed by hospital and disposable supplies 33.1%, dental equipment 10.2%, X-ray 4.4% and the lowest was for outpatient services equipment at 2.7%.



*Figure 13, Expenditure on equipment and supplies in 2007*

## Chapter 2

Figure 14 shows that 28.3% of the total expenditure on drugs was spent on diabetes and cardiovascular disease medicines (mainly for hypoglycaemic agents, which represent 16.6% of the total expenditure on medications). Antibiotics represented 20% of total expenditure, with a marked increase of 6% from 2006.

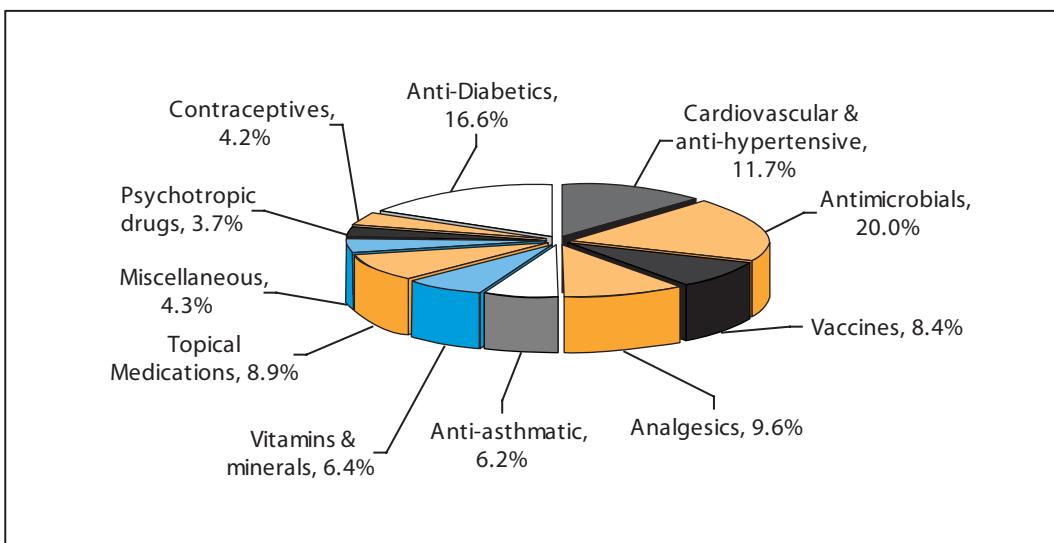


Figure 14, Expenditure on drugs in 2007

Analysis of data received from all Fields revealed an increase in the rates of prescribing antibacterial medicines Agency-wide from 31% in 2006 to 34% in 2007. The lowest rate was 19% in Lebanon and the highest rate was 55.4% in Gaza. This could be explained by field supervisors having limited control over the staff working at the health centres, particularly newly recruited physicians, and the non-compliance of some medical officers. Therefore, it is highly recommended that continuous training for all physicians on rational utilization of antibiotics is introduced with more focus, control and follow up. The rates of prescribing antibacterial medicines by Field are shown in Figure 15.

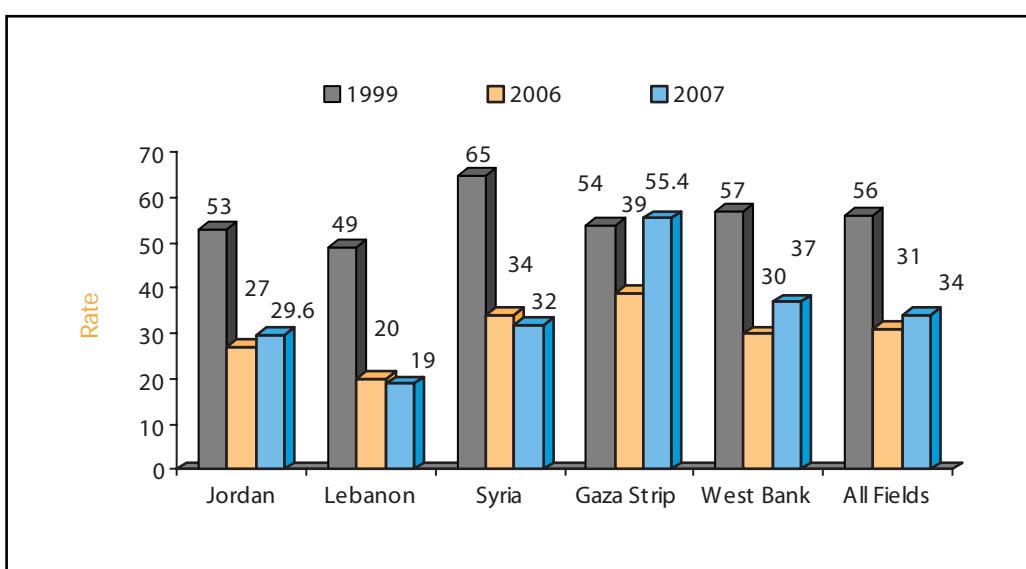


Figure 15, Rates of prescribing antibacterial medicines by Field

Technical guidelines for monitoring product quality consistent with WHO recommendations were formulated and distributed to all Fields. Copies were made available to every dispensary as a ready reference to help UNRWA Assistant Pharmacists detect poor or deteriorated drugs, and to ensure dispensing of good quality products only.

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### *Donations*

Analysis of donations (In-kind and cash) revealed that USD \$2.15 million (49%) was for Gaza, while the lowest contribution was for Syria. The distribution of donations among the Fields is shown in Figure 16.

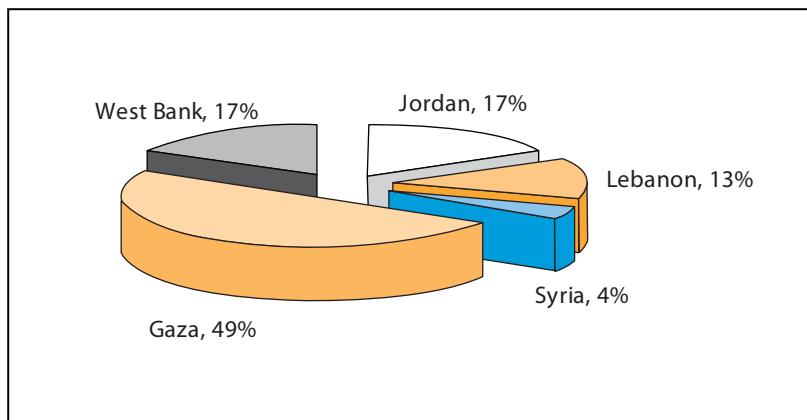


Figure 16, Distribution of Donations

Table 12 shows the cash contributions donated during 2007, which were used for procurement of miscellaneous medical supplies and some medical and laboratory equipment.

Table 12, Cash contributions donated during 2007

Donor	Field	Lebanon
Japanese Government	Gaza / Lebanon West Bank	1 273 581 846 76 175 } Total contribution to UNRWA =1,350,602
French Government	Gaza West Bank	46 164 66 851 } Total contribution to UNRWA =1,350,602
USA Government	Gaza West Bank	166 025 39 837 } Total contribution to UNRWA =1,350,602
Kingdom of Saudi Arabia Government	Gaza	83 306
New Zealand Government	Gaza West Bank	116 520 68 196 } Total contribution to UNRWA =1,350,602
German Government	Lebanon / Syria West Bank	180 838 18 278 24 051 } Total contribution to UNRWA =1,350,602
Central Emergency Revolving Fund	Lebanon	161 299
Spanish Government	Lebanon	46 928
Turkish Government	Lebanon	2 013
European Community	Jordan	38 736
Arab Agricultural Authority for Investment and Development	Jordan	6 991
Austrian Government	West Bank	163 766

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The following in-kind contributions were donated during 2007:

- The Ministry of Health of the Palestinian Authority provided the West Bank Field with vaccines, Iron drops and tablets as well as some disposable syringes, needles and cold-chain equipment valued at USD \$335,587.
- The Ministry of Health, Jordan provided UNRWA with vaccines and contraceptives at a total value of USD \$720,443.
- UNICEF's contribution to UNRWA amounted to USD \$126,844 (USD \$107,471 for Lebanon and USD \$19,373 for Syria) in the form of vaccines, medications disposable syringes, needles and cold-chain equipment.
- Syria's Ministry of Health's contribution to the Field amounted to USD \$140,930 in the form of vaccines and tuberculosis medications as well as some medications.
- UNFPA's contributed medications, contraceptives and medical equipment which were utilized in the West Bank Field.
- Medpharma L.L.C. USA contributed a total of USD \$33,499 in the form of medical supplies.
- Contributions from NGOs amounted to USD \$433,013 for Lebanon in the form of different medications.
- Various donor contributions to UNRWA amounted to USD \$26,520 for Lebanon in form of different medications.

### 2.3.6 *Physiotherapy services*

In order to meet the increasing demand for physical rehabilitation in the oPt as a result of increased violence during the first and second Intifadas, and the prevailing situation in Gaza, UNRWA operates six physiotherapy units each in Gaza and the West Bank. These units provide a wide range of physiotherapy and rehabilitation services including manual treatment, heat therapy, electro therapy, and gymnastic therapy with an outreach programme.

*Table 13, Distribution of patients treated at physiotherapy units in oPts in 2007*

Field	Patients treated in 2006		Patients treated in 2007	
	Trauma	Non-Trauma	Trauma	Non-Trauma
Public Cost	910	3249	815	3355
UNRWA Cost	1549	3893	1950	4825
<b>Total</b>	<b>2459</b>	<b>7142</b>	<b>2765</b>	<b>8180</b>

As shown in Table 13, a total of 10,945 patients were treated during 2007 - an increase of 12.3% over 2006. Patients suffering from an abnormal condition as a result of physical trauma and/or injuries sustained during military incursions accounted for 25.3% of the total. Only 125 patients completed their course of treatment at Baqa'a physiotherapy unit in Jordan during 2006. As a result, providing limited physiotherapy services to a small number of refugees was not considered cost effective, and therefore physiotherapy services were not provided during 2007.

## Chapter 2

### 2.3.7 Radiology services

UNRWA operates 17 radiology units (seven units in the West Bank, five in Gaza, four in Lebanon and one in Jordan). These units provide plain x-rays services to patients attending the health centres, and through different contractual agreements with hospitals and private radiology clinics, plain x-rays and other types of diagnostic radiology services such as mammography, hysterosalpingeography, intravenous pyelography, and ultrasounds.

Table 14 shows the number of both plain and other x-ray radiographs provided in all Fields during 2007.

*Table 14, Number of X-ray radiographs carried in and out-side UNRWA health facilities*

Field	Inside UNRWA		Outside UNRWA		Grand Total
	No. of Plain X-Rays	No. of Plain X-Rays	No. of other X-rays	Total	
Jordan	4 550	1 565	19	1 584	6 134
Lebanon	15 973	1 717	1 738	3 455	19 428
Syria	0	1 151	1 596	2 747	2 747
Gaza	31 369	0	0	0	31 369
West Bank	29 141	0	0	0	29 141
<b>Total</b>	<b>81 033</b>	<b>4 433</b>	<b>3 353</b>	<b>77 86</b>	<b>88 819</b>



The Medical Care Services programme provides a range of services to beneficiaries of UNRWA. This includes blood pressure and glucose tests to check for signs of hypertension and/or diabetes. Both of these conditions are on the increase in the refugee community, and the best form of management is prevention. Lifestyle changes such as decreasing salt and sugar intake and increasing physical activity will help ward off these preventable diseases.

## Chapter 3

UNRWA's excellent Maternal and Child Health Care statistics have been a well-kept secret, never appearing in official reports such as the WHO Reproductive Health data base available on the internet. A way should be found to make these statistics available to the public.

### WHO Technical Assessment Mission Report, 2005

Infant mortality is an important measure of a community's health, and a worldwide indicator of health status and social wellbeing. Therefore the UNRWA Health Programme places significant emphasis on infant health care, and the indicators that determine whether the Palestine community is tracking well in this area. Critical measures of infant mortality such as causes of infant death, birth weight and growth, all provide data which allows the UNRWA Health Department to assess the health status of these very vulnerable members of the refugee community.



## Chapter 3

### Health Protection and Promotion

#### **3.1 Objective**

The objective of UNRWA's Health Protection and Promotion Programme is to preserve the sustainable investment in women's and children's health, promote their mental and psychological wellbeing and attain further progress in the reduction of infant, child and maternal mortality through an integrated primary health care approach consistent with the Millennium Development Goals (MDGs) and the standards set out in the Convention on the Rights of the Child (CRC).

#### **3.2 Programme activities**

The UNRWA Health Protection and Promotion Programme is an integral part of the Agency's primary health care activities. The programme offers comprehensive maternal health care to women of reproductive age including family planning services, infant and child health care, school health services, nutritional surveillance, mental health, screening for breast and cervical cancers in Syria and Lebanon, prevention and control of hereditary anaemia, and surveillance and management of sexually transmitted diseases (STDs).

The strategic approach of the Programme is based on the integration of services and 'a life cycle approach' comprising pre-natal, natal and post-natal care, family planning services and infant and child health care. A proactive system of risk assessment, surveillance and management is used to ensure the provision of preventive care to the majority of pregnant women whose condition is normal, with special attention and care paid to those identified as at risk during their pregnancy or in the post-partum period.

Over the last three years, UNRWA has placed a greater focus on improving data collection and management as a means to improving surveillance of maternal and child health, enhancing system performance and improving outcomes of care.

These efforts involved the revision of standard reporting formats, investment in developing a new management health information system to improve monitoring and response at the service delivery level, significant investment in staff development and capacity building, as well as conducting health services research to assess the health status of women and children and the outcomes of care.

#### **3.3 Progress in 2007**

The 13th Field Family Health Officers' meeting was held in February 2008. The main objective of the meeting was to review the progress achieved in implementation of the 2007 plan of activities and to develop an annual plan of activities for 2008. One of the main achievements of 2007 discussed was the ongoing process of decentralization of the Health Programme, which has been accelerated by the expansion of the Management Health Information System (MHIS) to all UNRWA health centres in the Fields and the Total Quality Management (TQM) concept which has been implemented to address health centre specific issues.

Another significant achievement in 2007 was the standardized training plan covering both in-service and on-the-job training which was implemented to enhance institutional capacity building at the service delivery level. Table 1 shows that 2034 staff training days were conducted during 2007 for staff in various categories.

## Chapter 3

*Table 1, Family health training activities in 2007*

Training subjects	Staff-days training by staff category			
	Medical	Nursing	Others	Total
Training on breast self examination	31	51	1	83
Management Health Information System (MHIS)	61	196	9	266
Training on computer skills	10	80	0	90
Training on audiometry	3	9	0	12
Training on family planning counselling	0	30	0	30
Training on psychosocial support and mental health	40	0	0	40
Training on management of growth retarded children	0	104	0	104
Training of MCH staff on MCH and MHIS	68	94	0	162
Training on family health programme review	141	281	1	423
Training on screening for FPG and Hb for pregnant women and children	10	5	0	15
Training on STIs/STDs	62	102	0	164
Training on school health activities	26	24	1	51
Iron deficiency anaemia	31	51	0	82
Training on reproductive health	15	9	1	25
Training on vitamin supplementation of A for postnatal women & children	31	80	141	252
Training on ophthalmic disorders/radiology in primary health care	86	0	0	86
Training on management of emergency health crisis	33	9	0	42
Training on the new immunization policy	14	49	0	63
Training on case presentation neo Natal Intra Cranial Haemorrhage	16	8	0	24
Training on genetic disease and new born screening	20	0	0	20
<b>Total</b>	<b>698</b>	<b>1182</b>	<b>154</b>	<b>2 034</b>

Health education materials on various programmes represent an integral part of the Agency's health education/health promotion activities. Fifteen educational pamphlets were reproduced during the year along with posters, bill-boards and health education movies which are available for viewing in the health centres.

As part of the self-evaluation process, the family health programme review exercise was undertaken in all health centres for the fourth consecutive year, to follow-up on progress made towards addressing identified health centre-specific strengths and weaknesses. A team of supervisors together with health centre staff conducted the review using a problem-solving approach, and corrective measures were taken to address any areas that needed further improvement at the health centre or Field levels. The results of this exercise including review of the appointment system, waiting times, privacy, counselling, completeness of records, proper management of cases, risk assessment and cold chain, were presented and discussed during the 13th Field Family Health Officers' meeting during which it was agreed to continue conducting this exercise annually to address gaps, overcome difficulties and to monitor progress.

## Chapter 3

Implementation of the maternal health and family planning module of the MHIS started in April 2003 to decentralize programme management, and improve surveillance, monitoring and response at the service delivery level. At the beginning of 2005 the MHIS project was expanded to health centres, and in 2007 all health centres utilized the available computers to input data as opposed to using a paper-based system of recording. However, some health points recorded data in hard copy, which was entered afterwards into computers at the Field office. Staff used the results obtained from the MHIS to implement the Total Quality Management (TQM) exercise which is a continuous improvement exercise that helps Health staff evaluate their performance.

A comparison of the indicators generated by the MHIS during the second quarter of 2007 with those collected during the same period in 2006 are outlined in the relevant maternal health and family planning sections of this chapter.

### **3.4 Antenatal care**

During 2007, UNRWA primary health care facilities cared for 99,794 pregnant women which accounted for 77.7% of all expected pregnancies among the refugee population. This is calculated by multiplying the total number of registered refugee population (as per UNRWA registration) by the crude birth rates published by the Host Authorities which are as follows: 2.9% in Jordan, 1.6% in Lebanon, 2.3% in Syria, 3.55% in Gaza and 2.56% in the West Bank. There was an increase in the overall coverage by 4.4% compared to 2006, the highest coverage rates were in Gaza and Syria and the lowest in Jordan, Lebanon and the West Bank. The high rates could be largely attributed to the efforts exerted in order to improve quality and encourage early registration for pre-natal care. The low rate in the West Bank is mainly due to the restricted access to services, imposed by frequent closures, checkpoints, curfews and the Separation Wall. The low coverage rate of 60.8% in Jordan is mainly due to the underserved refugee communities residing outside camps.

*Table 2, Coverage of UNRWA's antenatal care in 2007*

	Jordan	Lebanon	Syria	Gaza	West Bank	All Fields
Registered refugees	1 903 490	413 962	451 467	1 048 125	745 776	4 562 820
Expected No. of pregnancies	55 201	6 623	10 384	37 208	19 092	128 508
Newly registered pregnancies	33 539	5 018	9 878	37 403	13 956	99 794
Coverage rate (%)	<b>60.8</b>	<b>75.8</b>	<b>95.1</b>	<b>100</b>	<b>73.1</b>	<b>77.7</b>

The number of pregnant women registered for antenatal care during 2007 increased by 8.6% over the number in 2006 with an increase of 12.8% in Jordan, 12.3% in West Bank, 4.5% in Gaza, 3.5% in Syria and 1.4% in Lebanon. The increase in the number of pregnant women registered in Jordan, Gaza and Syria could be attributed to increased demand for maternal services and improved contraceptive coverage, as many of these women attended UNRWA clinics for family planning advice prior to falling pregnant. The modest increase in the number of pregnant women in Lebanon could be attributed to high use of contraceptives.

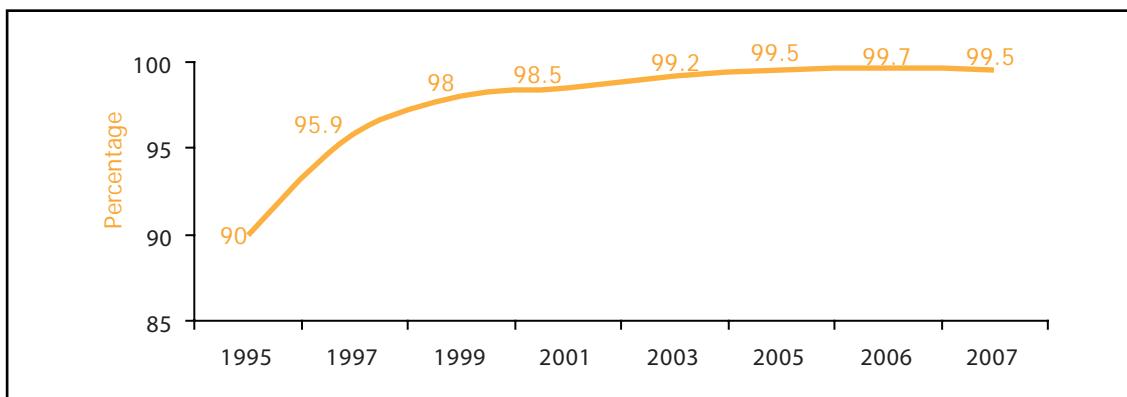
## Chapter 3

According to the UNRWA risk scoring system, 14.3% of pregnant women were classified in the high-risk category and 24.9% were alert (at moderate risk). This meant that more than one third of pregnant women under supervision needed special care, including assistance during delivery. The rates varied from one Field to another as shown in Table 3, with the highest high-risk rate of 19.5% in Gaza Strip followed by 13.2% in the West Bank. This could be largely attributed to high parity, early marriage, too early and too late pregnancies, and the high prevalence of anaemia. Whereas the lowest rates of 5.6% and 8.5% were in Lebanon and Syria respectively, where the total fertility rate has declined and the marital age has increased in the last decade.

*Table 3, Proportional distribution of pregnant women according to risk status through rapid assessment in 2007*

Field	Risk Status by %		
	High	Alert	Low
	Rapid Ass.	Rapid Ass	Rapid Ass
Jordan	11.6	24.9	63.5
Lebanon	5.6	21.1	73.3
Syria	8.5	28.3	63.2
Gaza	19.5	24.0	56.5
West Bank	13.2	26.4	60.4
<b>All Fields</b>	<b>14.3</b>	<b>24.9</b>	<b>60.8</b>

Similar to previous years, a rapid assessment was carried out to assess the level of protection of pregnant women against tetanus based on current and past immunization records. The assessment revealed that optimal immunization coverage continued to be maintained and that 99.5% of pregnant women could be considered protected according to the current criteria of immunization. No cases of tetanus neonatorum were reported in 2007.



*Figure 1, Percentage of pregnant women protected against tetanus 1995-2007*

As a result of the optimal immunization coverage maintained during the last decade, no cases of tetanus were reported among mothers or newborns. Data from the Maternal and Child Health/Family Planning module of the MIHS provided indicators for quality of antenatal care. These indicators are as follows:

## Chapter 3

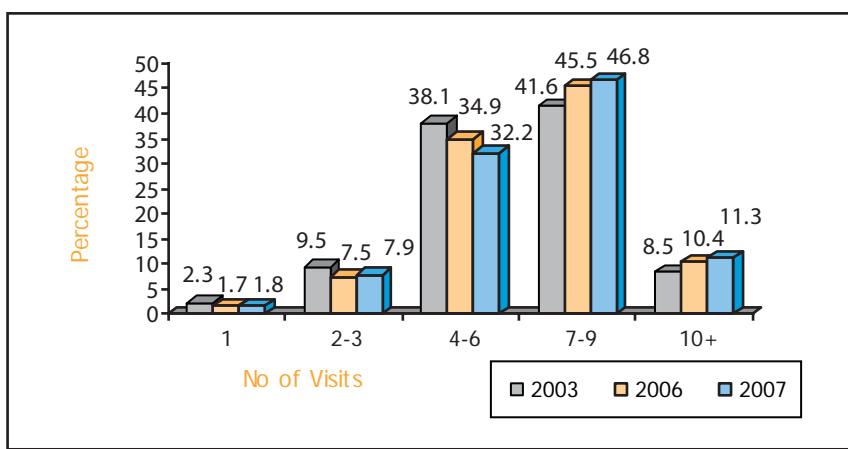
### *Number of antenatal visits*

A key objective of the maternal health care programme is to ensure that women register for antenatal care as early as possible in pregnancy to allow ample time for risk identification and management, and to meet the WHO recommended standard of at least four visits or more during the antenatal period.

*Table 4, Proportion of pregnant women by No. of antenatal visits in 2007*

<b>No. of antenatal visits</b>	Jordan	Lebanon	Syria	Gaza	West Bank	<b>All Fields</b>
	%	%	%	%	%	
<b>Registers</b>	<b>2.7</b>	<b>1.0</b>	<b>2.3</b>	<b>0.3</b>	<b>2.9</b>	<b>1.8</b>
<b>Expected No. of</b>	<b>9.7</b>	<b>5.3</b>	<b>11.1</b>	<b>3.5</b>	<b>12.7</b>	<b>7.9</b>
<b>Expected No. of</b>	<b>34.2</b>	<b>19.5</b>	<b>42.9</b>	<b>24.8</b>	<b>41.0</b>	<b>32.2</b>
<b>Newly registered</b>	<b>44.5</b>	<b>52.2</b>	<b>42.4</b>	<b>54.2</b>	<b>36.2</b>	<b>46.8</b>
<b>Newly registered</b>	<b>8.9</b>	<b>22.0</b>	<b>1.3</b>	<b>17.2</b>	<b>7.2</b>	<b>11.3</b>
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

Analysis of the 2007 data reveals that the percentage of pregnant women who had four or more antenatal consultations at UNRWA maternal health services was 90.3% compared to 90.8% in 2006. The proportion was highest in Gaza (96.2%), followed by Lebanon (93.7%), Jordan (87.6%), and Syria (86.6%), and lowest in the West Bank (84.4%) as shown in Table 4 and Figure 2.



*Figure 2, Proportion of pregnant women by No. of antenatal visits in 2007*

However, the average number of antenatal visits showed an increase in all Fields ranging from 6.1 visits in Syria to 8.6 visits in Gaza, giving an Agency-wide average of 7.2 antenatal visits per pregnancy compared to 7.0 visits during 2006.

## Chapter 3

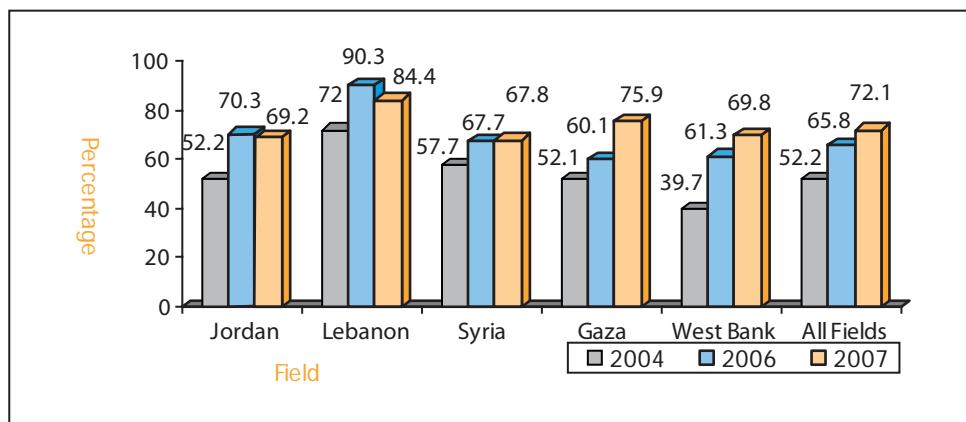
### *Proportion of pregnant women who registered during the first trimester*

As can be seen from Table 5, 72.1% of pregnant women Agency-wide registered during first trimester compared to 65.8% during 2006, while 25.3% compared to 31.8% registered during the second trimester and only 2.5% registered during the third trimester.

*Table 5, Maternal health indicators in 2007*

Indicator in (%)	Jordan	Lebanon	Syria	Gaza	West Bank	All Fields
<b>Distribution of pregnant women according to time of registration</b>						
During 1 <sup>st</sup> trimester	69.2	84.8	67.8	75.9	69.8	72.1
During 2 <sup>nd</sup> trimester	27.0	12.0	28.7	23.1	27.4	25.3
During 3 <sup>rd</sup> trimester	3.7	3.2	3.5	1.0	2.7	2.5
<b>Percentage of pregnant women who paid 4 visits or more</b>	87.6	93.8	86.6	96.1	84.4	90.3
<b>Average No. of antenatal visits</b>	6.3	7.3	6.1	8.2	6.9	7.2
<b>Percentage of pregnant women delivered by trained personnel</b>	99.9	99.9	99.2	100	99.5	99.8
<b>Percentage of deliveries in health institutions</b>	99.7	98.1	93.8	99.7	98.6	98.8
<b>Overall discontinuation rate among family planning users</b>	10.1	5.0	5.0	5.8	6.1	6.8

Figure 3 shows that the proportion of women who registered during the first trimester increased substantially in all Fields from 2004 to 2007.

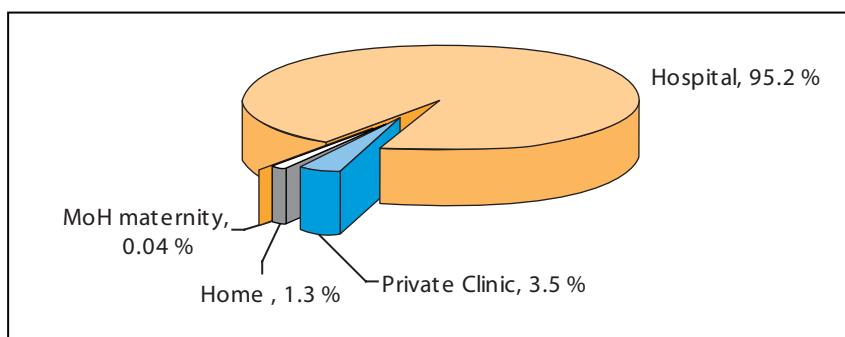


*Figure 3, Proportion of pregnant women who registered during the 1st trimester 2004 to 2007*

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### 3.4.1 *Intra-partum care*

UNRWA subsidises the hospital delivery of pregnant women classified as high-risk either by referral to contracted hospitals or through reimbursement of costs. As shown in Table 6 and Figure 4, hospital delivery was the main choice of delivery during 2007, 95.2% of the reported deliveries Agency-wide took place in hospitals compared to 85.4% in 2002, 90.6% in 2005 and 93.5% in 2006. This increase in the proportion of hospital deliveries was mainly due to the shift from private clinics and home delivery to hospitals.



*Figure 4, Distribution of deliveries according to place in 2007*

As can be seen from Table 6, the highest rate of home deliveries was in Syria. However, the percentage of home deliveries in that Field dropped from 15.4% in 2000 to 7.9% in 2005 and to 5.5% in 2007. The vast majority of these home deliveries were attended by either qualified midwives or physicians.

*Table 6, Proportional distribution of deliveries according to place in 2007*

Deliveries/Field	Jordan	Lebanon	Syria	Gaza	West Bank	All
Total No. of reported deliveries	30 298	4 137	9 056	34 320	12 032	89 843

#### Distribution of deliveries according to place (%)

At home	0.5	0.7	5.5	0.8	1.3	1.3
At MoH maternities	0.0	0.0	0.0	0.1	0.0	0.04
In hospitals	99.5	99.1	92.1	90.8	98.1	95.2
At private clinics	0.03	0.2	2.5	8.3	0.5	3.5

In general, 98.7% of deliveries Agency-wide were institutionalized deliveries, including hospitals, maternity units and private clinics. The percentage of home deliveries continued to decrease over the last three decades as shown in Figure 5.

## Chapter 3

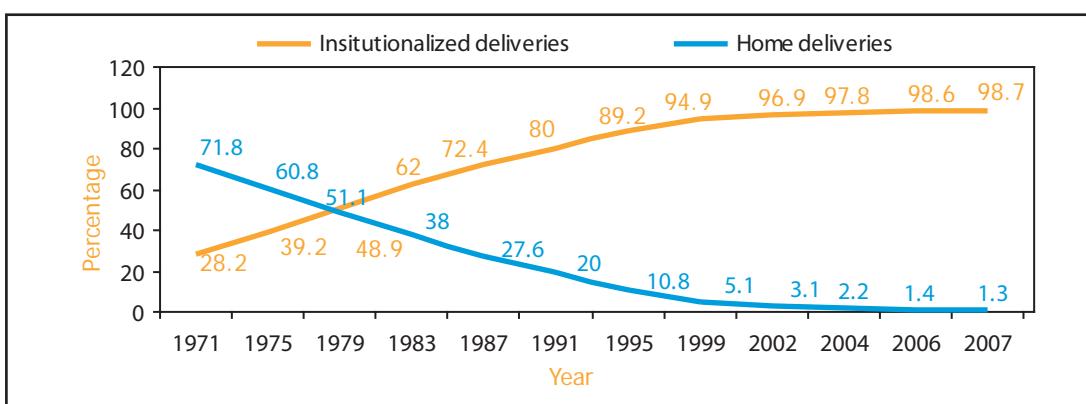


Figure 5, Trends of home and institutionalized deliveries in 2007

As shown in Figure 6, data collected through the MHIS indicates that the percentage of women who delivered with assistance from trained personnel Agency-wide was 99.8% with slight variations between Fields. This rate was 100% in Gaza, 99.9% in Jordan and Lebanon, 99.5% in the West Bank and 99.2% in Syria. Data obtained from the routine system revealed that only 1.3% of women delivered at home, and this data also indicates that the majority of the women who delivered at home were also attended by trained personnel.

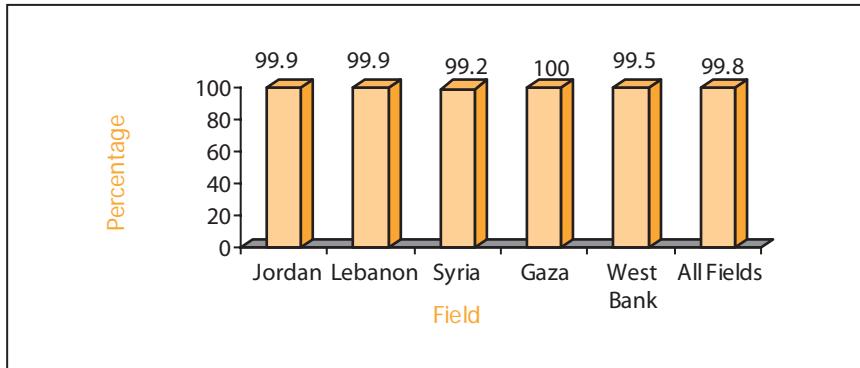


Figure 6, Proportion of women who delivered by trained personnel in 2007

The total number of pregnant women who were expected to deliver during 2007 Agency-wide was 98,104. Active surveillance of the outcome of pregnancy for those women indicated that 91,074 delivered (92.8%) and 6807 aborted (6.9%). The outcome of only 223 pregnant women (0.2%) compared to 299 in 2006 who received antenatal care at UNRWA health care facilities remained unreported or unknown as shown in Table 7. The percentage of unknown outcomes dropped from 2.8% in 2002 to 0.2% in 2007. The highest percentage of unknown outcomes was in the West Bank at 1.4% compared to 1.9% in 2006 and 9% in 2002. Although there was a reduction in the West Bank percentage, it is still considered high. This high percentage of unknown outcomes in the West Bank could be attributed to inadequate feedback due to curfews and restrictions imposed on the movement of clients and staff.

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*Table 7, Outcome of pregnancy in 2007*

Field	No. of expected deliveries 2007	Known outcome						Unknown	
		Deliveries		Abortions		Total		No.	%
		No.	%	No.	%	No.	%		
Jordan	33 256	30 945	93.1	2 285	6.9	33 230	99.9	26	0.1
Lebanon	4688	4174	89.0	514	11.0	4688	100	0	0
Syria	9 672	9 104	94.1	563	5.8	9 667	100	5	0.05
Gaza	37 372	34 678	92.8	2 691	7.2	37 369	100	3	0.01
West Bank	13 116	12 173.2	92.8	754	5.7	12 927	98.6	189	1.4
All	98 104	91 074	92.8	6 807	6.9	97 881	99.8	223	0.2

Analysis of the data obtained through the hospital management information system indicated that the caesarean section rate among women assisted through the UNRWA hospitalization scheme varied widely from one Field to another. These rates however, relate to women in the high-risk category and not to all reported deliveries. Table 8 shows that the caesarean section rate was highest in Syria at 46.7%, although this is a reduction for Syria compared to 53.1% in 2005. This reduction could be attributed to the contracts concluded with university hospitals, which tend to have a more rational caesarean section rate. Although there was a reduction in the caesarean section rate in Syria, it is still considered high even among high-risk pregnant women. This may reflect client preference and the medical practice in some contracted hospitals. The lowest rate was reported from Gaza with 10.0%; however, this may not be truly representative, as there was a lack of feedback from hospitals given the number of subsidized hospital deliveries in Gaza during 2007 amounted to only 30 deliveries, while the total number of hospital deliveries in Gaza amounted to 37, 372.

*Table 8, Comparison of the caesarean section rate among UNRWA-assisted deliveries and all reported deliveries through MHIS in 2007*

Field	Assisted deliveries (high risk) (In-patients Reports)						All reported deliveries (MHIS)	
	Total deliveries	Vaginal deliveries		Caesarean section rate		Caesarean section rate		
		No.	%	No.	%			
Jordan	6 718	5 139	76.5	1 579	23.5	16.6		
Lebanon	2 323	1 614	69.5	709	30.5	25.2		
Syria	1 944	1 037	53.3	907	46.7	29.2		
Gaza	30	27	90.0	3	10.0	11.5		
West Bank	7 135	5 429	76.1	1 706	23.9	16.6		
Total	18 150	13 246	73.0	4 904	27.0	16.5		

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### *3.4.2 Diabetes Mellitus and Hypertension during pregnancy*

The prevalence of diabetes mellitus during pregnancy in 2007 was 2.4% Agency-wide compared to 1.9% in 2006. This increase in the prevalence of diabetes during pregnancy could be attributed to better surveillance and improved screening activities after the changes introduced following the 12th Field Family Health Officers meeting in 2007 (which involves the cut off point to perform the Oral Glucose Tolerance Test (OGTT) on the pregnant woman from 110mg/dl to 85mg/dl). As shown in Table 9, the prevalence of diabetes varied from 3.3% in Lebanon, to 1.7% in Gaza, which indicates that it is still below the universally expected rate of 3-5%. This suggests further efforts need to be exerted in order to improve the detection rate. Further analysis of the data revealed that 25.5% of women with diabetes during pregnancy had pre-existing diabetes, 33.4% had gestational diabetes and recovered after delivery, 9% were diagnosed during pregnancy and did not recover after delivery, while 32% were still pregnant at the end of 2007.

*Table 9, Prevalence of diabetes and hypertension during pregnancy in 2007*

Prevalence rate (%)	Jordan	Lebanon	Syria	Gaza	West Bank	All
Diabetes during pregnancy	2.8	3.3	2.6	1.7	2.4	2.4
Hypertension during pregnancy	6.7	7.0	6.0	12.3	3.5	8.3

The prevalence of hypertension during pregnancy including pre-existing and pregnancy-induced hypertension was 8.3% while it was 7.2% in 2006 with wide variations between Fields as shown in Table 9. Approximately 38% of hypertension cases were pregnancy-induced and the women recovered after delivery, 25.1% of women had pre-existing hypertension, 15.3% were identified during pregnancy and the condition persisted after delivery, while 15.2% were still pregnant at year-end.

### **3.5 Post-natal care**

UNRWA's post-natal care services carried out a thorough medical examination of mothers and newborns at UNRWA health care facilities or at home, whichever was more accessible and convenient for the families. Table 10 indicates that during 2007 a total of 86,238 women received post-natal care compared to 76,813 women during 2006, representing a 94.5% coverage rate of expected deliveries, with the highest rates of 98.9% in Gaza and 97.2% in Lebanon, and the lowest rates in the West Bank at 91.8% and Jordan at 90.5%. This low coverage in the West Bank could be attributed to the continued restriction on movement due to the emergency situation in the oPts, while in Jordan it could be explained by the late attendance of clients after the postnatal period.

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*Table 10, Post-natal care coverage in 2007*

<b>Field</b>	<b>No. of deliveries</b>	<b>No. women who received care 2007</b>	<b>Coverage of Post-natal care (%)</b>
Jordan	30 971	28 024	90.5
Lebanon	4 174	4 026	96.5
Syria	9 109	8 530	93.6
Gaza	34 681	34 305	98.9
West Bank	12 362	11 353	91.8
<b>All Fields</b>	<b>91 297</b>	<b>86 238</b>	<b>94.5</b>

### 3.5.1 Family planning services

A total of 23 938 new family planning acceptors were enrolled in the family planning programme during 2007. The total number of continuing users of modern contraceptive methods Agency-wide increased from 116,336 in 2006 to 123,899 in 2007 – an increase of 6.5%.

*Table 11, Family planning services in 2007*

	Jordan	Lebanon	Syria	Gaza	West Bank	All
<b>No. of new Family Planning acceptors during the year</b>	<b>8 440</b>	<b>1 664</b>	<b>2 719</b>	<b>7 927</b>	<b>3 188</b>	<b>23 938</b>
<b>Total No. of continuing users at end year</b>	<b>32 799</b>	<b>12 348</b>	<b>18 169</b>	<b>41 874</b>	<b>18 709</b>	<b>123 899</b>

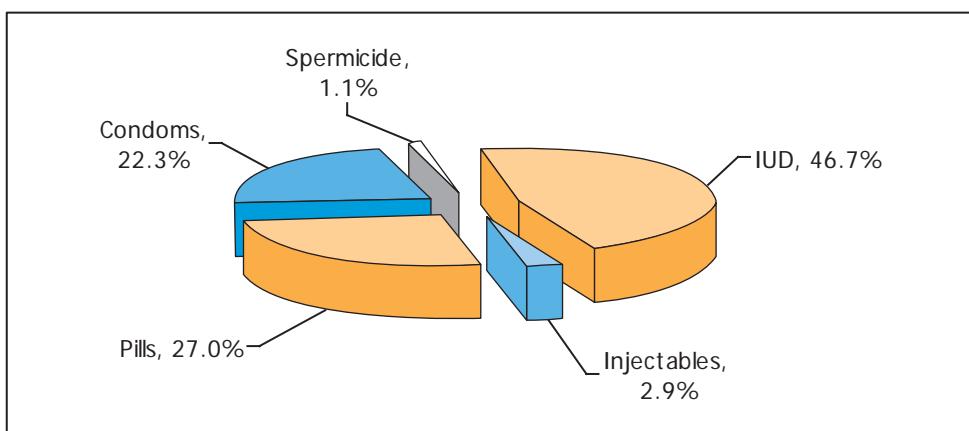
#### Distribution of FP users according to method:

IUD	42.4%	42.0%	43.2%	50.2%	53.2	44.7%
Pills	30.0%	27.4%	29.5%	24.4%	25.0	29.0%
Condoms	23.5%	29.1%	23.1%	20.6%	18.5	22.3%
Spermicides	1.4%	0.6%	1.6%	0.9%	1.2	1.1%
Injectables	2.8%	0.8%	2.6%	3.9%	2.1	2.9%

It is worth noting that the number of new family planning acceptors in Gaza increased markedly from 1,365 in 2005 to 7,927 in 2007. This could be attributed to the efforts exerted by health staff at service delivery level and improved counselling. The number of continuing users in Gaza dropped from 30,466 in 2001 to 29,540 in 2003 then increased to 30,765 in 2004, which is the pre-Intifada level, to 37 351 in 2006 and 41,874 in 2007. There was an increase in the number of continuing users by 12.1% in Gaza, 7.7% in the West Bank, 4.5% in Jordan, 3.8% in Lebanon, and 2% in Syria.

The distribution of family planning acceptors according to the contraceptive method used is shown in Table 11 and Figure 7. The same pattern of contraceptive method mix was maintained during 2007 and IUDs continued to be the most popular method of contraception followed by contraceptive pills and condoms.

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*Figure 7, Contraceptive method mix, Agency-wide in 2007*

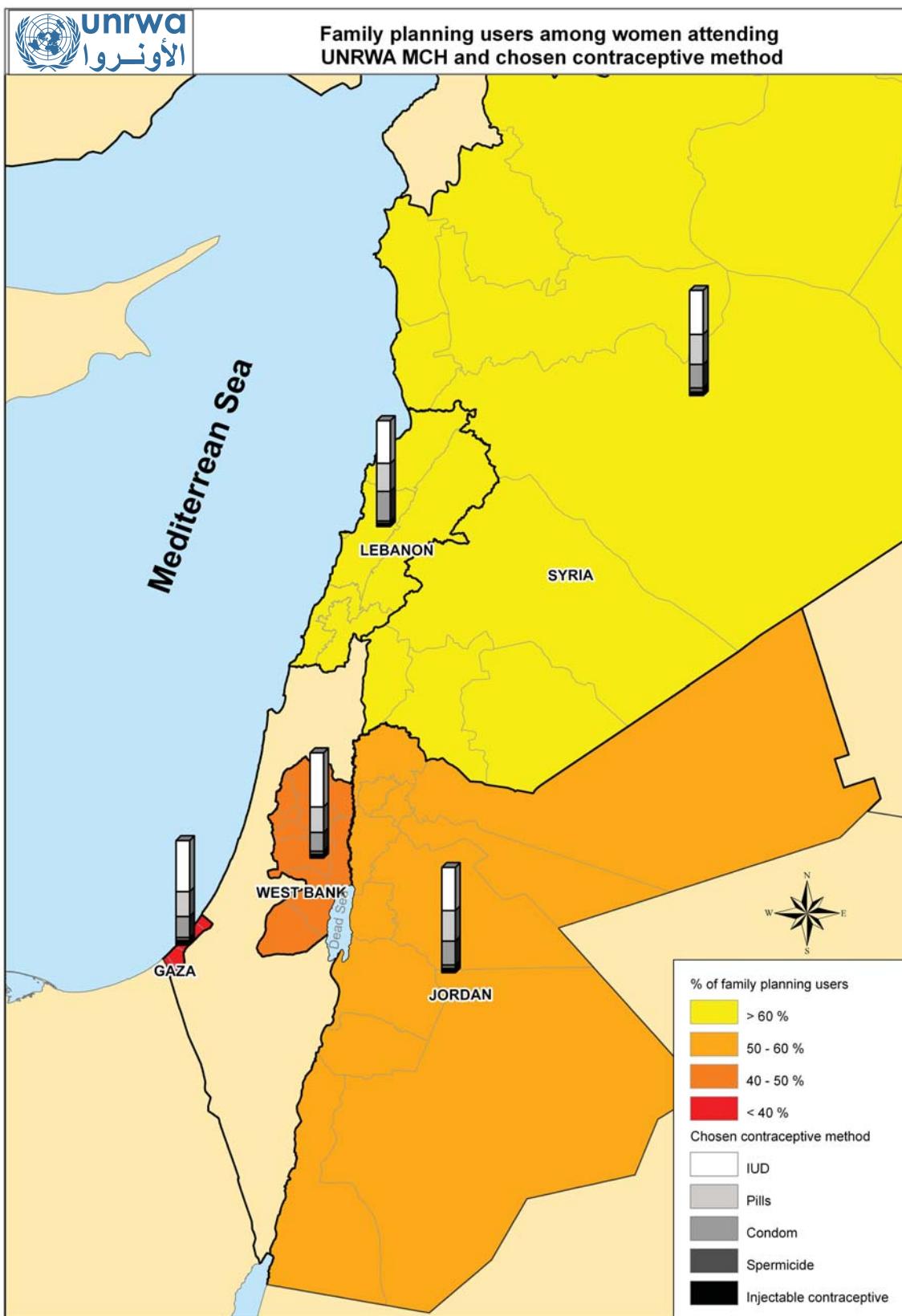
Couple-Years of Protection (CYP) is an output indicator used by UNRWA to estimate the number of clients (or couples) that were protected from pregnancy in a year by an UNRWA dispensed contraceptive. The contraceptives dispensed during 2007 through the Agency's family planning services provided 116,167 CYP with variations between the Fields as shown in Table 12. The Table also shows that the CYP provided during 2007 increased in all Fields except in Gaza where there was a mild decrease in spite of an increase in users.

*Table 12, Years protection provided through the Agency's family planning programme, 2000-2007*

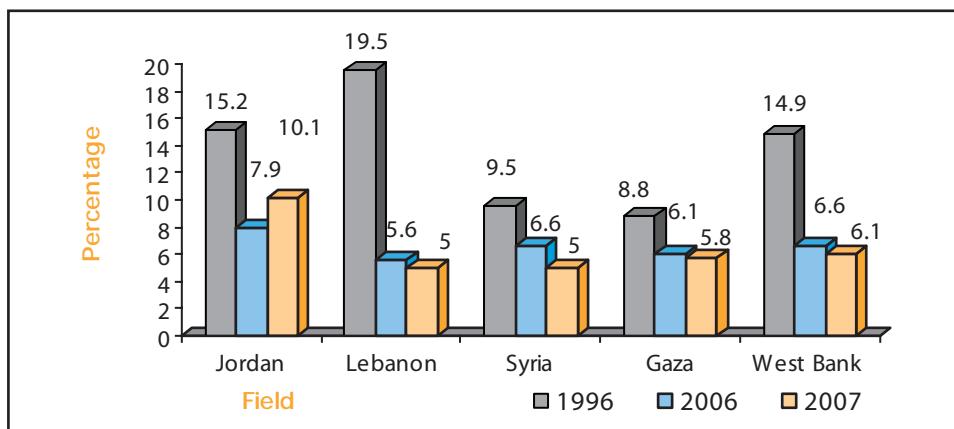
Couple Years of protection (CYP)	Jordan	Lebanon	Syria	Gaza	West Bank	All Fields
During 2000	12 261	7 865	18 895	33 685	11 179	83 885
During 2002	20 801	11 442	16 236	30 043	11 450	89 972
During 2004	26 241	11 065	18 762	31 753	13 784	101 605
During 2006	28 921	9 790	15 992	38 941	19 934	113 578
During 2007	29 911	10 164	18 220	37 789	20 083	116 167

Data from the Maternal and Child Health/Family Planning module of the MHIS revealed that the discontinuation rate of modern contraceptives ranged from 5.0% in Lebanon and Syria to 10.1% in Jordan. In 1996, a study was conducted to assess contraceptive practices and the discontinuation rate of modern contraceptives shortly after the introduction of family planning services into the Agency's maternal health programme in 1994. The progress attained thus far is shown in Figure 8.

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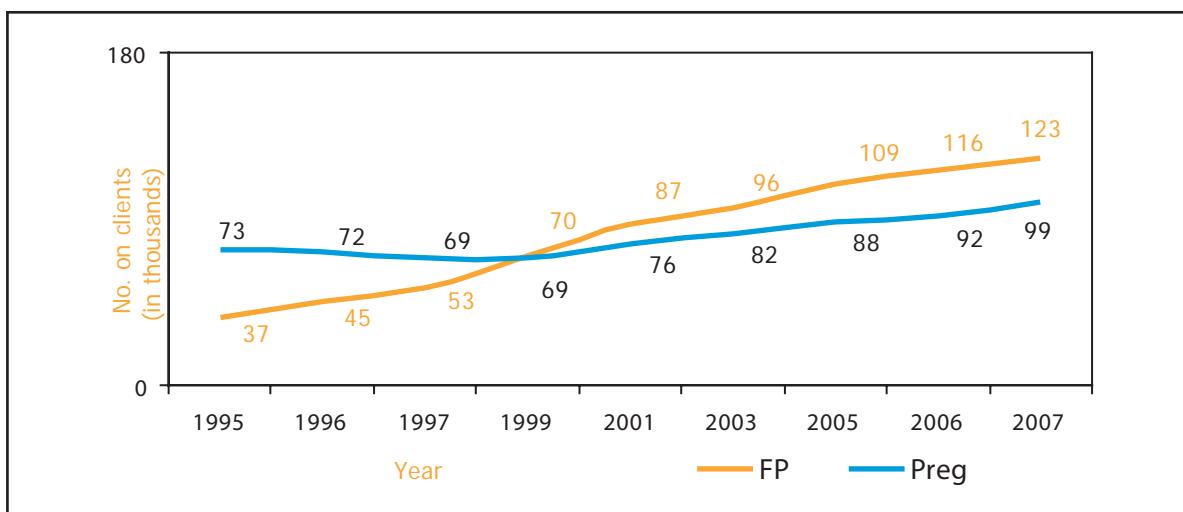


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*Figure 8, Discontinuation rates of modern contraceptives (1996, 2006, 2007)*

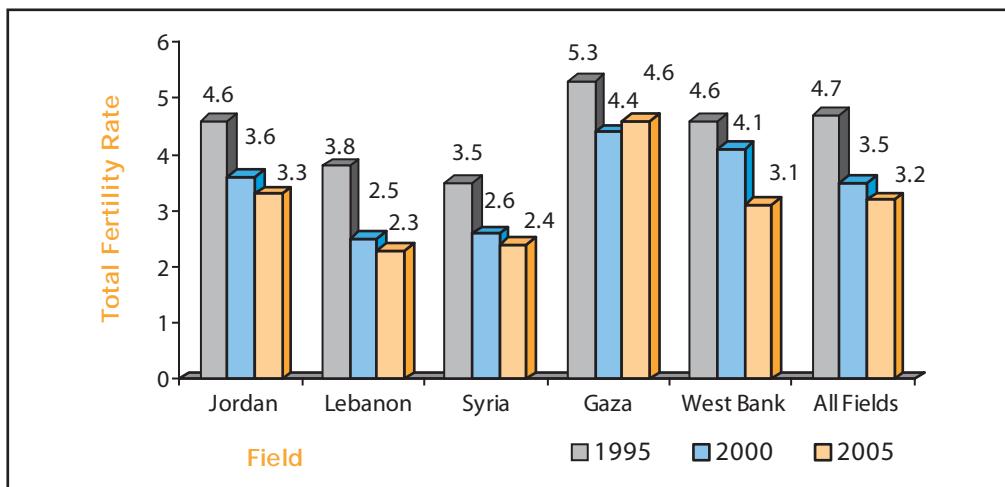
The success of the family planning programme is evident from Figure 9, which shows a steady increase in the number of family planning acceptors over the number of pregnant women cared for, since the introduction of the programme. During the last 10 years, there has been a three-fold increase in the number of women enrolled in the programme, and the total number of family planning acceptors as an output indicator, reflects the change in reproductive health practices of the refugee population.



*Figure 9, Total number of pregnant women and FP acceptors in thousand (1995- 2007)*

The last UNRWA study conducted in 2005 revealed that there was a notable drop in the total fertility rate among mothers of children 0 to 3 years of age who attended the Maternal and Child Health clinics since the introduction of the family planning programme as shown in Figure 10.

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*Figure 10, Change in total fertility rates between 1995, 2000 and 2005*

### 3.6 Surveillance of maternal mortality

Pregnancy is a normal, healthy state which most women aspire to at some point in their lives. However, this process carries with it serious risks of death and disability, and most of the deaths could be avoided if preventive measures were taken. For every woman who dies, many more suffer from serious conditions that can affect them for the rest of their lives. Women die because they are simply unaware of the need for care, or they are unaware of the dangerous warning signs or because services at various levels are inaccessible and/or inadequate.

During 2007, 25 maternal deaths were reported from four Fields, giving a maternal mortality ratio of 27.7 per 100,000 live births compared to 14 cases in 2006. Thirteen deaths were reported from Gaza, eight from Jordan, three from Syria and one from the West Bank. All cases were registered at UNRWA clinics for antenatal care, and 22 cases were registered during the first trimester, with three cases registered during the second trimester. Most maternal deaths were of multi-parity and/or pregnancy after 30 years of age. One maternal death was a woman below 20 years, five deaths were women in the age category of 20-24 years, five cases were among women aged 25-29 years, while 14 cases were women 30 years or more, and 17 cases were women with a history of three or more pregnancies. Ten cases died during pregnancy, and four during labour, while 11 cases of maternal death occurred during the postnatal period. Twenty-three cases died in hospitals while two cases died at home (one in Gaza and one in Syria). Of note is that five of the women who died paid less than four visits to UNRWA clinics.

Six maternal deaths (24%) were due to preventable causes including five cases of haemorrhage and one case of toxæmia/hypertension. Pulmonary embolism was the main reported cause of maternal death in eight maternal deaths (32%), and five cases (20%) had underlying morbidity. There were also two maternal deaths (8%) that were due to malignancy and one case (4%) due to liver disease, another involving sickle cell disease and another one with pancreatitis and SLE. Three cases died of iatrogenic complications in the hospital such as septic shock, anaphylactic shock, intestinal obstruction and anaesthesia, and the cause of death in one case was not ascertained and was therefore reported as unknown.

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*Table 13, Distribution of maternal deaths by cause of death and Field in 2007*

Cause of death	Jordan	Syria	Gaza	West Bank	Total
Pulmonary embolism	3		5		8
Hemorrhage	2	1	2		8
Cancer			2		2
Sickle cell disease (Anemia)		1			1
Liver failure				1	1
Pancreatitis			1		1
Systemic lupus Erythematusus (SLE)	1				1
Toxaemia	1				1
Anesthesia complications			1		1
Septic Shock			1		1
Anaphylactic shock			1		1
Intestinal obstruction	1				1
Un-known		1			1
<b>Total</b>	<b>8</b>	<b>3</b>	<b>13</b>	<b>1</b>	<b>25</b>

### 3.7 Infant and child health

During 2007, a total of 261,884 infants and children below 36 months of age, received preventive care at UNRWA primary health care facilities including a thorough medical examination, growth monitoring, immunization against vaccine-preventable diseases and identification of special needs. These activities were supported by the health education and counselling of mothers on appropriate feeding practices and baby care. There was a 4.4% increase in the number of infants and children attending clinics in 2007 compared to 2006.

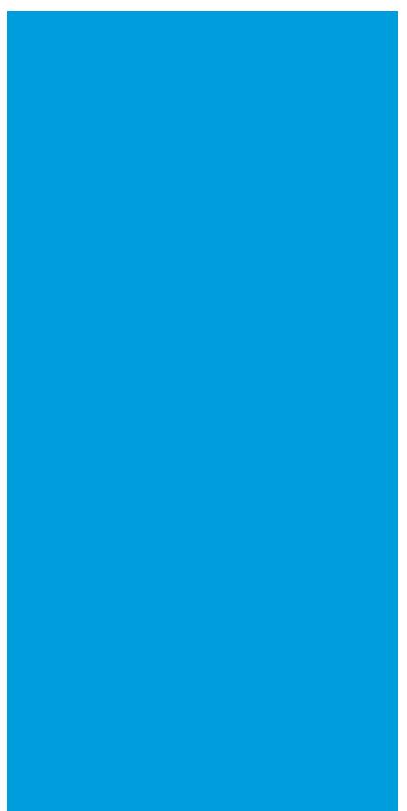
During the first year of life, mothers normally take special care in registering their newborn infants for preventive care because they are concerned about their growth and development, and are keen to provide them with the full range of primary immunizations. The attendance becomes less regular during the second and third years of life because children have received all their primary and booster immunizations and the intervals between scheduled visits become longer due to the health condition of the child stabilizing. Attendance during the first year of life was estimated at 86% of all infants registered Agency-wide with the highest rate of 97% in Lebanon and 94% in Gaza. The attendance rates Agency-wide were 75% during the second year and 49% during the third year of life.

Service coverage rates were estimated for the number of infants below 12 months of age registered for care, to the expected number of surviving infants. This is calculated by multiplying the crude birth rates published by the Host Authorities by the number of registered refugees in each country.

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Children are weighed and measured as part of the comprehensive medical assessment they receive from UNRWA health staff. This ensures any health problems the child may be suffering from are detected early. While most UNRWA health centres are small with limitations as to how many treatment rooms can be accommodated, most centres have separate, colourful treatment rooms for infants and children to ensure they are in the most safe, comfortable environment possible.



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Table 14, Infant and child health care in 2007

Field	Jordan	Lebanon	Syria	Gaza	West Bank	All
Registered Refugees	1 903 490	413 962	451 467	1 048 125	745 776	4 562 820
Estimated No. of surviving infants *	53 932	6 499	10 083	36 241	18 786	125 541
Infants below 1 year registered	34 144	4568	9 538	34 531	12 294	95075
% regular attendance	77	98	87	94	87	86
<b>Child health Coverage Rate</b>	<b>63.3</b>	<b>70.3</b>	<b>94.6</b>	<b>95.3</b>	<b>65.4</b>	<b>75.4</b>
Children 1-<2 years registered	29 478	4332	9 300	31 964	11 704	86778
% regular attendance	76	98	85	63	90	75
Children 2-<3 years registered	27 861	4169	7 991	30 531	10 586	81138
% regular attendance	39	88	64	39	80	49
<b>Children 0-3 years newly registered</b>	<b>91 483</b>	<b>13069</b>	<b>26 829</b>	<b>97 026</b>	<b>34 584</b>	<b>262991</b>

\* No. of surviving infants = Population X crude birth rate X (1-IMR)

Services coverage increased from 62.3% in 2002, to 70.6% in 2006 and to 75.4% in 2007 with the highest rate of 95.3% in Gaza and the lowest in Jordan (63.3%) as shown in Table 14.

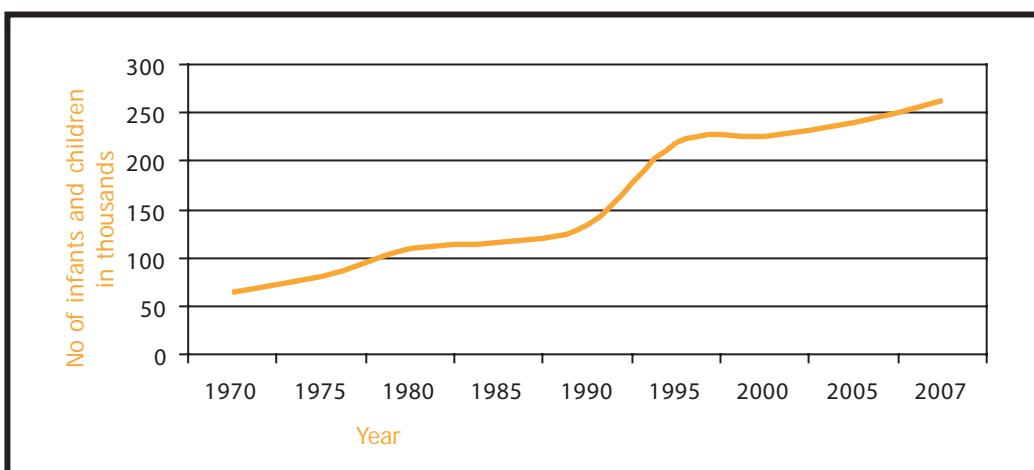


Figure 11, Infants &amp; children below 36 months under care

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In Jordan, the coverage rate of 63.3% could be attributed to the availability of other health care providers and the limited number of UNRWA facilities with several un-served refugee communities outside camps. The low coverage in the West Bank (65.4%) could be attributed to obstacles and/or restricted access.

During 2007, the immunization coverage was optimal for infants below 12 months of age for all EPI antigens Agency-wide. The rates were 99.9% for BCG, 99.7% for each of OPV, DPT, Hib, IPV and Hepatitis B, and 98.7% for Measles, and 100% coverage of all antigens was achieved in Gaza and Lebanon. The IPV vaccine has been provided for infants in three Fields, Jordan, Lebanon and Syria and the coverage rates were 99.3%, 100% and 99.7%. Likewise, the immunization coverage rate for booster doses was optimal, 99.2% for OPV, 99.2% for DPT and 98.6% for MMR. For more details on immunization see Chapter 4 on Disease Prevention and Control.

An analysis of West Bank data by area and health centre revealed that the extraordinary efforts exerted by health staff and the successful collaboration with public health authorities, NGOs and community organizations, has resulted in the substantial improvement of immunization coverage in the West Bank in general, and in pockets with low coverage detected during the last few years, particularly in the Jerusalem and Hebron areas.

### 3.7.1 *Infants and children with growth retardation*

Efforts continued in 2007 to strengthen UNRWA's nutritional surveillance with special emphasis on management of infants and children suffering from growth retardation. Special emphasis in this respect was placed on promoting breast-feeding and counselling mothers on infant and child nutrition including the appropriate use of food supplements.

The 2007 data indicated that the identification of children with growth retardation improved in all Fields. The incidence rate increased from 2.8% in 2005 to 3.3% in 2007. The detection rate of growth retardation in some Fields was very close to the expected results, while in other Fields underreporting was still an issue of concern especially in the West Bank. In Gaza, not only was the prevalence rate low in light of the generalized socio-economic hardship, but the recovery rate was also low. The highest prevalence rates were reported from Syria and Jordan, and the recovery rate was highest in Lebanon and West Bank (see Table 15).

*Table 15, Prevalence of growth retardation among children 0-3 years of age in 2007*

Field	Growth Failure/retardation among 0-3 children			
	Incidence	Prevalence during 2007 (period prevalence)	Prevalence at year end, 2006	Recovery rate (%)
Jordan	5.0	7.9	3.1	48.1
Lebanon	3.8	6.5	2.2	54.2
Syria	3.2	6.2	3.2	39.1
Gaza	2.4	5.0	3.0	26.1
West Bank	1.7	2.9	1.3	48.2
All Fields	3.3	5.9	2.8	40.6

As the data is disaggregated by sex, an assessment of disparity due to sex can be made. As noted in previous years, there was no disparity due to sex except in Lebanon where the growth retardation among females was 1.7% compared to 0.6% among males.

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### 3.7.2 Surveillance of infant and child mortality

Analysis of data collected in 2007 revealed that the pattern of infant mortality has remained largely unchanged over the past few years. The leading causes of reported infant mortality in 2007 as shown in Figure 12 were low birth weight and prematurity (28.1%), congenital malformations (26.7%) and acute respiratory infections (19.2%). The cause of death in 6.9% of reported cases could not be ascertained. Further analysis of the data showed that 39.8% died during the early neonatal period (less than one week of age), 17.8% during the late neonatal period (8-28 days) and 42.3% between 29 days and one year of age.

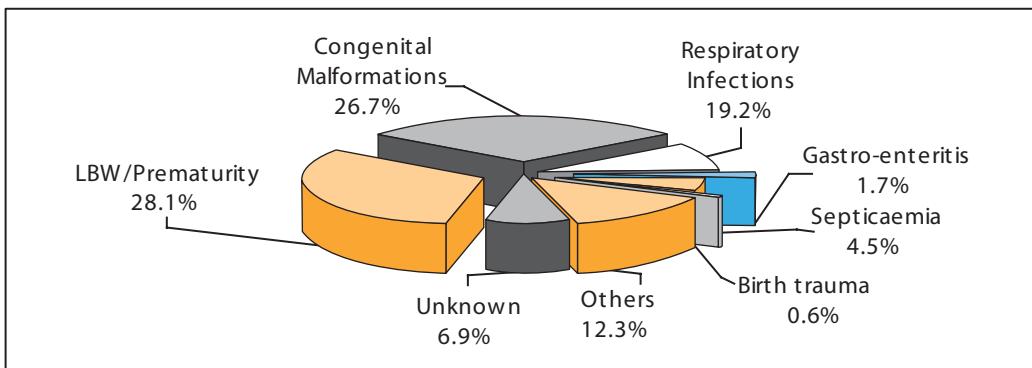


Figure 12, Leading causes of infant mortality in 2007

Deaths due to low birth or prematurity and congenital malformations were more likely to occur during the early neonatal period and during the late-neonatal period, while deaths due to respiratory infections were equally distributed between the neonatal and post-neonatal periods. Consistent with the universally accepted pattern, infant mortality was higher among males than females, at 55.4% and 44.6% respectively.

Over the last four decades the causes of infant death have changed substantially. In 1969 for example, the two main causes of infant death were gastroenteritis and respiratory infections contributing to 36.0% and 35.0% of infant deaths respectively, while in 2007, the two main causes of deaths were prematurity/low birth weight and congenital malformation. This change in the pattern of causes could be attributed to the high vaccination coverage, better health care, improved environmental sanitation and increased health awareness among families in general and mothers in particular.

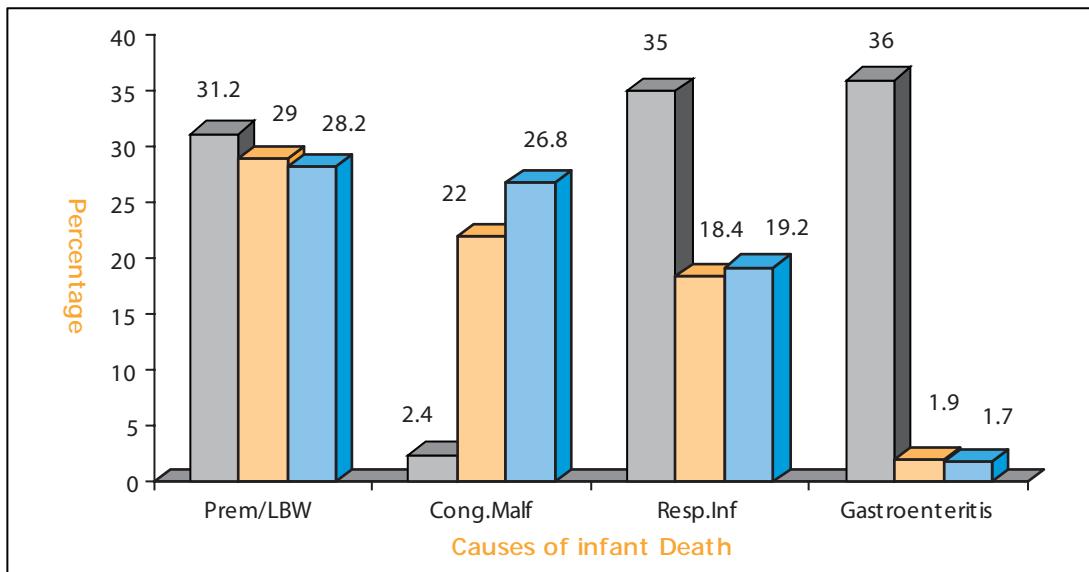
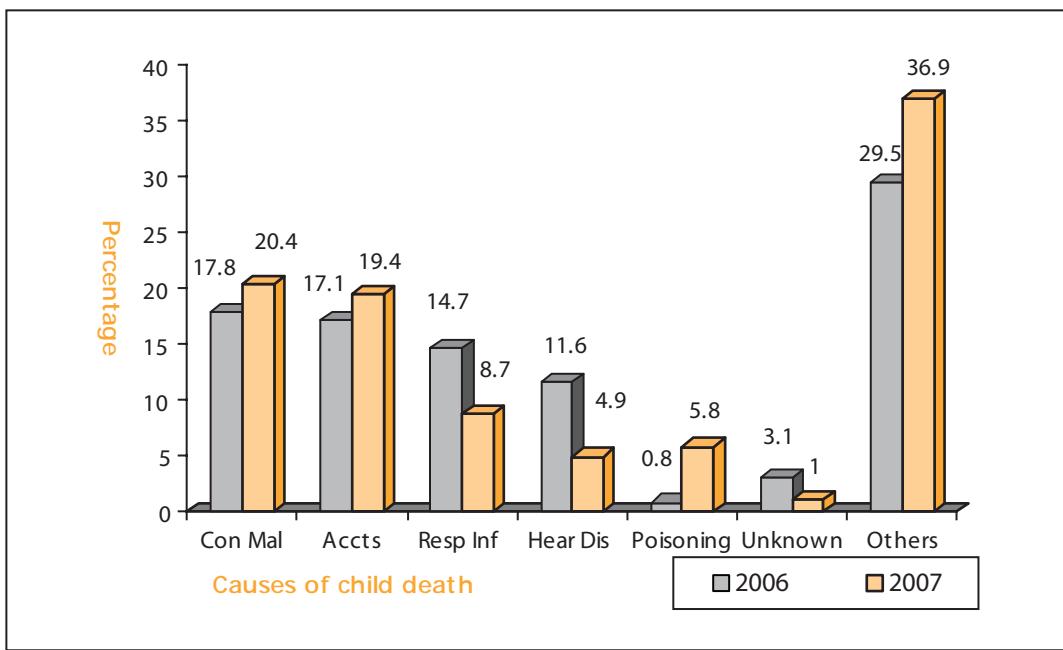


Figure 13, Main causes of infant mortality 1969, 2006 and 2007

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As noted in Figure 14, congenital malformations ranked first among the leading causes of child mortality at 20.4% followed by accidents at 19.4%, respiratory infections at 8.7% and heart diseases which accounted for 4.9%. The reduction in the proportion of the 'unknown' category from 3.1% in 2006 to only 1% may be due to better reporting and verification of the cause of death.



*Figure 14, Main causes of child mortality (1-3 years) in 2007*

Among children two to three years of age, 57.3% of deaths occurred during the second year of life, while 42.7% occurred during the third year. It is worth noting that 26 (25.2%) of the reported child deaths during 2007 were due to accidents and poisoning. Respiratory infections and gastro-enteritis were also two other causes of death that are preventable if immediate medical treatment is sought. In terms of the distribution of deaths by sex, child mortality was higher among females than males at 53.4% and 46.6% respectively, however there is no direct correlation between the sex of the child and the cause of death.

One of the main objectives of the Health Protection and Promotion Programme is to reduce infant and early child morbidity and mortality, and in the last five decades there has been a considerable reduction in infant and child mortality among Palestine refugees. This reduction has largely been made possible through the implementation by UNRWA of several cost effective services to prevent morbidity and reduce mortality. These services include immunization, growth monitoring, promotion of breast feeding, management of diarrhoeal diseases, family planning programmes, management of acute infections including respiratory infections, screening and management of nutritional deficiencies, environmental sanitation in camps and health education campaigns. The high infant mortality rate (160 deaths per 1000 live birth) reported in the early 1950s declined to 22 per 1000 live births in 2003. Figure 15 illustrates the decline in the rate of infant mortality, which has taken place over the last five decades in Gaza.

## Chapter 3

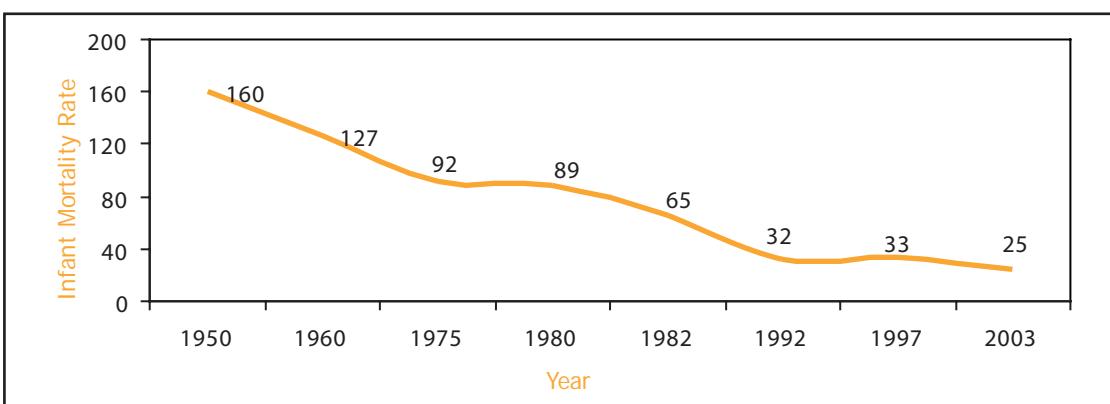


Figure 15, Infant Mortality Rate in Gaza Field

Results from a 2003 infant and child mortality study conducted by UNRWA revealed that there was a substantial drop in the infant mortality rate across all Fields, however for mortality to be further reduced, specific targeted interventions need to be implemented. Therefore, to further understand the underlining causes of these deaths, UNRWA Health staff undertook a number of in-depth inquiries of infant and child deaths. During 2006, 589 in-depth inquiries were undertaken in the five Fields, and the results revealed that 81% of all deaths took place during the first six months of life, 83.3% of children 0 to 3 years of age died in hospitals, and 16.3% died at home. Approximately 54% of all the infants or children that died were male and 46% were female. The majority of deaths were due to congenital malformations at 31.1% and low birth weight/prematurity at 27.8%, which is consistent with data obtained from the routine reporting system. Of note, is that accidents contributed to 8% of deaths, sudden death contributed to 5.8% and only in 1.2% was the cause of death unknown. The UNRWA Health Protection and Promotion Programme expects to conduct a comprehensive analysis of all the in-depth inquiries received from the Fields in 2008.

### 3.8 School health

#### New entrants medical examination

During the 2006-2007 school year, a total of 49,682 new entrants were registered in UNRWA schools of whom 24,157 were girls and 23,691 were boys. Each new student was immunized, and received a thorough medical examination and follow-up from UNRWA Health staff. The main morbidity conditions detected among new students were oral health problems, mainly dental caries in 47.1%, gingivitis in 3.8%, and 96 students with fluorosis reported from Gaza. Vision defects were reported in 5.8%, bronchial asthma in 1.8%, hernia in 1.2%, squint in 1.1%, hearing impairment in 1%, chronic otitis media in 0.8%, undescended testicles in 0.9%, heart disease in 0.7%, thyroid enlargement in 0.6%, congenital malformations in 0.4%, haemolytic anaemia in 0.7%, arthritis in 0.3%, physical disabilities in 0.2%, epilepsy in 0.2%, and type I Diabetes was reported in 17 children. Health problems related to personal hygiene were prevalent among school children with pediculosis reported among 2.5% and scabies in 0.5% of new entrants.

As part of the UNRWA school health service, children with disabilities were assisted with the provision of eyeglasses, hearing aids and other prosthetic devices according to their conditions and available resources. In the absence of a well established Agency-wide mechanism for hearing screening, it was not possible to assess the prevalence of hearing impairment; however after the purchase of audiometers and the implementation of a multiphase hearing screening programme, there was a substantial increase in detected cases of hearing impairment during 2007, with a total of 482 cases detected compared to 206 cases in 2006.

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Therefore in 2007, resources were allocated to introduce programmes for early detection and management of disabilities especially hearing impairments, and audiometers were procured for all five Fields and staff training in hearing screening was undertaken.

### *Screening*

UNRWA screening activities in 2007 targeted pupils in the fourth and seventh grades in all Fields, and involved testing of vision, hearing and thyroid enlargement as well as checking for oral health problems. Of the 54,111 students enrolled in the seventh grade, 47,924 were screened with a coverage rate of 88.4% compared to 97.4% in 2006. The main reason for this decline was the screening activities in the Jordan Field, where screening was not completed in the South Amman Area. The main morbidity conditions detected were vision defects in 14.1% and hearing impairment in 0.87%.

Of the 53,891 students enrolled in the fourth grade, 50,250 were screened with a coverage rate of 93.3%. The main morbidity conditions detected were vision defects in 11.2% and hearing impairments in 0.85%.

In the Lebanon Field, a total of 3288 students in the first grade (1586 males and 1702 females) were screened for hearing. Of those screened, 137 students (75 males and 62 females) had mild, moderate, or severe to profound hearing impairments, and they were provided with digital fully computerized hearing aids. Approximately 75% of those who received hearing aids had hearing defects in one ear and 25% had hearing defects in both ears. These screening activities including the purchase of the audiometers and provision of hearing aids were generously funded by the European Union.

During 2007, Health Tutors also received training on first phase screening and life support skills, and vision charts were provided to all UNRWA schools.

### *Immunization*

During the 2006-2007 school year, school children were immunized according to the immunization schedules as follows:

- New entrants received a booster dose of DT/Td immunization, and coverage Agency-wide was 98.5% (100.0% in Lebanon and Syria, 99% in the West Bank, 98.8% in Jordan and 97% in Gaza). The coverage rates of OPV for new entrants were 99.8% in Gaza, 99.1% in Jordan and 96% in the West Bank.
- Only eight new entrants in Jordan were vaccinated with MMR. This vaccine is given only as a 'catch-up' to those students who have not been vaccinated.
- Sixth grade females in the West Bank and Gaza received the Rubella vaccine, and the coverage rates were 99.1% and 97% respectively.

Of note is the overall coverage rate of Td vaccination among ninth grade school children in the five Fields which was 98.7%.

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### *De-worming programme*

In order to improve the health status of school children, UNRWA, in accordance with WHO recommendations, made arrangements for the implementation of a de-worming programme for school children enrolled in UNRWA schools in all Fields. This programme of de-worming used a single dose of an effective wide-spectrum anti-helminthic for three successive years. During the 2004-2005 school year, all Fields completed the three year campaign with a high response rate (approximately 96% of students took the tablets). Since 2006, only new entrants have received the medications for three successive years, and during the 2006-2007 school year the de-worming programme targeted school children in first, second and third elementary classes with much success. The coverage reached in these grades in 2007 was 98%. In addition to the distribution of de-worming medicine, a health awareness campaign was implemented to educate students on the importance of personal hygiene.

### *Vitamin A supplementation*

During the 2006-2007 school year, two doses of 200,000 International Units (IU) of Vitamin A supplementation six months apart were given to school children from grade one to grade six in all UNRWA schools, and high coverage was achieved. See the Nutrition section for further details on vitamin enrichment.

### *Health educational materials*

The self-learning material on prevention of HIV/AIDS and tobacco use, were revised, reproduced and distributed to preparatory school children and adolescents in the vocational and teacher training centres. Approximately 75,000 copies of the booklet "Facts about tobacco" and 51,500 copies of the booklet "Facts about AIDS" where reproduced during 2006 and distributed to students during the 2006-2007 school year.

#### *3.8.1 School health activities by Field*

##### *Lebanon*

- First aid kits were distributed to all schools.
- In 2006 fourteen audiometers were purchased by the UNRWA Health Department, and in 2007 the medical officers in charge of the school health programme were trained on the use of audiometers and hearing screening of school children.
- Health Tutors were trained to screen for hearing defects in school children and in the collection of hearing related data.
- 11,120 students in the first, second and third grades received a dose of Anti-Helminthes.

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### *Gaza*

- Training on first phase screening for vision and hearing was completed by teaching staff in 180 schools.
- In coordination with Médecins Sans Frontières (France) five training workshops on first aid and life support were conducted with 100 preparatory students so they could become trainers of trainers in their schools.
- Vision charts for first phase screening of vision impairments were distributed to all schools in coordination with the UNRWA Education Department.
- Emergency packages (portable first aids kits) which contained about 40 items were distributed to all schools in coordination with the UNRWA Education Department and Médecins Sans Frontières.
- In coordination with Médecins Sans Frontières, UNRWA teaching staff were trained on emergency and crisis management.

### *Syria*

- Training of school Health Tutors on first phase screening for vision and hearing impairment was conducted.
- Training of health staff on the School Health Technical Instructions was conducted.
- Vision charts were distributed to school health teams and to schools.
- Sixteen audiometers were purchased and school health teams were trained on audiology along with vision screening.
- In coordination with the MoH, an MMR campaign was conducted for school children.

### *Jordan*

- Four training workshops were conducted during August and September 2007 to train 148 Health Tutors on Vitamin A supplementation, and the de-worming programme.
- A total of 141 female Health Tutors and Head Teachers were trained on Breast Self Examination (BSE) during the National Breast Cancer Awareness Campaign.
- Training sessions for newly assigned Health Tutors were conducted on first phase vision and hearing screening.
- One day training workshops for School Health Medical Officers on the School Health Technical Instructions were conducted in addition to a review of school activities.
- One day training workshops were conducted in September 2007 by the Chief, Health Protection and Promotion on the School Health Programme for the FFHO, AHO's, AEO and school health team medical officers.
- Vision testing charts for first phase screening were distributed to all school health teams.
- The Jordanian Civil Defence conducted regular training at UNRWA schools on emergency preparedness, and first aid kits were made available in all schools.
- Each school health team was equipped with one audiometer in each area to support screening activities.
- A meeting with the Jordanian MoH was conducted to coordinate and discuss hearing screening of newborns and school students.
- A workshop on the Health Academy was conducted with the UNRWA Education Department, the School Health Directorate MoH and MoE.

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### *West Bank*

- A new national strategy on Child Growth Monitoring and Nutritional Status among school children has been developed, and 60 weighing scales and 60 stadiometers in addition to printed forms for schools were received in 2007 from the Palestinian Authority in preparation for the implementation of the strategy.
- In coordination with Saint Jones Hospital, 10 training workshops on vision screening were conducted for school Health Tutors at all UNRWA schools together with school health teams.
- Schools participated in a number of World Health Days including World Smoking Day, World Diabetes Day, World Aids Day, and Infants and Children Days.
- Posters and Flip Charts on Adolescence, Personal Hygiene, Menstruation and Early Marriage were distributed to health centres and education departments to be used by the Health Tutors at schools.

### **3.9 Nutrition**

#### *3.9.1 Supplementary Feeding Programme (SFP)*

During 2007, a total of 112,256 pregnant women and nursing mothers compared to 109,294 in 2006 received preventive health care and supervision at UNRWA primary health care facilities and benefited from the Agency's food aid programme. Entirely funded through in-kind contributions, the programme aims to address the additional physiological and nutritional needs of women of reproductive age and prevent nutritional deficiencies associated with high fertility and short birth intervals. All pregnant and nursing women identified as below the poverty line by UNRWA's Relief and Social Services Department are eligible for the SFP.

However, the SFP for pregnant and nursing women is expected to be reformed in 2008, moving towards a poverty-based approach instead of the current health based approach.

#### *3.9.2 Food security*

Food security in all areas of the West Bank and Gaza has declined since the 2000 Intifada and most recently, due to the loss of Palestinian Authority income. The WFP and FAO report published in January 2007 stated that: 'Loss of per capita income sharply reduced economic access to food with real per capita income decreasing by half since 1999 and resulting in six out of ten people falling below the \$2.10 USD per day poverty line in mid-2006.' The 2006 CFSVA (Comprehensive Food Security and Vulnerability Analysis) concluded that 34% (1,322,019) of the West Bank and Gaza Strip is food insecure, 20% (777,658) is marginally secure, and 12% (466,595) is vulnerable to becoming food insecure.\*

In 2007, the wheat flour, which was distributed by UNRWA as part of its regular and emergency food aid programmes, was fortified with iron folate, and other trace elements and vitamins. The Palestinian Authority introduced a programme for iron and vitamin fortification of imported as well as locally produced flour. This measure was also implemented countrywide in Jordan. In addition, UNRWA joined efforts with the WHO to encourage flour fortification in Syria and Lebanon. UNRWA is also a partner in the national efforts pursued by the Host Authority in Jordan and the Palestinian Authority for development of appropriate nutrition and food strategies in collaboration with the WHO and USAID.

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\* - WFP/FAO Comprehensive Food Security and Vulnerability Analysis (CFSVA) 2006 West Bank and Gaza

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### **3.10 Mental Health Programme**

The objective of the Community Mental Health Programme is to promote and deliver a range of integrated community interventions aimed at improving the psychological and social wellbeing of Palestinian refugees consistent with the MDGs (specifically 3, 4 and 5), the Convention on the Rights of the Child (CRC) (specifically article 19, inter-alia) and the WHO Mental Health Policy and Service Guidance Package (WHO, 2003).

Palestine refugees are among the most disadvantaged groups of the population. Approximately 20% of the Palestinian population is in need of psychosocial support, and the percentage rises to 44.9% among the refugee population, and 53% among camp populations.

UNRWA responded immediately to the psychosocial needs of the Palestinian community by implementing appropriate community-based mental health interventions. To fill this critical gap in services it became crucial to implement two psychosocial support programmes: one in Gaza and the other in the West Bank. The two programmes were funded through the emergency programme and were implemented as sector-wide activities involving UNRWA's Health, Education and Relief & Social Services Departments.

The Mental Health Programme started in 2002 as a psychosocial support project and involved the recruitment of a number of counsellors in Gaza and the West Bank. As the programme perspective widened, an international expert was recruited in 2005 and it was re-named the Community Mental Health Programme. The programme in Gaza relies on 189 counsellors supervised by six assistant supervisors and administered by the training coordinator, administrative officer and three other supervisors. In the West Bank the programme is run by 110 counsellors supervised by six assistant supervisors and administered by three supervisors, a programme manager, a training coordinator, and an administrative officer. The counsellors work from UNRWA health centres, schools and community centres.

Throughout 2007 the Community Mental Health Programme has offered frontline counselling and group interventions with the aim of improving the mental health and social wellbeing of beneficiaries. Specifically it has offered school, community and clinic based activities for children, parents, individuals, families and groups. The strategies of the programme were revised to address the refugee population's psychological needs and the activities conducted by the programme in 2007 can be classified as follows.

Counselling and awareness activities comprise the majority of the counsellors' workload and can be classified into two major categories:

- Awareness raising activities which include mental health education classes at the schools, public meetings at the health and community centers as well as other activities like publications and brochures. Over the past year the counsellors were able to conduct 21,205 mental health education sessions and classes, which reached almost 300,000 beneficiaries, and other awareness activities that reached more than 400,000 beneficiaries; and
- Mental health counselling activities which are directed at children and clients who have mild to moderate mental health problems. The counsellors hold individual and group counselling sessions using a variety of techniques. Throughout the last year the counsellors conducted 24,160 individual counselling sessions and 10,159 group counselling sessions, treating a total of 32,105 beneficiaries. The programme has also developed community interventions covering both regular clients' needs and emergency interventions. Over the last year the counsellors conducted 3780 home visits reaching 8953 beneficiaries.

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*Table 16, Most common mental health problems identified among beneficiaries in 2007 in Gaza*

	Problem	No. of Beneficiaries	%
1.	Aggression	9559	29.77
2.	Lack of Motivation	3217	10.02
3.	Bed Wetting	2227	6.94
4.	Antisocial Behavior	2044	6.22
5.	Truancy	1886	5.87
6.	Fear	1456	4.54
7.	Acute Trauma Related Reactions	1055	3.29
8.	Family Problems	997	3.10
9.	Attention Deficit	979	3.05
10.	Anxiety	777	2.42
11.	Hyperactivity	719	2.25
12.	Sleep Problems	520	1.62
13.	Inappropriate Language	496	1.54
14.	Messiness	442	1.38
15.	Nail Biting	433	1.35
16.	Bad Studying Habits	407	1.27
17.	Thumb Sucking	357	1.12
18.	Shyness	341	1.06

### 3.10.1 Mental Health Programme Capacity Building Activities

Capacity building is an important part of the Community Mental Health Programme. The role of supervisors and assistant supervisors is to ensure that counsellors are continually developing, monitoring, and improving their practices.

#### **Training of Supervisors:**

Supervisors and assistant supervisors undergo continuous development and training to ensure they can effectively undertake their roles. The training of supervisors and assistant supervisors has two major components:

- In-service training: This training is mainly conducted by the acting coordinator, and in 2007 covered four main domains – communication and self-awareness, counselling intervention, crisis counselling and administrative domains.

As shown in Table 17, the training was divided into four modalities. Individual training or supervision was conducted for 10 supervisors in 70 training sessions, group training or supervision was conducted for 10 supervisors and 189 counsellors in 34 training sessions, team supervision was conducted for 10 supervisors in 45 training sessions and supervising supervisors was conducted for 10 supervisors and 48 counsellors in 20 training sessions.

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*Table 17, Supervisory activities during 2007*

January – December 2007	Individual Supervision	Team Supervision	Group Supervision	Supervising Supervisors	Total
No of Sessions	70	34	45	20	169
No of Supervisors involved	10	10	10	10	40
No of counsellors involved	0	189	0	48	237
Total	80	233	55	78	446

- External Training:

**Training of Trainers (TOT):**

TOT training was conducted by an external trainer for nine supervisors and assistant supervisors in Gaza. Immediately after the course the supervisors conducted training for counsellors on common mental health interventions.

**Overseas training:**

One supervisor from CMHP attended a training course at the American University in Beirut on "Public Health in Complex Emergencies". The course covered the various aspects of major public health problems in emergencies, communicable diseases, environmental health, nutrition, protection and security, violence, weapons, trauma, and psychosocial and mental health issues. The training used SPHERE guidelines as well as practical and field training.

### ***Training of Counsellors:***

During 2007 counsellor training focused on equipping counsellors with instruments for dealing with mental health problems at an individual and group level. The training had one main component:

Internal (in-service) Training with two modalities: "on the job supervision" and formal training.

The training was divided into a further three modalities. Individual training or supervision was conducted for 189 counsellors in 1923 training sessions, group training or supervision was conducted for 189 counsellors in 444 training sessions and 27 sessions on team supervision.

- Intake and Reporting:

In January 2007, the Programme Coordinator conducted a two day training course on intake and reporting for the supervisors and assistants.

- Mental Health Themes:

During August, CMHP organized refresher courses for counsellors covering essential topics. The training consisted of 11 sessions provided by supervisors and assistant supervisors. The topics covered included Mental Health Assessment, Peer Problems, Common Psychiatric Conditions, Therapeutic Approaches, Life Skill Education, Providing Information, Life Style, Ethical Guidelines for Counselling, and Helping the Helper.

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- External Training:

Four Community Mental Health counsellors attended a training course in Gaza on Mind-Body Medicine Advanced Training for Leaders in the Trauma Care Program in May 2007.

- Training in Drama Techniques:

Nineteen counsellors completed training in Drama Techniques and during the in-service supervision 75 drama sessions were conducted involving 1500 school children.

- Life Skills Education:

The counsellors were trained in life skills education, including the use of stories and drama techniques for children. In 2007, the counsellors delivered this programme to children in the first three grades to help build interpersonal communication and general life skills.

### **3.11 Cervical and breast cancer screening**

In order to provide secondary prevention aimed at early detection and management of cervical and breast cancer at an early curable stage, and to promote primary prevention activities, UNRWA implemented a screening programme for breast and cervical cancer which began in 2006. The level of implementation varied between the Fields according to the availability of funds, and whether there were technical or operational difficulties.

Awareness campaigns were conducted in all UNRWA health centres including placement of posters, group discussions, and videos on breast self examination. Also guidelines were prepared by health staff which included protocols for referral of patients to the contracted centre, interpretation of the mammography and pap smear reports, and recording and reporting of the results at the Health centre and Field level.

The following activities were also undertaken in all Fields:

- Training workshops on the screening technical instruction;
- Training on breast self-examination for nursing staff;
- Feasibility studies for implementation were conducted in each Field; and
- Contracts were concluded in 2007 in two Fields - Syria and Lebanon – for the mammogram and cytology screening tests.

While technical and budgetary limitations are preventing the implementation of the mammogram and cytology screening tests in other Fields, it is unfortunate that funds are not expected to be secured for the ongoing implementation of this programme in Syria and Lebanon in 2008, as it has been a success thus far. See 3.11.1 for details.

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### **3.11.1 Syria and Lebanon mammogram and cytology screening programme**

During 2007 in Lebanon, a total of 741 women were given a referral for a mammography, and of those women 670 (90%) underwent the test. A total of 281(42%) cases were considered suspicious and 14 of these (2%) cases were confirmed as breast cancer, with 13 cases referred for treatment.

A total of 810 women underwent pap smears, resulting in only one confirmed case of cervical cancer which was referred for treatment.

In Syria, 752 women were given referrals for a mammography, resulting in 124 cases (16.5%) that were considered suspicious. Of those cases, 96 were found to be negative and 28 cases were referred for surgery and further treatment. A total of 808 women underwent pap smears, and of those women 64 (7.9%) screened positive. Of those positive cases, 14 were either precancerous or cancerous lesions and were referred for treatment.

### **3.12 Activities conducted in coordination with host authorities, UN agencies and NGOs**

UNRWA regularly collaborates with other health care providers to ensure the services provided to the refugee community are coordinated and ultimately, meeting their needs. UNRWA undertakes a wide range of activities with different organisations, and the main activities conducted during 2007 by Field are as follows:

#### **Syria**

The MoH in Syria has been providing Syria Field with its requirement of quadrable, hepatitis and MMR vaccines in addition to donating family planning supplies following stock rupture of the Field reserve. The UNRWA Health Programme in Syria worked jointly with the MoH on the National MMR and polio immunization campaigns in 2007, in addition to coordinating joint training with the MoH on the new expanded programme of immunization.

The Syria Field Family Health Officer also participated in the following workshops organized by the WHO in Syria:

- Workshop on maternal health conducted during April 2007;
- Workshop on new child growth standards during July 2007;
- Workshop on health promoting in schools during September 2007; and
- Workshop on establishing a child help line during December 2007.

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### *Jordan*

Due to the generosity of the MoH in Jordan, UNRWA continued to receive its requirement of modern contraceptive supplies and vaccines. Also the Field Family Health Officer in Jordan is a member of various government national committees, such as the Higher Population Counsel, the National School Health Committee, the National Committee for Premarital Examination, and the National Committee for Newborn Examination. The MoH has also assisted with the iron fortification of bread, which was implemented countrywide in Jordan, and following the signing of an agreement in September 2006 between the MoH and UNRWA, a new hospitalization reimbursement scheme was put in place in 2007.

The UNRWA Health Department also participated in the national awareness campaign on Breast Cancer in coordination with the Jordanian MoH and the King Hussein Cancer Centre. During this campaign, five workshops were conducted to train medical officers and nursing staff on early detection of breast cancer.

UNRWA also conducted a number of activities with the WHO in Jordan in 2007 such as participating in the WHO workshop on Training Trainers on the new WHO child growth and development charts and attending the WHO Regional Workshop for National Health Promotion Focal Points.

### *Lebanon*

There were a number of collaborations undertaken in the Lebanon Field in 2007 which involved government, private and not-for-profit agencies. The activities undertaken are as follows:

- In collaboration with the Lebanese MoH, Lebanon Field Health staff participated in the National Poliomyelitis Immunization Campaign and the Breast Cancer Awareness campaign;
- UNRWA Health staff received training from UNICEF in disaster management, psychosocial disorders and providing vaccines;
- UNRWA Health staff trained public health and nursing schools students from Balamend University in UNRWA health centers;
- UNRWA trained students from the American University of Beirut's Faculty of Health Science at UNRWA health centres, and in turn UNRWA Health staff were invited to participate in workshops, courses, lectures, seminars and meetings at the University;
- Activities conducted with other NGOs included close collaboration with the Lebanese Family Planning Association undertaking various activities including participation in lectures and workshops;
- Cooperation with the NGO, Médecins du Monde from France on mental health activities;
- Cooperation with the Italian NGO Ricerca e Cooperazione to implement a project on the reproductive health and wellbeing of Palestinian youth living in Lebanon;
- Collaboration with World Vision on a needs assessment relating to child, maternal and adolescent health;
- UNRWA health centers in Lebanon implemented breast and cervical cancer screening for eligible Palestine refugee women which was funded by the US Government;
- In cooperation with the Government of Japan, training programs for UNRWA medical officers to upgrade their primary health care knowledge were undertaken;
- Hearing screening for school students in UNRWA schools was undertaken as part of the European Union project 'Support to improve the living conditions of Palestine refugees in Lebanon'; and
- UNRWA Health staff in cooperation with the National Institution of Social Care and Vocational Training - Beit Atfal Assoumoud and the Family Guidance Center, undertook work on the "Community Mental Health Services" and "Psychological and Psychiatric disorders of Childhood" projects.

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### *West Bank*

UNRWA's Health Department has a strong relationship with the Palestine Authority MoH. As a result, the Field Family Health Officer is a member of various national committees such as the National Committee for Maternal Mortality, the National Coordination Committee for Reproductive Health, the National Committee for High Risk Pregnancy, and the National School Health Committee. Joint training was also conducted with the MoH on the new Maternal and Child Health Handbook and the New Growth Charts, and the West Bank Field was provided with 20,000 copies of the New MCH Handbook courtesy of the Palestine Authority MoH. The Palestine MoH also conducted training for obstetricians and gynecologists, residents and midwives at Qalqilia Hospital in the West Bank on antenatal, postnatal and child birth care, and nutrition.

In terms of sister agencies, UNRWA participated with the UNFPA on the Quality of Reproductive Health Services in Palestine project. This allowed for greater collaboration in this area and better utilization of UN resources.

In relation to partnerships with NGOs, UNRWA in conjunction with USAID (the HANAN Project), reprinted various health educational materials and distributed them to UNRWA health centres, and long standing cooperation with St. John Eye Hospital in Jerusalem resulted in a number of activities including the Community Health Department Outreach Programme and vision screening for school children, in addition to ten training workshops for school teachers and tutors on the screening process.

Other work with NGOs included liaison with the Women's Center for Legal Aid and Counselling to coordinate activities on violence against women including several meetings and workshops; development of health education materials including posters and flip charts on adolescence, personal hygiene, menstruation and early marriage which were distributed to UNRWA health centres and schools; and joint activities with the Palestinian Family Planning and Protection Association on women's sexual and reproductive health which formed part of a broader public health education campaign.

### *Gaza*

As noted in the section on the West Bank, UNRWA has a long history of collaboration with the Palestine Authority MoH, and the Gaza Field regularly receives vaccine supplies from the MoH. The Field Family Health Officer also attends various meetings including the Maternal Health Committee on Surveillance and Reporting of Maternal Mortalities. The MoH also collaborated with UNRWA to train 37 UNRWA medical officers on the implementation of the Integrated Management of Childhood Illnesses (IMCI) programme.

The UNRWA Health Department is involved in the USAID Hannan Project, which will be undertaken over three years and is aimed at improving the quality of services targeting maternal and child health and nutrition. The Project has multiple phases including a phase targeting a number of UNRWA health centres. During this phase, the Project will focus on capacity building of management, technical issues related to maternal and child health, and supportive technical supervision and follow up.

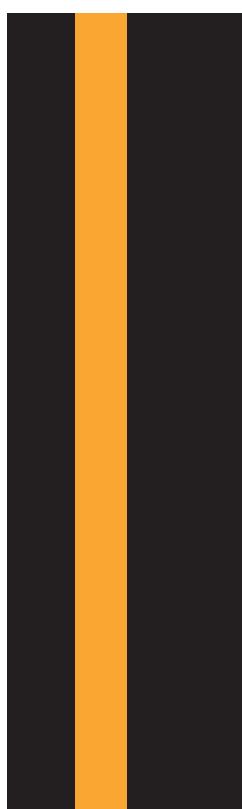
UNRWA also maintained its strong relationship with the WHO in Gaza, and several meetings were conducted between the two agencies to coordinate the implementation of a nutritional survey of school children in the Gaza field.

Other collaboration activities involving NGOs in Gaza in 2007 included: Médecins Sans Frontières in conjunction with other French NGOs conducting first aid training with UNRWA staff and training school Health Tutors in the use of emergency drugs at schools; and frequent meetings were undertaken with JICA to coordinate the implementation of the Maternal and Child Health Handbook and the new growth curves.

## Chapter 3



UNRWA's child immunization programme has been a major contributor to the eradication of diseases such as polio, tetanus and whooping cough. At an UNRWA clinic in Gaza, this infant receives her booster shots to ensure she has protection against diseases such as hepatitis.



## Chapter 4

Prevention is an essential component of national and economic development as it leads to improvements in population health and reduction in inequalities.

### WHO/Medium-term strategic plan, 2008-2013

Palestine refugee children who survive emergency situations, such as conflict in the occupied Palestine territories, often require special attention and support to help them rebuild their lives and make them feel safe. They often also require long term medical attention if they have suffered any disabling injuries, or have been living in an unsanitary environment where they may have been exposed to communicable diseases. A thorough medical assessment by an UNRWA doctor will ensure any ailment a child may be suffering from is detected early.



## Chapter 4

### Disease Prevention and Control

#### 4.1 *Objective*

The main objective of UNRWA's Disease Prevention and Control Programme is to reduce morbidity, disability, and mortality from communicable and non-communicable diseases consistent with the WHO targets and recommended intervention strategies.

#### 4.2 *Programme activities*

UNRWA employs an active system of epidemiological surveillance of communicable diseases, including vaccine-preventable diseases, and it is committed to achieving the MDGs as well as the WHO targets for eradication of poliomyelitis, elimination of neonatal tetanus, and reduction of mortality from measles. UNRWA is also committed to combating communicable diseases of public health importance, and to the implementation of the WHO directly observed treatment short course strategy (DOTS) for control of tuberculosis.

Close coordination is maintained with the MoH of the Host Authorities for surveillance of communicable diseases, supply of vaccines, exchange of information, participation in national immunization days and mass immunization campaigns, and outbreak investigation and surveillance of HIV/AIDS, which requires advanced virological or immunological investigations that cannot be performed at UNRWA facilities.

Control of non-communicable diseases is offered as an integral part of the Agency's primary health care activities with special emphasis on diabetes mellitus and hypertension. Specialized care for cardiovascular diseases is provided by specialists who regularly visit UNRWA's health centres and advise on the management of patients referred to them by UNRWA medical officers.

UNRWA's approach towards prevention and control of non-communicable diseases is based on the 'at risk' strategy because the Agency does not have the means to embark on a population-based strategy of primary prevention, and it has no control over public awareness campaigns on non-communicable diseases which are primarily controlled by the Host Authorities.

#### 4.3 *Progress in 2007*

##### 4.3.1 *Control of communicable diseases*

The absence of any communicable disease outbreaks in the Palestine refugee community in 2007 was a significant accomplishment, given the living conditions refugees endured during the Lebanon and Gaza emergencies. Much of this can be attributed to the continuing vaccination campaigns and the delivery of quality health care services from the UNRWA health staff.

##### 4.3.2 *Vaccine-preventable diseases*

Similar to previous years, there were no cases of poliomyelitis, tetanus, diphtheria, or pertussis among the refugee population during 2007 (see Table 3 for details), and there were no cases of acute flaccid paralysis reported from the Fields.

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The incidence rate of smear-positive pulmonary tuberculosis was 0.7 per 100,000 population Agency-wide, representing a mild variation from 2006. The highest rate was reported from Lebanon with 1.7 per 100,000, followed by Syria, West Bank, Gaza, and Jordan with rates of 1.6, 0.6, 0.5 and 0.4 per 100,000 respectively. In all Fields, the rates were lower than expected for the prevalence in the host country. This suggests that more effort is needed to strengthen the surveillance of tuberculosis.

The overall incidence rate of measles Agency-wide was 1.4 per 100,000 population, higher than that in 2006 at 0.5/100,000 and the incidence rate of Rubella increased from 1.6 per 100,000 population in 2006 to 1.9 per 100,000 in 2007, with most of the reported cases from the West Bank, Syria and Jordan at 4.8, 2.8 and 2.3 per 100,000 respectively. As in 2006, no cases were reported from the Gaza and Lebanon Fields.

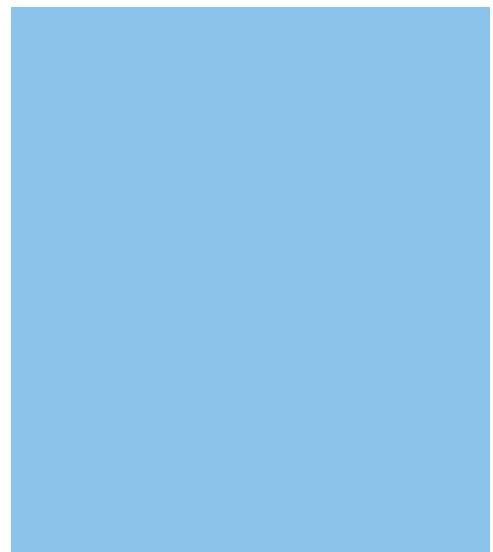
The incidence of mumps was 11.5 per 100 000 population during 2007, which was the same as 2006 figures. The highest rate of 57.6 per 100,000 population was reported from Lebanon, which had a small outbreak that was promptly contained by UNRWA Health staff, followed by 14 per 100,000 from West Bank, 12.2 per 100,000 from Syria, 7.2 per 100,000 from Jordan and 11.1 per 100,000 from Gaza.

### *Tuberculosis control*

Close cooperation was maintained between UNRWA and national tuberculosis programmes. A total of 65 cases of various forms of tuberculosis were diagnosed in 2007 - a reduction of 10 cases from 2006. Of these cases, 26 (30.8%) were pulmonary smear positive, six (9.2%) were pulmonary smear negative and 39 (60.0%) were extra pulmonary cases. Most detected cases were reported from Syria (50.7%), followed by Lebanon (18.5%), Gaza (15.4%), Jordan (10.8%) and the West Bank with only three cases (4.6%).



Children receive periodic vaccinations as part of a wider immunization programme to eradicate communicable diseases. These UNRWA school girls are waiting to receive their rubella shots from the UNRWA mobile school health service.



## Chapter 4

Detection rates in all Fields continued to be below the WHO target of 70% of the expected number of cases for the relevant host country. Some of the Fields (i.e. Syria) had a drastic improvement in its detection rate since the WHO lowered the expected incidence rate for the country. Using the DOTS system, all UNRWA Fields achieved a 100% cure rate in 2007, exceeding the WHO target of 85%.

*Table 1, Directly Observed Treatment Short Course Strategy (DOTS) for control of tuberculosis, programme indicators, 2007*

TB indicators	Jordan	Lebanon	Syria	Gaza	West Bank	All
Expected No. of smear-positive cases based on WHO estimated incidence rates, among served population	66	12	17	40	24	159
No. of cases based on WHO target of 70% detection rate of expected incidence	46	8	12	28	17	111
Number of cases detected	4	4	5	4	3	20
Actual detection rate of TB smear positive cases (%)	8.7	50.0	41.7	14.3	17.6	18.0
Cure rate of new smear positive cases	100	100	100	100	100	100

### *Immunization coverage*

Coverage of the expanded programme of immunization among children below the age of two was measured through a rapid assessment technique. The assessment revealed that the target of sustaining above 95% coverage, both for the primary and booster series was achieved in all Fields. As seen in Table 2, the coverage of primary vaccination reached 98.7% which was slightly lower than what was achieved in 2006 (99.4%). This can be explained by a shortage of measles vaccine in the Jordan Field in 2007. However, coverage of booster immunization reached 98.6% in all Fields which was higher than coverage in 2006 (98.1%).

TB indicators	Jordan	Lebanon	Syria	Gaza	West Bank	All
<b>Coverage rates as percentage of infants 12 months of age</b>						
BCG	99.8	100	99.9	100	100	99.9
Poliomyelitis	99.3	100	99.7	100	99.7	99.7
Triple (DPT)	99.3	100	99.7	100	99.7	99.7
Hepatitis	99.3	100	99.4	100	99.7	99.7
Hib	99.3	100	99.6	100	99.7	99.7
Measles	96.8	100	99.3	100	99.6	98.7
All vaccines	96.8	100	99.3	100	99.6	98.7
<b>Coverage rates as percentage of children 18 months old, for booster doses</b>						
Poliomyelitis	98.1	100.0	99.9	100.0	99.6	99.2
Triple (DPT)	98.1	100.0	99.9	100.0	99.6	99.2
MMR	98.1	100.0	99.9	98.4	99.3	98.6

*Table 2, Coverage of the expanded programme of immunization based on the rapid assessment technique*

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### 4.3.3 Mass immunization campaigns

During 2007, in cooperation with the MoH Lebanon and UNICEF Lebanon, UNRWA conducted two rounds of polio campaigns in the Beqa'a area for children between the ages of 0-5 years. In Jordan, in cooperation with the MoH, two rounds of polio campaigns were conducted for children 0-5 years of age in the Jordan Valley area.

### 4.3.4 Other communicable diseases

#### *Viral hepatitis*

Figure 1 shows the incidence rate of reported viral hepatitis cases (mainly Hepatitis A) Agency-wide during the last 10 years. As can be seen from the graph, changes in the reported incidence rates during 2007 are almost at the level of 2006, which may be explained by an improvement in the surveillance and reporting activities.

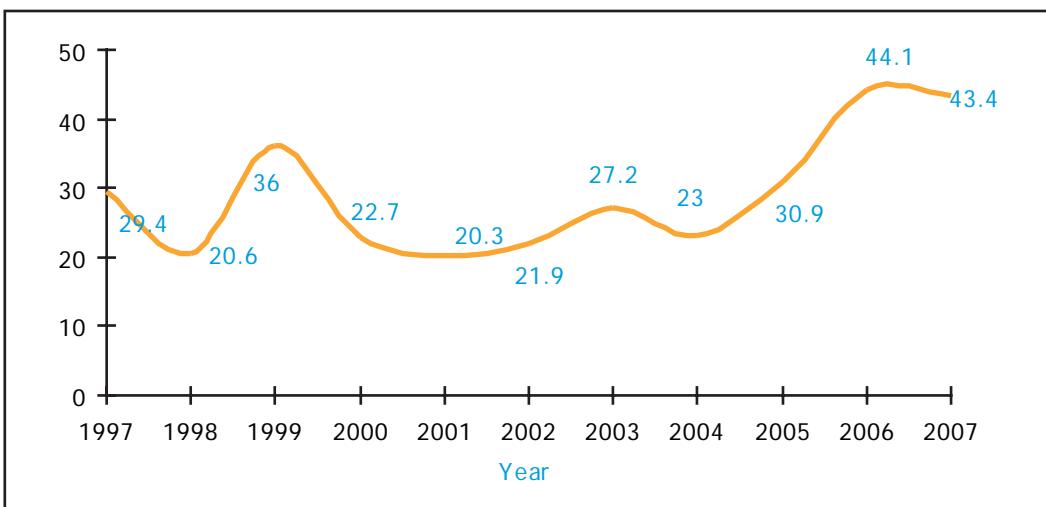


Figure 1, Incidence rate of reported viral hepatitis (per 100,000) Agency-wide, 1997- 2007

#### *HIV/AIDS*

Only two cases of HIV/AIDS were reported during 2007, one from Lebanon and the other from Jordan. The cumulative number of laboratory confirmed cases of HIV/AIDS among refugees reported up to 2007 was 145 cases, of which 26 were from Jordan, 24 from Lebanon and 14 from Syria. Gaza and the West-Bank Fields reported 20 and 61 cases respectively, among both refugees and non-refugees. However, there is reason to believe that the actual prevalence of HIV/AIDS is higher than reported due to weak surveillance and the fact that most AIDS cases are diagnosed outside UNRWA clinics.

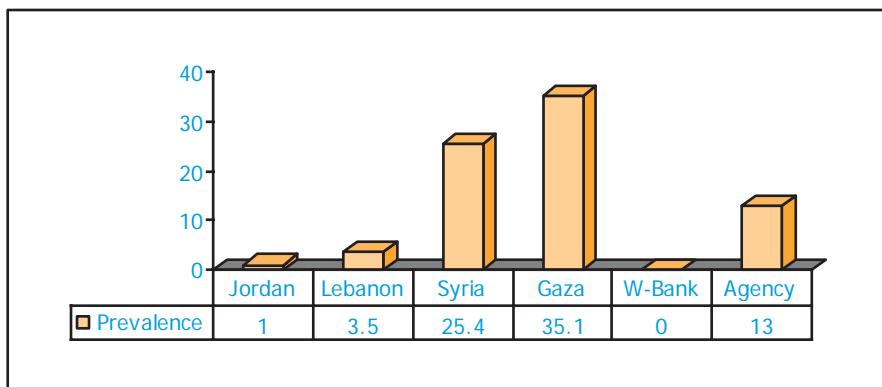
#### *Brucellosis*

The incidence of brucellosis was 11.8 per 100,000 in 2006 and decreased to 10.3 in 2007. The highest incidence rate of 89.3 was from Syria, which could be explained by the wide reporting range and detection techniques used by the Syria Field. The incidence rate in the West Bank was 1.8, in Lebanon 1.3, in Jordan 1.1, and in Gaza 0.4 per 100,000 population.

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### *Typhoid fevers*

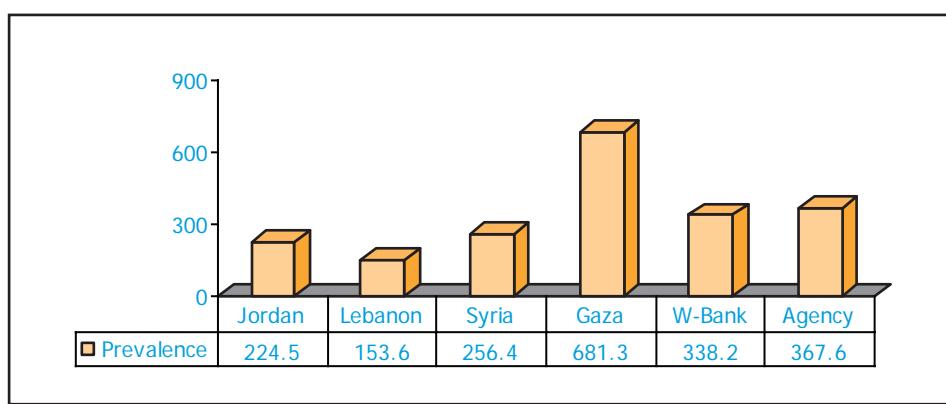
The incidence of typhoid fevers Agency-wide increased from 4.3 per 100 000 population in 2006 to 13.0 in 2007. However, this increase may be explained by the deterioration of sanitary and hygiene conditions, especially in Gaza with the highest incidence at 35.1 per 100 000 population. It may also be attributed to improved surveillance of the disease, training of health staff and the expansion of UNRWA's laboratory services which has assisted in the swift identification of pathogens.



*Figure 2, Incidence rate of reported Typhoid (per 100,000) by Field, 2007*

### *Bloody diarrhoea*

The incidence of bloody diarrhoea Agency-wide is 367.6 per 100,000 population, with significant variations between the Fields. Figure 3 shows the incidence rate of bloody diarrhoea per 100,000 population by Field during 2007.



*Figure 3, Incidence rate of reported bloody diarrhoea (per 100,000) by Field in 2007*

The highest incidence rate was reported from Gaza Field with 681.3 per 100,000 population followed by the West Bank and Syria with 338.2 and 256.4 respectively. The lowest rates were seen in Jordan and Lebanon with 224.5 and 153.6 respectively.

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### *Other communicable diseases*

Table 3 shows the incidence rate of reported communicable diseases from all Fields. No cases of poliomyelitis, cholera, diphtheria, tetanus neonatorum, or pertussis were reported.

*Table 3, Incidence rates of reported cases of communicable diseases per 100,000 served population during 2007*

Disease	Jordan	Lebanon	Syria	Gaza	West Bank	All
Served population	1,142,094	231046	319,064	838,500	499,670	3030374
Acute flaccid paralysis*	0.0	0.0	0.0	0.0	0.0	0.000
Poliomyelitis	0.0	0.0	0.0	0.0	0.0	0.0
Cholera	0.0	0.0	0.0	0.0	0.0	0.0
Diphtheria	0.0	0.0	0.0	0.0	0.0	0.0
Meningococcal meningitis	0.0	0.0	0.0	0.1	0.2	0.07
Meningitis – bacterial	0.3	0.4	1.6	1.1	5.2	1.5
Meningitis – viral	1.7	0.0	0.6	3.1	16.2	4.2
Tetanus neonatorum	0.0	0.0	0.0	0.0	0.0	0.0
Brucellosis	1.1	1.3	89.3	0.4	1.8	10.3
Watery diarrhoea (children 0-3)	18 765	40 875	23 832	18 384	33 759	22 917
Watery diarrhoea above 3 years	521	1841	1132	1070	1329	971
Bloody diarrhoea	224.5	153.6	256.4	681.3	338.2	367.6
Viral hepatitis	17.4	80.5	107.8	59.4	17.6	43.4
HIV/AIDS	0.1	0.4	0.0	0.0	0.0	0.1
Leishmania	0.2	0.0	70.8	0.0	0.2	7.6
Measles**	1.5	1.3	2.5	0.6	2.0	1.4
Gonorrhoea	0.4	0.0	2.8	0.0	0.0	0.43
Mumps	7.2	57.6	12.2	4.8	14.0	12.0
Rubella**	2.3	0.0	2.8	0.0	4.8	1.9
Tuberculosis, smear positive	0.4	1.7	1.6	0.5	0.6	0.7
Tuberculosis, smear negative	0.0	1.3	0.6	0.1	0.0	0.2
Tuberculosis, extra pulmonary	0.3	2.2	8.1	0.6	0.0	1.3
Typhoid fevers**	1.0	3.5	25.4	35.1	0.0	13.0

\* Among children <15 years

\*\* Include suspected and confirmed cases

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### **4.4 Control of non-communicable diseases**

#### **4.4.1 Diabetes and hypertension**

##### *Diabetes and hypertension strategy*

Due to limited financial and human resources, the UNRWA Health Programme uses the 'risk scoring' approach to deal with hypertension and diabetes mellitus. The intervention strategy consists of three elements: the first is community health education (primary prevention) to promote the importance of a healthy lifestyle including weight control and adherence to a healthy balanced diet, regular physical exercise, and cessation of smoking. The second element (secondary prevention) is early detection of diabetes and hypertension by screening individuals at risk of developing one or both of these conditions. These individuals include:

- overweight (BMI > 25) or obese (BMI > 30) people,
- those with a family history of diabetes, hypertension, cerebrovascular or cardiovascular disease,
- all pregnant women and women with an obstetric history associated with preeclampsia/eclampsia, miscarriages or stillbirth,
- women with either a past history of gestational diabetes or hypertension or delivery of big babies, and
- people over the age of 40.

The third element (tertiary prevention) concentrates on effective case-management of patients suffering from diabetes mellitus and hypertension to achieve acceptable blood pressure, glycaemia and lipids control, and to educate patients on all aspects of self-care, with a focus on monitoring and management in accordance with the UNRWA technical guidelines and standard management protocols.

All people with diabetes and/or hypertension are advised to register with the non-communicable disease clinic, and a special patient registration file (PRF) is opened, where assessment of their health status is completed during the first visit. For practical reasons, the PRFs are kept in three separate groups: PRFs for patients with diabetes mellitus only (type 1 & type 2), PRFs for patients with hypertension only, and PRFs for patients with both diabetes mellitus and hypertension.

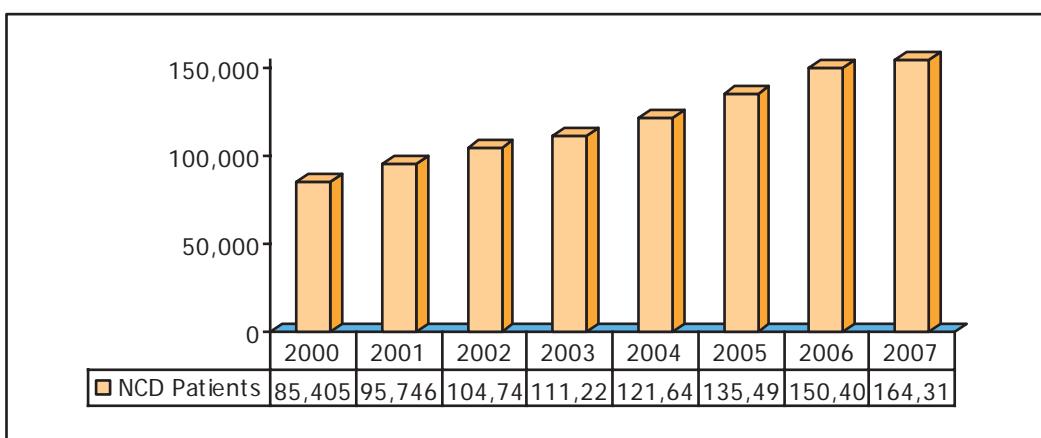
The patients are stratified according to their control status which is determined by their frequency of medical consultations. Through appointed visits, the patients are subjected to clinical and laboratory investigations including blood cholesterol (triglycerides, LDL and HDL on needs), blood glucose, and creatinine to evaluate their health status.

For practical reasons, post-prandial plasma glucose (PPG) tests (2-hr PPGs), and blood pressure measurements were used to monitor the control status of patients with diabetes and hypertension. In the case of diabetes, if two of the last three PPGs are < 180mg/dl (10mmol/l), or in some conditions if two of the last three fasting plasma glucose tests are (FPG) < 140 mg/dl (7mmol/l), then the patient is considered to have controlled blood glucose. For hypertension, control status is designated if systolic blood pressure of < 140 mmHg and diastolic blood pressure of <90mmHg is the measurement taken at the last visit and one of two measurements taken during the preceding visits.

##### *Patients under care*

By the end of 2007, 164,312 patients were registered under care at the non-communicable disease clinics with diabetes and/or hypertension and were distributed as follows: 52,447 (31.9%) in Jordan, 44,675 (27.2%) in Gaza, 26,111 (15.9%) in West Bank, 21,526 (13.1%) in Syria and 19,553 (11.9%) in Lebanon.

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*Figure 4, Number of patients with diabetes and/or hypertension under care at Non-communicable disease clinics in the five Fields from 2000-2007*

In 2007, the number of patients with hypertension diseases without diabetes was 76,420 which represents approximately 46.5% out of the total number of registered patients under care in the five Fields. Table 4 shows the distribution of patients under care by the end of 2007 by Field and type of disease.

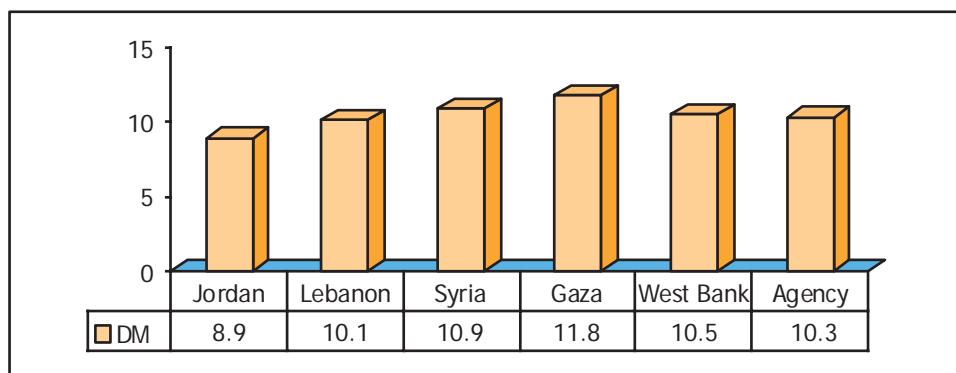
*Table 4, Patients with diabetes and/or hypertension by Field and type of morbidity*

Morbidity type	Jordan	Lebanon	Syria	Gaza	West Bank	All
Diabetes mellitus type I	1 070	179	369	819	525	2 962
Diabetes mellitus type II	8 183	2 046	3 380	9 645	5 045	28 299
Hypertension	22 602	10 888	10 712	21 374	10 844	76 420
Diabetes mellitus & hypertension	20 592	6 440	7 065	12 837	9 697	56 631
Total	52 447	19 553	21 526	44 675	26 111	164 312

### 4.4.2 Prevalence of diabetes mellitus

The prevalence of diabetes mellitus and hypertension among the served population at 40 years of age and over was 10.3% and 15.8% respectively, higher in both instances than in 2006. This may be explained by a better understanding of the served population and improved detection rates due to the screening programme. Figure 5 shows the prevalence of diabetes mellitus among the served population at 40 years of age and over.

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*Figure 5, Prevalence rates of diabetes among served population at ≥ 40 year of age by Field in 2007*

### *Percentage of patients with diabetes on insulin*

Table 5 shows by Field the number and percentage of patients with diabetes including type 1 diabetic patients who use insulin as part of their management.

*Table 5, Frequency of diabetic patients on insulin by Field for 2007*

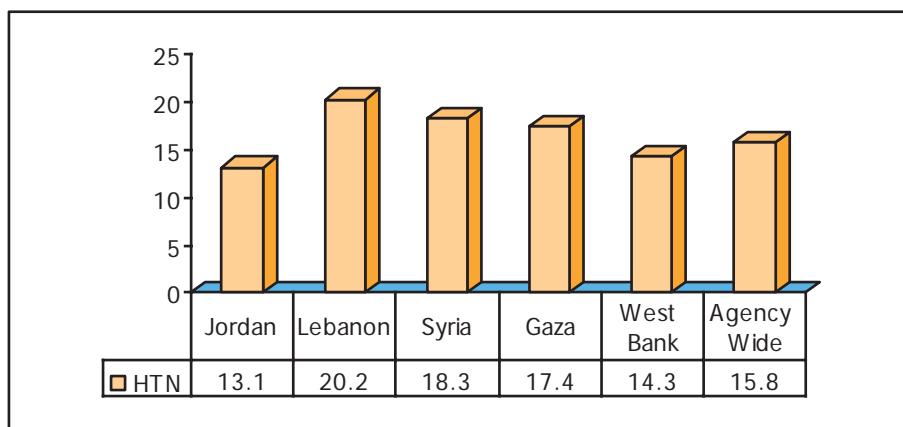
Field	2007	
	Number	%
Jordan	10 418	34.5
Lebanon	2 297	25.9
Syria	2 579	25.9
Gaza	7 384	31.7
West-Bank	4 875	31.9
<b>Total</b>	<b>27 553</b>	<b>31.6</b>

The variations between Fields in relation to insulin use are as follows: Jordan has the highest percentage with 34.5% of diabetic patients treated with insulin, followed by the West Bank with 31.9%, Gaza with 31.7%, and Syria and Lebanon both with 25.9%.

### *4.4.3 Prevalence of hypertension*

Figure 6 shows that the prevalence of hypertension disease among the served population at 40 years of age and over was 15.8% Agency-wide, with the highest rate in Lebanon at 20.2% and the lowest in Jordan at 13.1%.

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*Figure 6, Prevalence rates of hypertension disease among served population at ≥ 40 year of age by Field in 2007*

It is important to note that the rates refer to prevalence among refugees attending UNRWA clinics and not the general refugee population. Studies in host countries revealed much higher rates, indicating a low detection rate among refugees.

#### *Age and sex distribution of patients under supervision at non-communicable disease clinics*

Table 6 provides data on the distribution of patients with diabetes and/or hypertension by age group and sex who were under supervision at UNRWA clinics at the end 2007. Approximately 91% of patients were above 40 years of age and 63% were female. Distribution by sex is largely affected by attendance patterns at UNRWA health facilities and not by significant variations in morbidity profiles.

*Table 6, Distribution of patients with diabetes & hypertension by age & sex in 2007*

Type of disease	Diabetes mellitus Type I	Diabetes mellitus Type II	Diabetes & hypertension	Hypertension	All patients
No. of patients at end of 2007	2 962	28 299	56 631	76 420	164 312
<b>Age distribution (percentage)</b>					
Below 20 years	28.0	0.0	0.0	0.2	1.0
20–39 years	57.0	10.0	3.0	9.0	8.0
40–59 years	14.0	62.0	42.0	45.8	47.0
60 years & above	1.0	28.0	55.0	45.0	44.0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
<b>Sex distribution (percentage)</b>					
Male	51.0	42.0	36.0	35.0	37.0
Female	49.0	58.0	64.0	65.0	63.0
<b>Total</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

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### *Types of management of patients with hypertension*

There are significant variations between the Fields in relation to the type of management of patients with hypertension. Table 7 reflects percentages of patients with hypertension on lifestyle (non-pharmacological) management for 2006 and 2007. It is worth noting that this table includes all patients suffering from hypertension regardless of whether that is with or without associated diabetes. During 2007, compared to 2006, there is a drop in the percentage of patients suffering from hypertension in all Fields except for Gaza.

*Table 7, Percentage of hypertensive patients on non-pharmacological management (lifestyle only) by Field, 2006 and 2007*

Field	% of Lifestyle management only	
	2006	2007
Jordan	6.5	1.0
Lebanon	20.1	5.0
Syria	5.4	2.0
Gaza	7.5	8.0
West Bank	8.7	5.0
<b>Total</b>	<b>8.8</b>	<b>4.0</b>

### *Risk Scoring*

A risk assessment tool, modified from the WHO-CVD Risk Management Package, was used for risk scoring patients under care in the non-communicable disease clinics during the last quarter of 2007. The objective was to stratify all patients under care for non-communicable diseases, and to assess whether or not to introduce secondary prevention measures, involving lifestyle changes and management of cardiovascular risk factors (including taking prophylactic drugs), while taking into account the available funds and resources.

A newly introduced risk-scoring sheet was added to the patients' files and it was completed during the follow up consultations. Factors that are considered risks are a family history of cardiovascular diseases, age, control status for blood pressures and/or blood glucose, physical inactivity, obesity, lipids disorders and smoking.

By November 2007, a sample size of 10% of the total registered patients with diabetes and/or hypertension under care in the non-communicable disease clinics were assessed for risk of developing further complications. Table 8 shows the result of the study and how higher risk is associated mostly with the combination of diabetes and hypertension.

*Table 8, Percentages of risk status by type of disease*

Type of disease	Diabetes mellitus Type I	Diabetes mellitus Type II	Hypertension	Diabetes & hypertension
Low risk	66.6	30.6	24.1	21.9
Moderate risk	30.3	55.1	55.4	55.0
High risk	3.1	14.3	20.5	23.1

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### 4.4.4 Prevalence of risk factors

An observational and analytical cross sectional study was conducted by UNRWA's Health Department in the five Fields during the fourth quarter of 2007. The main objective of the study was to calculate the rates of risk factors associated with cardiovascular diseases (CVD) among patients with diabetes and/or hypertension under care in the non-communicable disease clinics by Field and type of disease. A representative sample of 9608 patients under UNRWA care during 2007, was selected from across all non-communicable disease clinics. This method of selection was used to ensure each disease was represented in the sample, and that there was adequate representation from each Field. The findings of the study are described below.

#### *Prevalence of modifiable risk factors*

In 2007, there was an improvement in the prevalence of uncontrolled status for blood pressure and glycaemia, which suggests a positive trend that began in 2005 as shown in Table 9. Hypercholesterolemia shows a mild improvement; while other risk factors such as obesity and physical inactivity were still highly prevalent suggesting more investment by health services in prevention education is needed to help patients understand the importance of modifying their lifestyles. Smoking decreased, but that may not reflect the actual situation as many patients may hide this information from Health staff.

*Table 9, Rates of the different modifiable risk factors among patients registered under care from 2005 to 2007*

<b>Risk factors</b>	<b>Risk criteria</b>	<b>Rate in %</b>		
		<b>2005</b>	<b>2006</b>	<b>2007</b>
Obesity	Body mass index $\geq$ 30	59.8	61.5	62.1
Hypercholesterolemia	Cholesterol value of $>$ 200 mg/dl	44.4	37.8	32.8
Uncontrolled blood pressure	BP $>$ 140/90 in the last 2 values of measurement	34.8	30.7	24.5
Uncontrolled glycaemia	PPG $>$ 180/dl in two of the last 3 values	65.7	46.7	49.1
Physical inactivity	$<$ 30 minutes/day, 3 times per week	39.7	46.8	45.8
Smoking	Any type of tobacco use	15.7	16.3	13.9

Most of the non-communicable disease patients are classified as 'high-risk' according to the data outlined in Table 10.

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*Table 10, Stratification of patients by risk status and diseases*

Disease	Low risk %	Moderate risk %	High risk %
Diabetes	12.0	21	67
Hypertension	15.7	27.5	56.8
All patients under care	13.6	23.9	62.5

### 4.4.5 Late complications among non-communicable disease patients

Table 11 shows the percentages of reported late complications observed in UNRWA patients with diabetes and/or hypertension such as myocardial infarction, stroke and congestive heart failure, end stage renal failure (ESRF), amputation and blindness. As can be seen in Table 11 there are some variations between the Fields, which was likely to be related to under recording and reporting of complications on the PRFs, while variations by type of disease do not deviate from expected trends.

*Table 11, Percentage of late complications by Field and type of diseases in 2007*

Field	Type of Disease			Total%
	Diabetes	Diabetes & Hypertension	Hypertension	
Jordan	10.1	16.0	6.8	10.3
Lebanon	10.8	16.0	6.8	10.3
Syria	4.5	17.5	13.0	12.9
Gaza	5.7	18.7	9.3	11.0
West Bank	6.2	15.8	9.2	11.0
All Fields	5.6	16.5	9.3	11.0

### Defaulters

The reported number of defaulters (patients who did not attend a non-communicable disease clinic for a whole calendar year for follow up and/or collection of medicines) amounted to 6928, which represents 4.6% of the total patients under supervision.

*Table 12, Distribution of defaulters by Field in 2007*

Defaulters	Jordan	Lebanon	Syria	Gaza	West Bank	Agency-wide
Number	2766	668	718	1465	1311	6 928
% of NCD patients	5.7	3.6	3.6	3.8	5.5	4.6

Despite Health staff efforts to follow-up on defaulters utilizing all available means including home visits, telephone calls, notification through family members and others, this is still an area that requires further improvement. The highest rate of defaulters (5.7%) was reported from the Jordan Field.

Counselling and education of patients is central to overcoming the problem of non-attendance, yet certain causes of non-attendance may be related to the attitude and practices of some Health staff. Further staff training will be conducted in 2008 to ensure Health staff are equipped with the counselling skills needed to advise and educate UNRWA beneficiaries.

## Chapter 4

### *Mortality*

A total of 2954 deaths, which accounted for 1.8% of all non-communicable disease patients were registered at the beginning of 2007. Approximately 49.5% of them had diabetes with hypertension, 36.3% had hypertension only, and 14.2% had diabetes only.

*Table 13, Mortality rates by Field in 2007*

	Jordan	Lebanon	Syria	Gaza	West Bank	All
Number of deaths	822	387	480	692	573	2954
% of all NCD patients	1.6	2.0	2.3	1.6	2.2	1.8

Table 14 shows variations between the Fields in relation to the reported death rate. The highest death rates were reported from Lebanon and the West Bank (2.0, 2.2% respectively) and the lowest from Jordan with 1.6%.

*Table 14, Disease-specific mortality rates among reported death cases by Field in 2007*

% by disease	Jordan	Lebanon	Syria	Gaza	West Bank	All
Diabetes	1.2	2.5	1.3	1.5	1.7	1.5
Hypertension	1.3	2.4	2.1	1.3	1.5	1.6
Diabetes with hypertension	2.4	3.2	3.4	2.8	3.8	2.9

A breakdown of the mortality data Agency-wide by type of disease revealed that the highest mortality rate was among patients with diabetes associated with hypertension at 2.9% followed for patients with hypertension at 1.6% and the lowest was among patients with diabetes only at 1.5%.

The double burden of diabetes and hypertension in Palestine refugees is increasing, and it will continue to impact detrimentally on the scarce resources of the Health Department. It is therefore essential that these diseases are properly managed ahead of time to avoid meeting the high cost of treating their complications and disabling effects in the longer term.

### **4.5 Other non-communicable diseases**

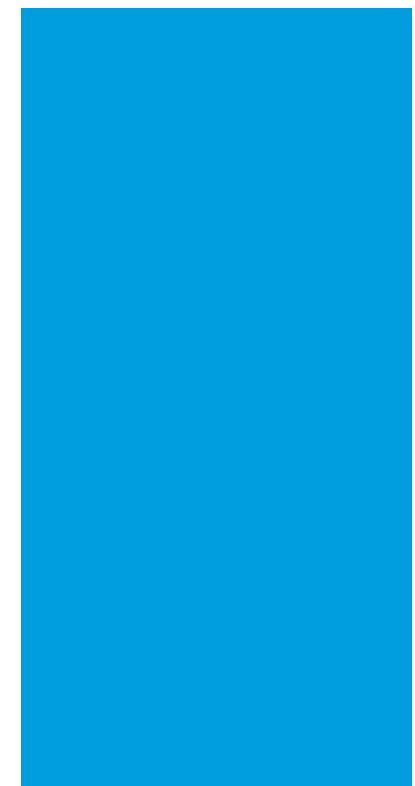
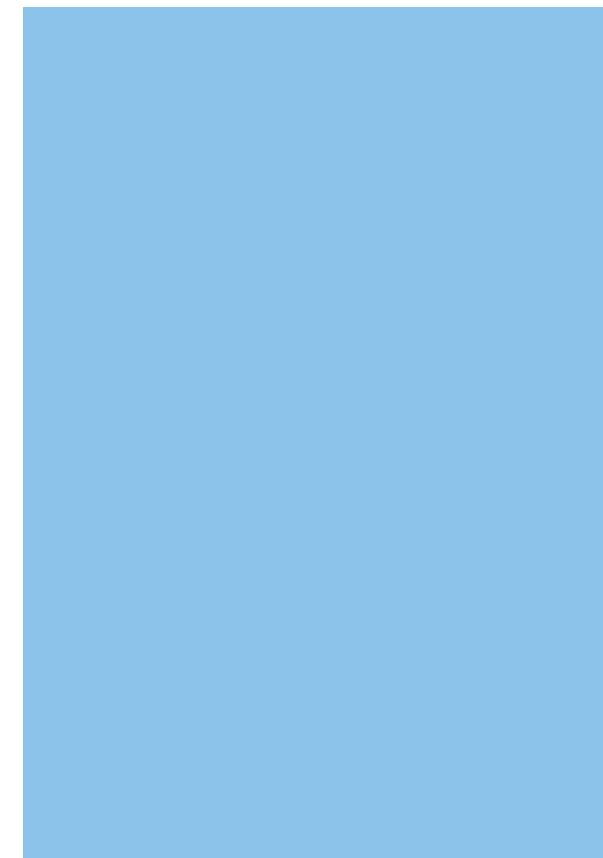
The prevalence of other non-communicable diseases including chest diseases, hereditary anaemia, and cancers appears to be increasing among the refugee population, which is of concern to UNRWA Health staff. However, the UNRWA Health Programme has limited resources, and at this stage it is not possible to allocate funds to ascertain the burden of these diseases in terms of morbidity, disability and mortality, or to introduce appropriate interventions to adequately address them. Nevertheless, the UNRWA Health Programme will continue to informally monitor the prevalence of these diseases in the hope that additional financial resources may be secured to fund medical interventions in this area.

## Chapter 5

The environment is an entry point for health services, particularly in low-income areas where it is often the only point of contact with those services.

### WHO/Medium-term strategic plan, 2008-2013

Maintaining the environmental health of the refugee camps is an important responsibility of the UNRWA Health Programme. Environment Health staff regularly supply water to refugee camps across the five Fields, and water tank maintenance ensures the drinking water in refugee communities is free from infectious agents and toxic chemicals. This preventative management approach ensures the refugees living in camps are safe from infectious diseases that can be spread through contaminated drinking water.



## Chapter 5

### Environmental Health

#### 5.1 *Objective*

To reduce morbidity and risk of outbreaks associated with poor environmental conditions and practices, by maintaining acceptable environmental health standards in refugee camps and contributing to sustainable development in the areas of water, sewerage, and solid waste management.

#### 5.2 *Programme activities*

UNRWA's Environmental Health Programme continued to focus on maintaining acceptable standards of water and sanitation in refugee camps in the five Fields of operations. These services were provided to approximately 1.3 million Palestine refugees residing in 58 official camps. The services were provided either directly by UNRWA, or in close collaboration with local municipalities or through contractual arrangements.

In Jordan and Syria, the Host Authorities have historically played a major role in camp development and integrated camp infrastructure of water, sewerage, and drainage within municipal systems, except in a few situations where camps are located in areas where no such systems exist. Unlike Jordan and Syria, the environmental conditions in Lebanon, Gaza and the West Bank are generally poor and UNRWA had to assume a major role in camp development.

UNRWA's approach to camp development was developed in the late eighties where several development projects were implemented in Gaza and the West Bank in the context of the Expanded Programme of Assistance to the oPts. This approach was further enhanced through the establishment of the Special Environmental Health Programme in Gaza in 1993, which played a key role in carrying out camp-by-camp needs assessments, preparation of detailed feasibility studies, identification of projects, preparation of technical designs for construction of sewerage and drainage systems, and rehabilitation of water networks in refugee camps and nearby municipal areas. The Programme has also assisted in the review of feasibility studies and technical designs for development projects in the refugee camps in Lebanon, Syria, and the West Bank.

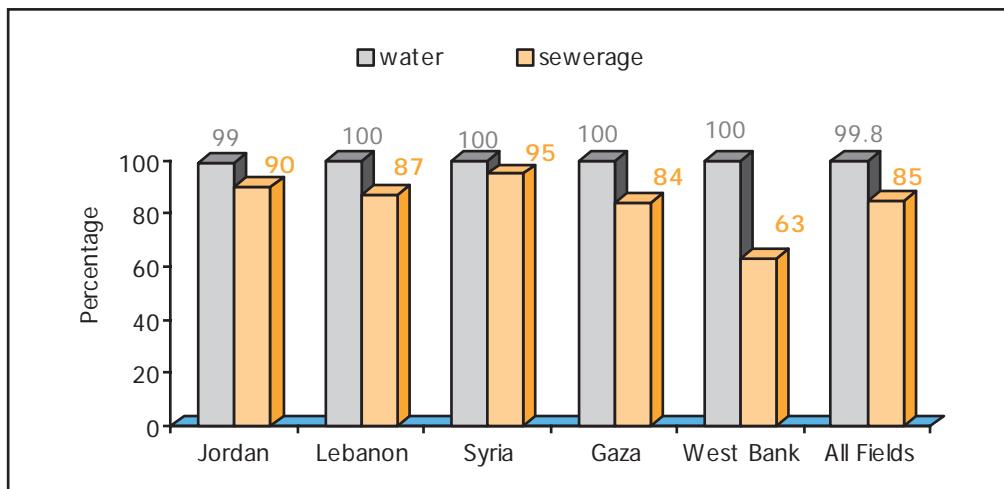
#### 5.3 *Progress in 2007*

In 2007, the Environmental Health Programme successfully maintained the required standard of sanitation and general environmental health in the Palestine refugee camps Agency-wide. This was achieved even during difficult circumstances such as the outbreak of fighting in Lebanon in May, where thousands of refugees were displaced causing massive overcrowding in the Beddawi Camp. UNRWA's Environmental Health staff acted immediately to ensure the demand for water resources and the need for additional waste removal in Beddawi was met. These emergency environmental health activities were successfully undertaken in addition to the regular maintenance activities of the Programme – a testament to the effective and efficient resource management of UNRWA's Environmental Health services.

## Chapter 5

### 5.3.1 Camp populations with access to water and sewerage facilities

In Syria, regular bacteriological and chemical analysis was performed on the drinking water inside the camps and on all UNRWA installations, with regular checks for residential chlorine to control the quality of the tap water. Overall, the quality of water in the Syria Field was high as shown in Figure 1.



*Figure 1, Percentage of camp shelters with access to safe water and indoor sewerage systems connection*

In Jordan, all ten camps are connected to the municipal water network. The water network at two camps, Talbieh and Jarash, is old and in need of rehabilitation. As a result, a water project was started by the Jordanian Government in 2006 with assistance from UNRWA, to rehabilitate the water network at Talbieh Camp. It is expected to be completed in 2008.

Owing to a country-wide general shortage of water in Jordan, most of the UNRWA installations, especially schools, were provided with additional storage facilities (underground water reservoirs and additional roof water tanks) were installed to improve their water storage capacities. Laboratory tests were carried out on a total of 1291 water samples collected from the water supply network serving the ten camps to monitor the bacteriological quality of water. Approximately 99 % was bacteria-free in 2007, with the remaining 1%, becoming bacteria-free following additional treatment (see Figure 1). Due to the consistent monitoring efforts of the Environmental Health Programme, no water-borne disease outbreaks were reported from the Jordan Field in 2007.

In Lebanon, 209 water samples collected from camps and UNRWA installations were tested bacteriologically, and a total of 200 samples returned satisfactory results. The unsatisfactory results were investigated and corrective measures such as chemical treatment were implemented which resolved the problem. A total of 2031 water samples were tested for residual chlorine in the water distribution networks, and almost all gave satisfactory results.

In 2007, Environmental Health staff also responded to a well failure in Wavel Camp in Lebanon by tankering 80 cubic meters of water daily into the camp to ensure the residents had sufficient drinking water. Of note is that in spite of the optimal rate of indoor connections to water networks, pumping of water into these networks is intermittent and the quantity of water is inadequate. In addition, the quality of water in Gaza for example, does not meet international standards for drinking purposes because of its high salinity levels.

In 2007, the Environmental Health Programme maintained the condition of all camp sewer systems by conducting regular inspections and clearing sewer manholes.

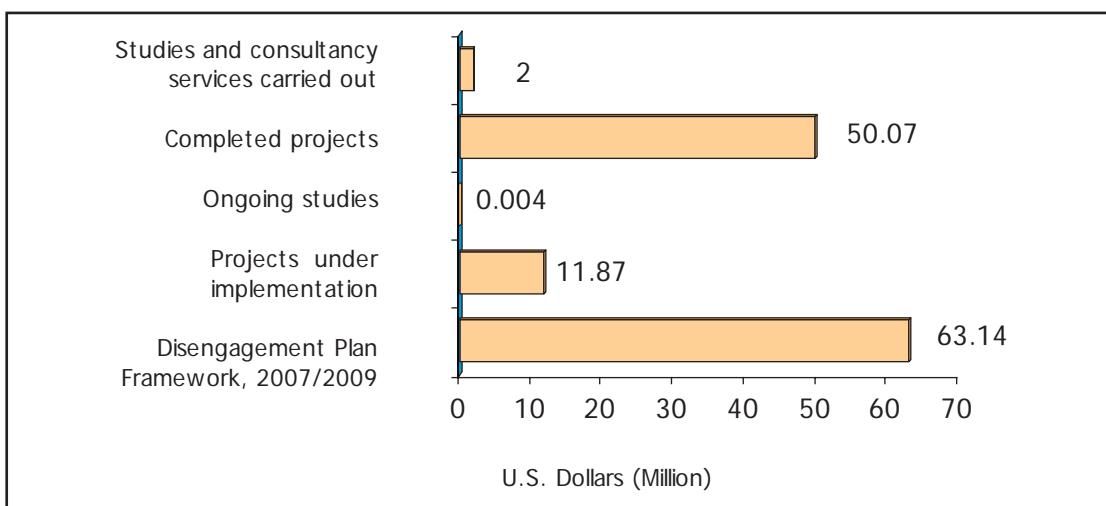
## Chapter 5

### 5.3.2 Development projects in Gaza Strip

The following projects were completed during 2007 in Gaza Strip under the Special Environmental Health Programme:

- The main road at Maghazi was completed in November 2007;
- Construction of Nuseirat Sewage Pumping Station, stage A was completed;
- Construction of a water well in Khan Younis was completed;
- The damaged roads at Tal El-Sultan Area, Rafah were repaired;
- The damaged infrastructure at Khan Younis was repaired; and
- The road side pavements and alleys at Jabalia Camp, phase VII was completed.

The total investment in development projects since the establishment of the Special Environmental Health Programme in 1993, is outlined in Figure 2:



*Figure 2, Special Environmental Health Programme (Gaza) - Cost of Projects, Studies and Consultancy Services*

### 5.3.3 Development projects in Jordan

An improvement project valued at USD \$35,000 for the construction and maintenance of concrete drains and pathways in Jarash Camp was completed in February 2007 in partnership with the Department of Palestinian Affairs (DPA). A similar project in Jarash Camp amounting to USD \$52,000 started in December 2007 and will be completed in 2008.

### 5.3.4 Development projects in Lebanon

The El-Buss Camp Infrastructure Project, which is focused on the construction of water supply, sewerage and storm water drainage, began in March 2006. However due to construction delays, the donor granted UNRWA an extension until December 2007 for project delivery. Works were completed, and the newly constructed water supply network is ready to be used once the water supply in the new municipal system (which the camp is connected to) is functioning.

## Chapter 5

The procurement and installation of four electric generators to run camp water plants in Ein el Helweh, Rashidieh and Burj el Shemali camps was a priority in 2007 for the Environmental Health Programme. The four generators were successfully procured and sent to the camps as planned. The two generators assigned to Ein el Helweh Camp were handed to the local committees' in charge of running the water wells, and the remaining two generators assigned to Burj el Shemali and Rashidieh camps have been installed. The construction of rooms to house these generators is now underway by UNRWA's Engineering group.

The Shatila Camp Infrastructure Project is funded by the US Government and its primary aim is the construction of a completely new water supply and waste water system for the Shatila Camp. Solid progress has been made by the Environmental Health Programme, with the preparation of the topographical surveys, the soils tests and the hydrogeological study.

In 2007, new water wells in Mia Mia and Wavel Camps were made possible by a donation from the Italian Government. The preliminary design for the Wavel well has been prepared and tender documents for the establishment of the new water wells in both camps have been issued. Also, under the Mechanization Project being undertaken in Lebanon Field, a total of nine dumpers were ordered and they are expected to be delivered by March 2008.

### 5.3.5 *Development projects in Syria*

The partnership and financing agreement between the European Union (EU) and the Syrian Government was signed in 2007. According to this agreement, the EU will contribute 8.0 € million for environmental projects in Syria. This development will enable UNRWA to go ahead with the implementation of water and sewerage system construction projects in Khan Eshieh Camp and the construction of sewerage systems in the Khan Dannoun Camp, which is an integral part of the agreement for development of rural areas in Syria. The objectives of the project include:

- Improved public health and environmental conditions;
- Provision of sustainable and safe water supply systems;
- Provision of wastewater collection systems;
- Utilization of treated wastewater for irrigation of crops;
- Reduction of the risk of contamination of ground water resources; and
- Capacity building for local community groups and institutions.

The inception report and the feasibility study were completed in 2004. The tender for the construction of the project was submitted in 2007, and construction works are expected to start in June 2008.

### 5.3.6 *Vector Control*

In 2007, UNRWA regularly carried out insect control programmes to control houseflies at refuse collection points in the camps. In the Jordan Field, 854 shelters were treated for cockroaches, 130 shelters were treated for bedbugs, and 1710 shelters and surrounding areas were subject to rodent control. Periodical spraying campaigns were also conducted in all official camps in Syria throughout 2007.

## Chapter 5



The removal of waste is one of the most time consuming tasks undertaken by the Environmental Health division; however, waste removal is also viewed as one of the most important tasks. Sound sanitation practices create a hygienic environment in the refugee camps and lessen the possibility of refugees being exposed to infectious diseases that spread quickly in unsanitary conditions.



### 5.3.7 Solid waste management

Solid waste management is one of the main activities undertaken by the Environmental Health Programme, and it is the most resource consuming component in terms of finances and staff. The solid waste programme aims to enhance the mechanization process for collection and disposal of wastes through the procurement of equipment that offsets the increase in solid waste due to population growth. The following is a summary of what has been achieved in 2007 in the various fields.

In the Lebanon field, the trend for charging fees for the collection and disposal of refuse was resolved for three camps in the Tyre area through a temporary agreement for 2007 with the municipality and the proprietor of the disposal site. New arrangements are being discussed with the municipality in light of the construction of a waste disposal compound. However, this new sanitary disposal plant will charge UNRWA fees based on the actual amount of refuse disposed of, and it is estimated that these fees may be considerable.

In the West Bank, most of the work load of the 200 staff is directed towards the collection and transportation of solid waste, and ten trucks are available for this task across all Fields, although three of them are old and need to be replaced. In 2007, almost 65,000 tons of domestic and commercial waste was removed and disposed of in the municipal dump sites.

In Jordan, the collection of solid waste from shelters, markets, roads and alleys was carried out by sanitation laborers utilizing manual transport, and this was taken to designated collection sites within the camps.

## Chapter 5

Removal of solid waste from the point of collection to the point of final disposal at municipal dumping sites was carried out by private contractors for six camps, Baqa'a, Marka, Irbid, Husn, Suf and Jarash, by municipalities for Zarqa, Jabal Hussein and Amman's new camp, and by UNRWA for Talbieh Camp. Also, two large refuse compactors were purchased (thanks to a donation from the European Commission), to self-run a refuse removal scheme in four camps, namely Jarash, Suf, Husn and Irbid, which will be effective from 1 January 2008.

Due to the generous support of the Syria Health program and PLO Syria, 33 garbage containers were purchased to assist in waste collection in the Syria Field. This is a major advantage as previously two old compactors were serving five camps, without an alternative if the compactors were out of service.

Overall, 2007 saw a number of achievements in the waste management area for the Environmental Health Programme, and these achievements go towards fulfilling the greater objectives outlined in UNRWA's Medium Term Plan (2005-2009), in particular achieving cost-efficiency gains by reducing the labour-intensive costs of sanitation and improving the general cleanliness of all camps.

### **5.4 Other Environmental Health activities in 2007**

The Field Sanitary Engineers (FSEs) met in Amman, Jordan, over three days to analyze the Environmental Health component of the UNRWA Health Programme. This included a review of all programme steering documents, major achievements and constraints. As part of the future planning process the following recommendations were made:

- Review of the entire Environmental Health Programme to ensure an increased focus on environmental health and less of a focus on infrastructure building and maintenance. Implementation of this recommendation would require revision of the organizational structure, staffing, and job descriptions.
- While the review and feasibility are completed immediate and intermediate actions should be undertaken: FSE should have more focused training on public health and disease control; better collaboration with UNRWA's Infrastructure Department should be initiated while arrangements are finalized.
- Human resources measures to upgrade staff and consolidate posts should be undertaken along with the new Human Resource Policy (HRP) of the Agency.
- The Environmental Health Programme will involve the FSEs in designing and planning the sanitation projects to ensure community awareness and sustainability of the projects. FSEs should be involved in project management from the beginning.
- To hold the FSEs meeting on an annual basis.
- To enhance the technical capabilities of the FSE's and the Environmental Health staff by undertaking specialized technical training in collaboration with CEHA, in areas related to information management, GIS, contingency planning and emergency response.
- Adoption of water safety plans and health based targets for the delivery of safe drinking water in camps and UNRWA installations as outlined by the latest WHO drinking water guidelines.
- To increase awareness of the technical instructions for Environmental Health Service Management in camps and UNRWA installations.
- To develop the collaboration between CEHA and UNRWA's Health Department.

## Chapter 5

The Environmental Health Programme launched awareness campaigns on environmental health issues aimed at raising public awareness in camps and improving understanding of environmental issues such as proper handling of domestic waste, and rationalization of water consumption.

In terms of training, two in-service training seminars of two-days each were conducted in June and November 2007 in Jordan to train 24 camp Sanitation Foremen on the subjects of water quality control and management of sanitation work.

In the West Bank, the Environmental Health Programme has established productive partnerships with a number of local and international partners, and organizations such as the UNESCO Institute for Water Education in the Netherlands, and the French Municipality of Besancon and Hydraulics without Borders. The Programme is a member of the Emergency Water and Sanitation Hygiene (EWASH) group, comprising local and international organizations working in the oPts. There is also good cooperation between the Environmental Health Programme and a number of municipalities such as Ramallah, Hebron, Jericho, Nablus and Jenin. Other UNRWA Health partners include the Ministry of Health, the Environmental Quality Authority, the Ministry of Local Authority, the Palestinian Water Authority, the West Bank Water Department, and Birzeit University. A new international NGO that the Environmental Health Programme has been liaising with is the Polish Humanitarian Organization (PHO). In 2007, the PHO began water and sanitation projects in Askar and Jenin camps at a budget of over USD \$800,000 in close coordination with the Environmental Health Programme.

Overall, the Environmental Health Programme has maintained environmental health standards across the five Fields in 2007 with a 100 percent success rate in relation to safe water in Lebanon, Syria, Gaza and the West Bank. The Programme has also increased the number of camps connected to sewerage networks as outlined in Table 1.

*Table 1, Environmental Health Services data for 2007*

	Jordan	Lebanon	Syria	Gaza	West Bank	All
<b>Water supply</b>						
Percentage of shelters with access to safe water	99	100	100	100	100	99.8
<b>Sewerage and drainage</b>						
No. of camps partially or fully connected to sewerage networks	8	10	8	7	17	50
Percentage of shelters connected to sewerage networks	90	87	95	84	63	85
<b>Solid waste management</b>						
No. of camps partially or fully served by UNRWA mechanized systems	1	12	7	8	16	44
No. of camps served by Municipalities	3	5	2	0	19	29
No. of camps served through contractual arrangements	6	0	0	0	2	8

**Notes:**

*In relation to these services, it is not uncommon for camp populations to be served by more than one source/system. All camp shelters Agency-wide are served by private latrines connected to local cesspits or proper sewerage schemes.*

## Chapter 6

Whilst some humanitarian needs such as food and water can be anticipated with a certain degree of confidence...health care needs are not as simple to predict or deal with. These health care needs, particularly related to emergency referral care, are at risk of not being addressed if access to adequate health facilities is not guaranteed.

WHO, 'Disengagement – Health care during withdrawal operations in Gaza', June 2005

A young Palestine refugee from Nahr al-Bared fills up water in the Beddawi refugee camp in August 2007. He is one of the 30,000 refugees that were displaced following the outbreak of fighting between government forces and the Sunni Islamist group, Fatah al Islam. The UNRWA Health Programme was responsible for coordinating much of the medical emergency effort through a 'Health Cluster' established in the first few days of the crisis.

(Photo by Razan Ghazzawi)



## Chapter 6

### **Emergency Humanitarian Assistance in Lebanon and the occupied Palestinian territories**

The year 2007 brought yet another major conflict in Lebanon while the humanitarian and health conditions of the oPt population continued to deteriorate, pressing UNRWA for further action in response.

#### **6.1 Emergency in Lebanon**

On 20 May 2007 fierce clashes between the radical group Fatah al Islam (FAI) and the Lebanese Army (LA) erupted in Tripoli (northern Lebanon) and quickly spread to nearby Nahr el-Bared Camp. Due to the fighting, the vast majority of Palestine refugees living at Nahr el-Bared Camp fled their homes, most taking refuge in Beddawi Camp along with other Palestinian camps in Lebanon. The fighting in Nahr el-Bared Camp represented the worst internal clashes in Lebanon since the civil war of 1972, and caused the displacement of more than 30,000 Palestine refugees.

#### **6.2 Humanitarian Consequences**

The Nahr el-Bared Camp facilities and infrastructure were badly damaged by the fighting and shelling in May 2007. Ninety percent of the camp infrastructure was destroyed, and water and waste systems in the camp and the adjacent areas were seriously affected. The displacement of so many refugees from Nahr el-Bared Camp, led to the population of Beddawi Camp increasing from 16,000 to more than 30,000 residents, seriously stretching the already congested living conditions and overburdening the existing infrastructures. Water services in Beddawi Camp had to be strengthened by UNRWA Environmental Health teams in order to meet the needs of the displaced, and to avoid water shortages.

Some 2,200 refugee families found shelter in eight UNRWA schools in the Beddawi area, along with some government schools in the village of Beddawi. The situation in Beddawi Camp was tense during the crisis with several UNRWA health clinic staff threatened by distraught refugees. Tensions were also high in the Lebanese community, especially amongst those living next to Nahr el-Bared Camp.

Around 175 civilians were injured during the crisis, with 15 sustaining serious injuries. Twenty-eight percent (approximately 47 people) had multiple injuries, with many others sustaining moderate to mild injuries. Injury to the limbs accounted for 55% of the cases and head and neck injuries amounted to 15%. Ten cases (5.7%) were due to bullet injuries, and two deaths were reported during a demonstration in August 2007. Sadly, one-third of the injuries were sustained by children below the age of 15.

According to the last update on the number of displaced families conducted during the Saudi cash distribution (a programme implemented following a donation by the Saudi Government for the displaced refugees), the total number of families displaced from Nahr el-Bared Camp was 5449. The following table shows the location of displaced families towards the end of the crisis.

## Chapter 6

*Table 1, Distribution of displaced families according to type of shelter*

Location of displacement	With Host Families	Rent	Clubs, Mosques, Private inst.	UNRWA schools	Govt schools	Unspecified	Total
Beddawi Camp	1,334	535	145	343	0	0	2,357
Beddawi (outside camp) and Tripoli area	998	646	58	0	202	0	1,904
Other areas in Lebanon	466	95	11	22	0	594	1,188
<b>Total</b>	<b>2,798</b>	<b>1,276</b>	<b>214</b>	<b>365</b>	<b>202</b>	<b>594</b>	<b>5,449</b>

### **6.3 UNRWA's Humanitarian Response**

UNRWA announced a Flash Appeal in June 2007, seeking funds to assist in the delivery of emergency relief. The Flash Appeal outlined an assessment of the cost of delivering assistance to the displaced over a three month period (from June to August 2007), and included plans for immediate food and non-food assistance, as well as safeguarding minimum living standards for the displaced, including minimum health conditions.

When the fighting ceased in and around Nahr el-Bared Camp in September 2007, UNRWA launched an Emergency Appeal seeking additional financial support to fund the safe return of the displaced refugees to Nahr el-Bared Camp, and by the end of September the refugees had begun to return to their homes.

#### *6.3.1 Health Cluster approach*

In response to the crisis, UNRWA participated in a health cluster which was adopted in the first few days of the emergency. UNRWA hosted regular meetings which included all partners operating in North Lebanon such as other UN organizations, and national and international NGOs. The cluster met weekly at the UNRWA Lebanon Field Office and its primary focus was to ensure a coordinated response to the emergency.

UNRWA Health staff from the Lebanon Field were primary liaison points between refugee community representatives and the cluster, and would regularly brief all parties on the emergency situation. Meetings were also held with the Health Care Society to ensure medicines were being issued correctly (to avoid duplication or abuse), and with PLO representatives in North Lebanon to discuss the overall health needs of the Palestine refugees in North Lebanon.

During the crisis UNRWA also assigned a full-time medical officer to supervise and follow-up on the health services in the area. The officer liaised with the local authorities, NGOs and other UNRWA staff, and led a sub-cluster of the health cluster in the Nahr el-Bared area.

## Chapter 6

### *6.3.2 Medical Care Services*

Five medical officers, three assistant pharmacists, two doorkeepers, two clerks and two cleaners and other support health workers were hired to assist in managing patients at the Beddawi Health Centre. Extra medical supplies were sent to the clinic at the onset of the crisis, and a mobile team visited displaced families at displacement centres outside Beddawi Camp. The team provided medical care services and vaccinated children. A total of 3931 children received the OPV vaccine and 11,091 received the measles vaccine during the poliomyelitis and measles vaccination campaign conducted in North Lebanon in June 2007.

An UNRWA medical team comprising a medical officer and a nurse visited UNRWA schools daily to check on the health situation and counsel the families on public and personal hygiene. Local committees were formed in the displacement areas, to look after the cleanliness of the school compounds, toilet blocks and other environmental health requirements.

The UNRWA Field Disease Control Officer visited Beddawi Camp regularly to monitor the occurrence of common communicable diseases, and whether there had been any notable increase given the circumstances. Fortunately, the incidence of common communicable diseases did not increase, which is an outstanding achievement by the health care services involved given the emergency situation and the severe overcrowding in the camps. UNRWA also provided the displacement centres with first aid emergency kits for use by non-medical personnel in case of minor emergency.

In order to ensure privacy for the displaced refugee women delivering babies during the crisis, three rooms were set up by UNRWA as delivery rooms in one of the government schools. This new delivery-centre received its first patient in July 2007, and was hailed as a successful health care initiative by all involved.

### **6.4 Environmental Health**

With around 30,000 people displaced from their homes and consequently crowding Beddawi Camp as well as surrounding areas, the challenge of catering to the environmental health needs of the displaced appeared enormous. Nevertheless, relentless efforts from all partners succeeded in providing safe water, adequate waste management and sanitation facilities in shelters, schools and crowded camps, and close monitoring successfully protected the refugees from environmental related disease.

A water and sanitation cluster was established and chaired by UNRWA to coordinate and rationalize resources during the emergency. It was setup as an inter-agency team to respond to the emerging needs of refugees particularly in Beddawi Camp and displacement centers including the governmental schools in Tripoli and the UNRWA schools in Beddawi Camp.

#### *6.4.1 Beddawi Camp water and sanitation activities*

As part of the response to the sanitation needs of the refugees at Beddawi Camp, additional sanitation laborers, sanitation foremen, water attendants and water plant operators were hired during the first week of the crisis. Rigid PVC water tanks of different capacities, prefab toilets and shower units equipped with hot water were distributed to displacement centers and collective centers hosting displaced families. In addition, a sewage tanker, a water tanker, a refuse compactor and two dumpers were redeployed from other areas.

## Chapter 6

UNRWA, in cooperation with ACTED and Islamic Relief, also continued to supply potable water to the tanks in the streets of Beddawi Camp, public schools and to displaced families in the adjacent areas of the camp. UNRWA also modified an old UNICEF water well in Beddawi Camp to increase its capacity, and added a new chlorination room above it.

UNRWA pumped a daily average of 3000 cubic meters of potable water into the water distribution network at Beddawi Camp to satisfy the water demands of the community with a range of 80-100 litres per capita per day, and a contract was issued by UNDP with funding from UNRWA to restore electricity networks in two sectors of the area adjacent to the camp. Sanitary facilities in shelters at Beddawi Camp and surrounding areas as well as in Tripoli were maintained through the relentless work of the water and sanitation team.

The water and sanitation team also constructed 200 meters of sewer pipeline with related manholes for prefabricated schools in Beddawi Camp and the sewerage system in the camp was subject to comprehensive rehabilitation to meet the excessive load caused by the displaced families. An indoor/outdoor disinfection campaign was also carried out in the camp and in adjacent areas in coordination with CISP, an Italian NGO. An average of 80 cubic meters of refuse was collected and disposed of daily, and pickups and trucks were hired on a number of occasions to cope with the excessive amounts of generated refuse from the camp.

### *6.4.2 Nahr el-Bared Camp water and sanitation activities*

A number of environmental measures were taken at Nahr el-Bared Camp and adjacent areas in preparation for the return of the displaced refugees. The Environmental Health Division disinfected all sectors and removed garbage (approximately 25m<sup>3</sup> of refuse) in cooperation with PRCS, along with spraying insecticides and laying rodent baits to ensure the areas around the camp met sanitation requirements. This amounted to more than 6000 m<sup>2</sup> of streets and houses sprayed with insecticides by UNRWA and its NGO partners. Also 182 PVC refuse bins (120, 240, 350 litres) and 62 1100lt steel refuse bins were distributed to all sectors in the areas adjacent to the camp.

Additional sanitation laborers, foremen and plant mechanics were hired temporarily to cope with the increased workload and electromechanical equipment including submersible water pumps, control panels, booster pumps and electric cables, were purchased and sent to Nahr el-Bared Camp to ensure a rapid response to the water and sanitation needs of the returning refugees.

In coordination with Islamic Relief, 250 rigid PVC water tanks of different capacities were installed in all sectors of the area adjacent to the camp and plot 23. These tanks were filled through tankering water from UNRWA water plants. Flushing and voiding of the percolation pits in plot 23 was conducted regularly using the UNRWA sewage tanker, and this process continued until Islamic Relief in coordination with UNRWA finished the construction of a sewer line to a nearby main sewer. More than 1600 meters of waste water systems in the area adjacent to Nahr el-Bared Camp were restored, and blocked sewers and storm water channels were cleared and flushed regularly.

Since the return of the refugees to the area adjacent to the Nahr el-Bared Camp in early October 2007, UNRWA and ICRC have undertaken rehabilitation of the local water wells. Six out of nine wells have been rehabilitated, and the quality of water supplied from these wells has been subject to intensive testing. A service contract has been put in place for the rehabilitation of the three remaining water wells at sector B. The rehabilitation will include cleaning and pumping tests, and the water supply from these wells will be resumed once confirmation of the water quality is received.

## Chapter 6

### 6.5 *The Refugee Return Plan*

UNRWA started preparations for the return of the displaced refugees to Nahr el-Bared Camp in the first few days of the crisis. The Emergency Return Plan was developed by UNRWA, representatives from the Palestinian community, the Lebanese Government, national and international NGOs, and other UN Agencies. The aim of the plan was to coordinate the assistance required to provide essential services to the refugees in a return situation, and to ensure proper reconstruction of the camp. The plan was continuously updated in line with developments and new information on the condition of the camp and the surrounding areas. At the end of December 2007, about 1,300 families had returned to their homes and all had received medical assistance and food and non-food items.

#### 6.5.1 *Health Services after the Return*

Since the end of the May 2007 crisis, UNRWA has established a permanent management team in north Lebanon to coordinate the longer term relief, recovery and reconstruction program. The UNRWA Health Programme started a mobile clinic in Nahr el-Bared Camp and later space was offered by one of the returnees to accommodate the clinic temporarily. Home visits were made by members of the Health team especially to elderly patients, newborn babies, and nursing mothers, and returned refugees were provided with psychological assistance by the UNRWA Health team.

The disease trend in Nahr el-Bared Camp after the refugees returned did not differ greatly from that observed in Beddawi Camp, and no serious diseases were detected among the returnees in the area adjacent to the camp. The reported health problems included psychological trauma, hypertensive crises, fractures, cut wounds, infected wounds, skin infections, upper respiratory tract infections, and bronchial asthma. To date, there have been no reports of symptoms and signs related to sand fly disease among the returnees. This could be attributed to the teams from UNRWA and other organizations regularly visiting the affected areas since the displaced refugees returned to provide advice on how to prevent insect bites, and to distribute masks and insecticide repellent sprays.

### 6.6 *Health Education*

In July and August 2007, UNRWA, UNICEF and the ICRC launched campaigns to raise public awareness on the dangers posed by unexploded ordinance (UXOs). Several hundred volunteers were trained to teach young people about what to expect when they returned to their homes. UNICEF distributed thousands of posters, banners, flyers, leaflets and labels in and around Beddawi Camp where most of the displaced people took refuge. In addition, MAG, the Agency entrusted with demining in Nahr el-Bared Camp trained UNRWA staff on UXO awareness. Through the awareness campaign, UNRWA, UNICEF, ICRC and MAG, hoped to prevent additional casualties. In addition to the campaign on UXOs, pamphlets on personal hygiene, scabies and pediculosis, and food storage were distributed to the displaced refugees and Beddawi Camp residents.

## Chapter 6

### **6.7 Emergency situation in the occupied Palestinian territories**

#### **6.8 Humanitarian situation<sup>1</sup>**

In 2007, political, economic and social conditions continued to deteriorate in the occupied Palestinian territories (oPt). The February Fatah-Hamas cease-fire negotiated in Mecca collapsed in May, and interfactional violence resumed, culminating in the Hamas takeover of the Gaza Strip in June.

Ordinary Palestinians continued to bear the brunt of the ongoing crisis. In addition to continuing fatalities from direct Israeli-Palestinian conflict, 2007 saw a dramatic increase in deaths and injuries due to internal Palestinian violence. The poverty rate stood at 57% and food insecurity affected 34% of the population.

The impact was particularly severe in Gaza which has been effectively sealed off from the rest of the world since mid-June 2007. Few residents can exit Gaza, even in the case of medical emergency, and only limited commercial and humanitarian supplies can enter. Dependency on agencies such as UNRWA and WFP in Gaza now stands at 80%, which will further increase due to the continuing closure of Gaza's external borders.

In the West Bank, the closure regime continued to impede access to workplaces, markets and to health and education services. The number of physical obstacles, including checkpoints, increased from 528 to 563 between January and September 2007. Therefore, the restriction of movement imposed by the closure system in general, and the Separation Wall in particular, has had a significant impact on UNRWA's ability to provide humanitarian assistance to the refugee community in the West Bank.

For an overview of the health situation in the oPts see Chapter 1.

#### **6.9 UNRWA's Response**

The UNRWA Health Programme faced substantial demand for its services in terms of increased primary health care consultations, laboratory, dental and family health services, consumption of medical supplies, and admission of patients to hospitals. Patients, staff members, and the delivery of medical supplies were all severely affected by the access restrictions; however, UNRWA, despite the situation, managed to continue to operate effectively by recruiting more personnel, establishing more mobile clinics or by opening new clinics.

In the West Bank, UNRWA operated 37 primary health facilities, 23 health centres and 14 health points in 2007, serving approximately 74,576 registered refugees, approximately 25.4% of which reside in camps. Seventeen of the 23 health centres are situated inside camps while six are in villages or towns with large refugee populations. All 14 health points are located outside the camps.

The ratio of health centres to 100,000 registered refugees is five and the number of doctors to 100,000 refugees is 12.1 – an improvement on 2006 figures, but still far below international standards.

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<sup>1</sup> - For an expanded version of this situational overview go to CAP 2008

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*Table 2, Emergency expenditure in 2007*

Staff costs at Health Clinics & Mobile Clinics	\$ 1,036,018
Medical supplies for Health Clinics & Mobile Clinics	\$ 353,000
Remodeling of Mobile Clinics & Rent	\$ 55,168
Equipment for Health Clinics	\$ 300,000
Qalqilia Hospital Specialists	\$ 35,565
Hospitalization	\$ 2,024,476
Reimbursement of Drugs - Individual Subsidies	\$ 45,273
Running Cost of Mobile Vehicles & Supplies	\$ 21,823
<b>Total</b>	<b>\$ 3,871,323</b>

### 6.9.1 Emergency employment

Various categories of emergency programme support staff (EPSS) were hired with Emergency funding to meet the increased demand on medical care services or to replace staff who were unable to reach their duty stations due to restrictions on movement. Table 3 shows the number of staff hired during 2007, including staff working with the mobile clinics.

*Table 3, Emergency Health staff in 2007 (including Mobile Teams)*

Doctors ( Medical Officers & Specialists including Area and Field Staff)& Qalqilia Hospital	19
Pharmacists	--
Dental Surgeons ( including SDS)	8
Nurses ( including Area and Field Staff)	48
Paramedical	41
Admin/Support Staff	26
Labour category	109
<b>Total</b>	<b>251</b>

### 6.9.2 Mobile Health Teams

UNRWA Mobile Health teams, comprising a medical officer, practical nurse, laboratory technician, assistant pharmacist and a driver have operated in the West Bank since February 2003. The main objective of these teams is to meet the additional burden on the health system and to facilitate access to health services in locations affected by closures, checkpoints, and the Separation Wall. The teams offer a full range of essential medical services including immunisation, control of communicable and non-communicable diseases, and first-aid treatment for conflict-related injuries, all of which is provided in spaces made available by communities or even in the street if necessary. Visits to the villages are arranged at area level and announced through the mosques, community based centres, and via word-of-mouth. Since becoming operational, the mobile clinics have played a critical medical role. They have treated an increasing number of Palestine refugees from 69,500 in 2003 to 133,122 in 2007.

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*Table 4, Number of consultations and visits by Mobile Clinics in 2007*

	2004	2005	2006	2007
<b>Total No. of consultations</b>	110,490	136,275	134,180	133,122
<b>Total No. of visits</b>	1230	1434	1447	1447 <sup>2</sup>

### 6.9.3 Newly established clinics

In 2007, the UNRWA Health Programme decided that in four of the remote villages in the oPts, fixed health centre locations would be established in order to provide preventive health services (maternal and child health and family planning services, immunization, communicable and non-communicable disease services) thus providing the full range of health services available in all other UNRWA clinics. Premises were offered by the communities free of charge in four different villages, and they were renovated and furnished by UNRWA. The new clinics are located in:

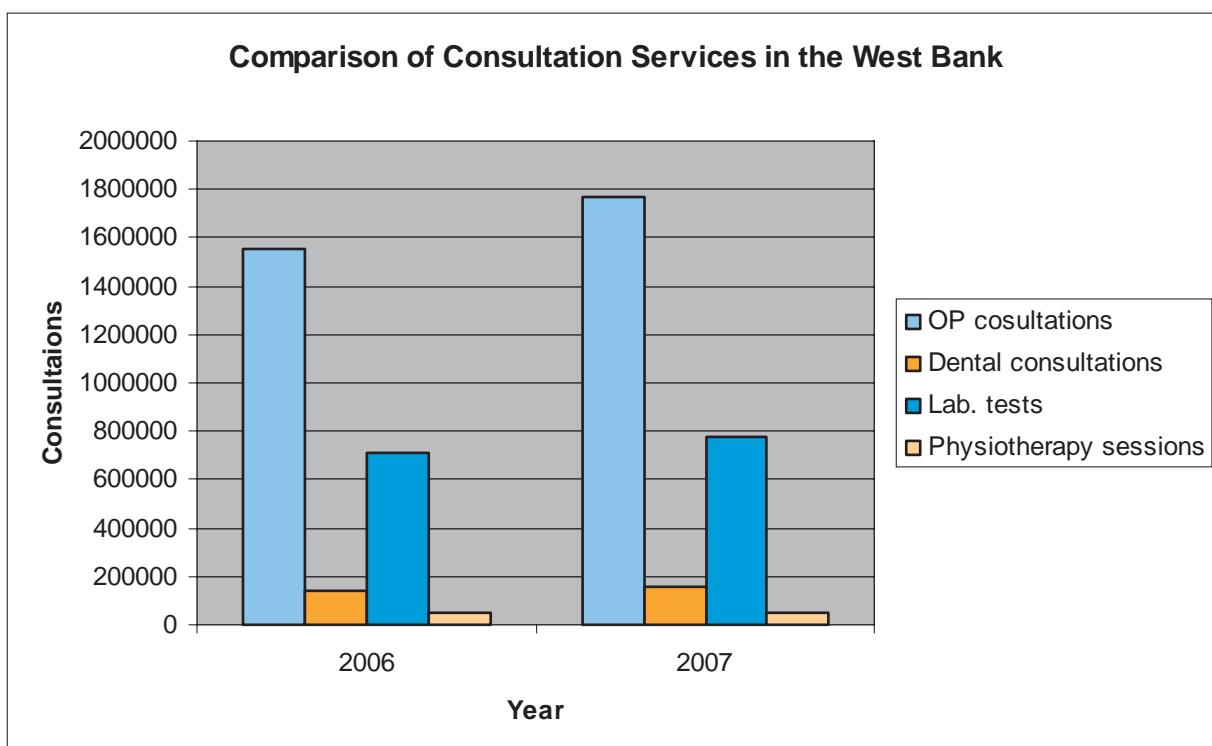
- Habla in Qalqilia Area - the most isolated and deprived villages are in this area. Total population of Habla and the surrounding seven villages exceeds 12,000 people.
- Budros Village in Ramallah - located about 35 kilometres west of Ramallah, as a green line boarder. It has approximately 1500 refugees surrounded by another six villages.
- Barta'a in the Jenin Area - the population of Barta'a and the surrounding villages exceeds 5,000 with about 50% registered refugees. These villages are located behind the Separation Wall. Since October 2007 the Mobile Health teams have been denied access to the village, thus beneficiaries have been deprived of UNRWA services.
- Beit Awwa in Hebron - serves approximately 2300 registered refugees of Beit Awwa and other surrounding villages.

### 6.9.4 Medical consultations

There was an increase in the requirement for medical consultations due to the demand for UNRWA health services in 2007 compared to 2006. The total number of consultations increased by 14% from 2006 as can be seen in Figure 1.

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<sup>2</sup> - Although there is a difference in the number of consultations in 2006 and 2007, the number of visits remained the same.



*Figure 1, Comparison of medical consultations in the West Bank 2006-2007*

#### *6.9.5 Donations of medical supplies*

During 2007, medical supply requirements were provided through generous emergency contributions from donors who are as follows:

- A contribution of US \$207,416 was received from the New Zealand Government and used for renovation of the Zubeidat Health Point, procurement of equipment and furniture and medical supplies.
- A Japanese donation of US \$227,658 was carried over to 2007, due to savings made in the previous year. The donation was used to purchase medical supplies and equipment for UNRWA Health Centres, Mobile Clinics and Qalqilia Hospital in the West Bank.
- A contribution from the Australian Government amounting to US \$2,361,760 was used to purchase medical supplies, equipment and hospitalization costs. These medical supplies mainly consisted of medicines for non-communicable diseases, analgesics, anti-pyretics, anti-asthmatics and topical treatments.

#### *6.9.6 Contracted hospital care*

Secondary and tertiary care is provided through hospitals that UNRWA contracts. Currently there are contract services with 12 hospitals in the West Bank to provide medical, surgical, pediatric, neurology and cardiac services. Access is not completely free of charge as in the case of primary health care. UNRWA reimburses the hospital for 75% of the cost of secondary care and for 70% of the cost of tertiary care. Only in 5% of the refugee population deemed "special hardship cases" due to their socio-economic status, is the reimbursement 95% of the hospital fee.

Patients must be referred from UNRWA clinics to be admitted to contracted hospitals, except in the case of emergency, when patients are allowed to be 'self-referred'.

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In 2007, contracts concluded with the following hospitals in the Jerusalem area: AVH: general hospital, Makased: tertiary care hospital, Hilal: general hospital and St John: Ophthalmic hospital. In the Hebron area the contracts that concluded were Ahli: general hospital to replace the Mezan hospital, Arab Society: general hospital, Caritas: Pediatric hospital and Holy Family Hospital: gynecology, obstetrics and neonatology. Finally in the Nablus area the contracts that concluded were: Ittihad: general hospital, Razi: general hospital and Speciality: tertiary care hospital.

The number of refugee patients who were admitted to contracted hospitals (excluding Qalqilia Hospital) increased from 14,485 in 2005 to 17,572 in 2006 to 19,037 patients in 2007 (see Figure 2).

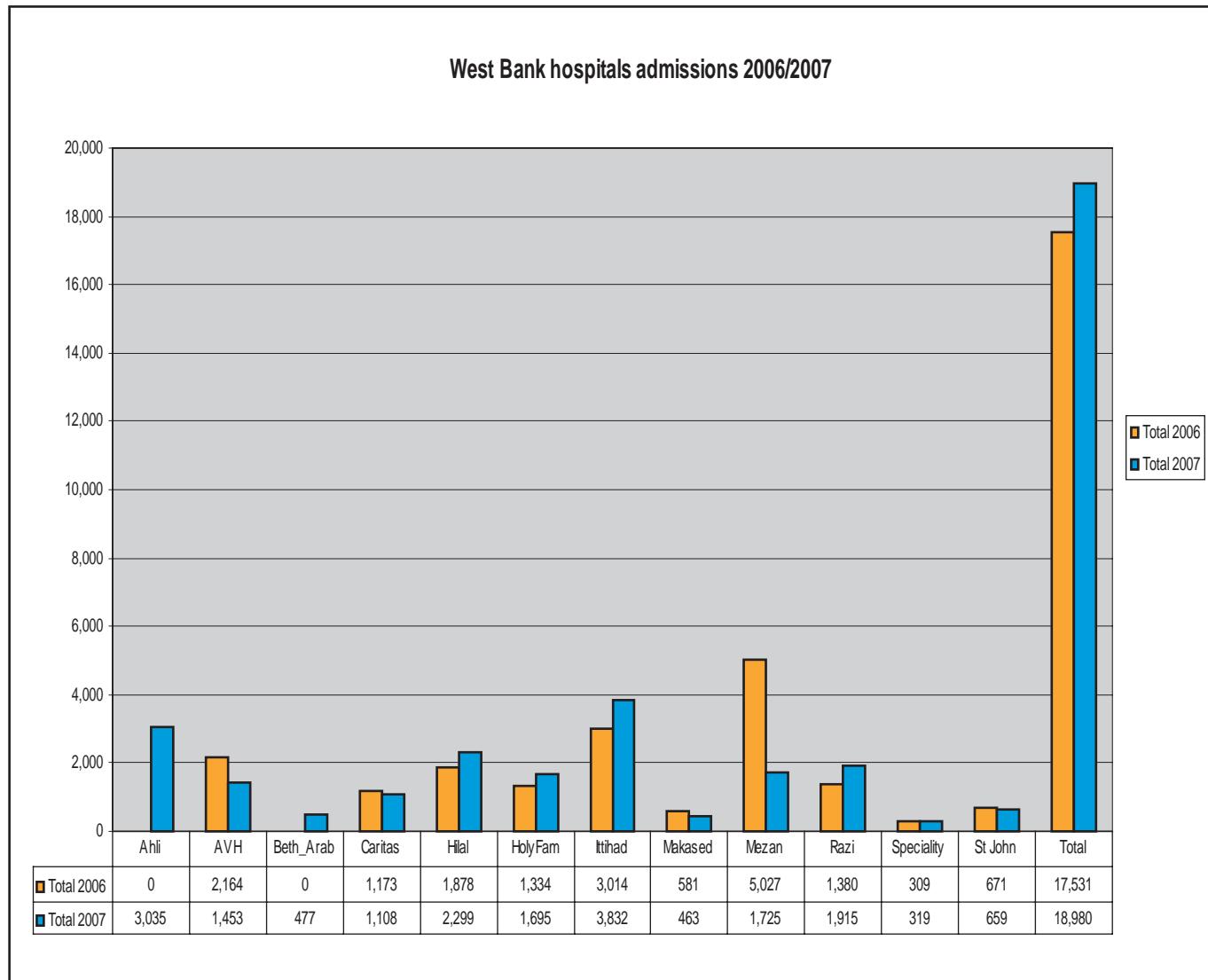


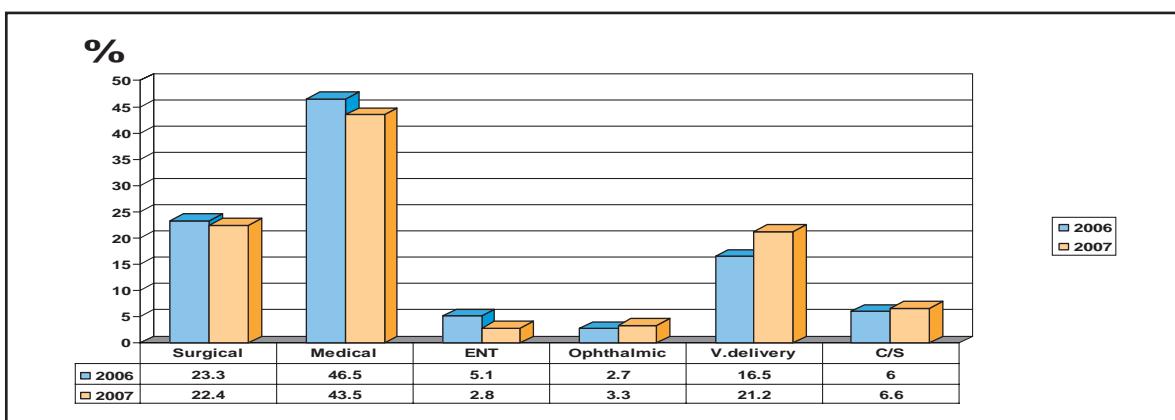
Figure 2, Hospital admissions for the West Bank for 2006-2007

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Although there was an increase in the number of admitted patients in 2007, expenditure remained almost the same as 2006. The reason is twofold: firstly, the average length of stay decreased from 2.29 days in 2006 to 2.19 in 2007; and secondly, in 2007 the West Bank adopted a policy which covers all registered pregnant women with a contribution rate of 50% for natural delivery in a contracted hospital. Since the cost of natural delivery is less than other procedures, this factor alone partially explains the stable expenditure, regardless of the increased number of admissions.

In terms of hospital care in 2007, total allotment decreased from USD \$3.8 million in 2006 to USD \$3.5 million in 2007. The increased demand together with the reduced hospitalization budget forced the UNRWA Health Department to modify procedures for admissions, making them more difficult except in life-threatening cases. As a result, the refugee camp committees organized 'a block' of UNRWA health clinics all over the West Bank in July 2007 protesting the modification of the admission procedures. Fortunately, during 2007 there were two donations – one from the Australian Government amounting to USD \$2,361,760 and one from the French Government amounting to USD \$470,000 – to cover hospital expenses, which alleviated some of the financial pressure on UNRWA in the West Bank.

In terms of hospital admissions, the highest rate was among medical cases at 43.6%, compared to 48.6% in 2006, followed by surgical cases at 22.4% compared to 23.3% in 2006. The decreases in the percentage of medical and surgical cases were the result of austerity measures that were implemented in 2007, for example medical staff were advised not to refer all non emergency ENT cases to hospitals. Also the rate of ENT cases decreased from 5.1% in 2006 to 2.8% in 2007, and this decrease was also due to the same austerity measures (See Figure 3).



*Figure 3, Proportion of admissions by type of service and morbidity condition in the West Bank*

### 6.9.7 Direct Hospital Care: Qalqilia Hospital

Qalqilia Hospital in the West Bank was severely affected by the 2007 emergency situation in the oPts. Recognised as a high-quality and efficiently run hospital, it provides a number of services such as paediatrics, internal medicine, general surgery, gynaecology and obstetrics. Qalqilia village was practically under siege and is completely surrounded by the Separation Wall, with only one checkpoint connecting it to the rest of the West Bank. The 40,000 people living in Qalqilia, refugees and non-refugees, were unable to access medical facilities on the other side of the Wall.

For data on Qalqilla Hospital see Chapter 3 on Curative Medical Care Services.

## Chapter 6

### 6.9.8 Physiotherapy Services

Under the Emergency programme, physiotherapy services were provided to Palestine refugees by six physiotherapists and physiotherapy assistants serving at Dheisheh, Aida/Azzeh, Arroub, Fawwar, Am'ari, Shu'fat, Kalan-dia, Qalqilia, Balata/Askar, Tulkarem and Camp N 1. Case detection as well as physiotherapy was also conducted during home visits, and family members were trained to follow-up on exercises and to help the patient in their daily activities.

*Table 5, Physiotherapy services provided in the oPt in 2007*

<b>Number of treated patients</b>	<b>932</b>
<b>Number of newly admitted</b>	<b>774</b>
<b>Number of sessions</b>	<b>13320</b>
<b>Number of home visits</b>	<b>5913</b>

### 6.9.9 Environmental Health

The Environmental Health Division launched a number of emergency infrastructure rehabilitation projects in 2007 in the oPt totalling USD \$831,634. Table 6 shows the donors and the status of the projects.

*Table 6, Emergency infrastructure projects and donations in 2007*

No.	Project /Activity	Donor	Location	Exact value USD\$	Job Days	Beneficiaries	Status
1.	Asphalt main road	Japanese Government	Fawwar	70,900	1496	65 labourers supporting 390 dependents	100% completed
2.	Rehabilitation of Fara water network	Japanese Government	Fara	87,492	1733	30 labourers supporting 189 dependents	100% completed
3.	Rehabilitation of sewerage & storm water channel	Japanese Government	Jenin	340,399	1596	19 labourers supporting 95 dependents	40 % completed
4.	Rehabilitation of infrastructure in Jenin Camp	Spanish Government	Jenin	332,843	990	55 labourers supporting 274 dependents	20 % completed
5.	Construction of sewerage trunk line between Arroub & Sair	Spanish Government	Arroub		-----	-----	18% completed
6.	Construction of sewerage trunk line between Jalazon & Jifna	Spanish Government	Jalazon		-----	-----	53% completed
<b>Total sum</b>				<b>831,634</b>			

## Chapter 6

### **6.10 Palestine refugees from Iraq**

The prolonged war in Iraq has resulted in millions of Iraqis fleeing their country. Among those who were seeking a safer environment, are Palestine refugees who have lived in Iraq for decades. In Jordan, these refugees are a hidden caseload, with the exception of the 97 camps on the border that UNRWA is aware of.

In Syria, the UNRWA Health Programme started providing basic health care services to these refugees in 2006 when there were only a few hundred. An UNRWA medical officer and nurse would visit them once a week to provide basic health care services. At the beginning of 2007, a decision was made by the Syria Field to assist those Palestine refugees who managed to enter Syria from Iraq, and to grant them a special temporary registration card which entitled them to full health care services (out-patient, non-communicable disease treatment, hospitalization services etc) in addition to education and relief and social services.

In 2007, given the constant increase in the number of refugees from Iraq, UNHCR offered UNRWA financial support to ease the resource burden and to assist in the provision of health care. This level of health care delivery by UNRWA has been made possible by UNHRC's support, and should their support cease, it will be extremely difficult for UNRWA to maintain the same level of health care to Palestine refugees from Iraq.

Most of the refugees in Syria reside in the Damascus Area, in the Yarmouk Camp, while smaller groups are at the Dera'a and Homs Camps, and surrounding areas as noted in Table 7. Table 7 also provides a brief summary of the types of surgery Palestine refugees from Iraq have received.

*Table 7, Data on Palestine refugees from Iraq residing in Syria*

Clinic area	Number of families	No. of individuals	Heart surgeries	Other surgeries
Damascus	751	2932	5	14
Dera'a	13	57	0	1
Other areas	8	41	0	0
Total	772	3030	5	15

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Creating a culture that embeds learning processes in the work of all staff, fosters ethical behaviour, gender equality and integrity, rewards performance and facilitates mobility in order to ensure effective and efficient staffing.

### WHO Medium-term strategic plan 2008-2013



UNRWA's Commissioner General, Karen Koning Abu-Zayd, and Director of UNRWA Operations in Gaza, John Ging, spend some time getting to know one of the younger members of the Palestine refugee community in a health centre located in Gaza. Gaza has 19 health centres located around the region to service some of the most disadvantaged Palestine refugees.



## Chapter 7

### **Programme Management**

#### **7.1 Objective**

To oversee all aspects relevant to planning, direction, supervision and evaluation of UNRWA's Health Programme in accordance with the WHO strategic approach to health care and policies on best practice.

#### **7.2 Organizational structure**

The Department of Health at Headquarters in Amman, Jordan, comprises the Director of Health (WHO Special Representative) and his Deputy, who are seconded from the WHO to UNRWA on a non-reimbursable loan basis (the Deputy Director position has been vacant since November 2006). The Headquarters team also comprises two Division Chiefs, a Health Policy & Planning Officer, a Head Health Information System Officer, a Senior Pharmacist, a Senior Laboratory Services Officer, and a Reproductive Health Officer. The Director of Health reports to the UNRWA Commissioner-General on administrative and policy matters and to the WHO/EMRO Regional Director on technical matters.

In each of the five Fields of the Agency's area of operations, the Health Department is headed by a Chief, Field Health Programme, who reports directly to the Field Director on administrative issues and to the Director of Health on technical matters. The Chief, Field Health Programme is assisted by a Deputy Field Disease Control Officer, a Field Family Health Officer, a Field Nursing Officer, a Field Sanitary Engineer, a Field Pharmacist, a Field Laboratory Services Officer and a Senior Dental Surgeon. In addition, the Chief of the Environmental Health Programme in Gaza receives policy guidance from the Director of Health on the strategic orientation of the Programme.

The technical direction of the various components of the Health Programme is provided through a technical instruction series, guidelines, and management protocols, which are periodically revised and updated in accordance with the basic principles and concepts of the WHO, approved UNRWA policies, and best practice guidelines in public health. Implementation of the technical instructions, guidelines and management protocols is monitored through a systematic assessment of outcomes based on measurable indicators and fostered through regular visits to the Fields by Headquarters staff.

Changes to standing policies, development of plans of action and establishment of targets to achieve them are usually decided on at meetings between the Field Health Programme Chiefs and Headquarters senior staff, and at Divisional meetings between staff from the technical units in Headquarters and the Fields.

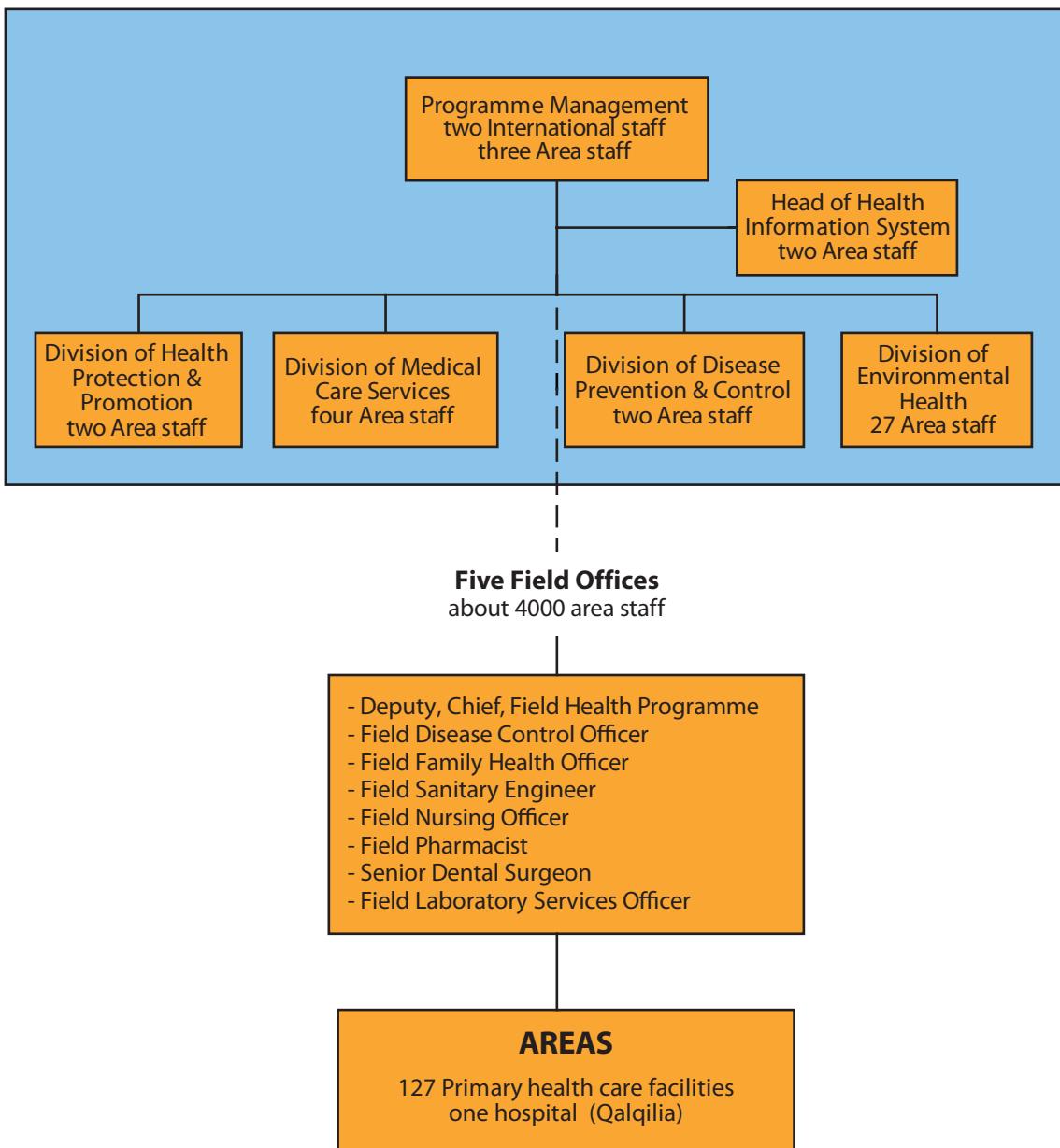
The functions of the various sub-programmes of the Health Programme are as follows:

- **Health Protection & Promotion:**  
expanded maternal health and family planning, child health services, school health, nutritional surveillance and food safety, and mental health;
- **Curative Medical Care Services:**  
outpatient medical care, pharmaceutical services, laboratory services and medical diagnostic services, oral health services, physical rehabilitation, hospital services and other support services (e.g. radiology);
- **Disease Prevention & Control:**  
integrated control of communicable and non-communicable diseases;

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- **Environmental Health:**  
project design, surveying, project implementation and environmental sanitation; and
- **Emergency Preparedness and Response:**  
to provide emergency health care assistance in response to crises that impact on the Palestine refugees.

**Health Programme Organization Chart**



## Chapter 7

### 7.3 Human resources

During 2007, 4,199 professional, administrative, support and other staff provided comprehensive health services to the registered Palestine refugee population utilizing UNRWA services in Jordan, Lebanon, Syria, Gaza Strip and the West Bank. The services comprised preventive and curative medical care, environmental health services in camps and supplementary feeding to nutritionally vulnerable groups.

*Table 1, Health staff as at end of December 2007*

AREA STAFF	HQ	Jordan	Lebanon	Syria	Gaza	West Bank <sup>1</sup>	Total
<b>Medical care services</b>							
Doctors <sup>2</sup>	4	114	51	58	165	92	484
Pharmacists	1	1	1	1	1	2	7
Dental Surgeons	0	31	19	19	35	17	121
Nurses	0	264	119	133	292	226	1035
Paramedical <sup>3</sup>	1	131	61	75	113	104	485
Admin/support staff	7	90	42	49	99	67	354
Labour category	0	103	57	67	128	70	425
<b>Sub-total</b>	<b>13</b>	<b>735</b>	<b>350</b>	<b>402</b>	<b>833</b>	<b>578</b>	<b>2911</b>
<b>Environmental health services</b>							
Engineers	0	1	1	1	23	1	27
Admin/support staff	0	8	10	2	55	6	81
Labour Category	0	320	213	107	328	208	1176
<b>Sub-total</b>	<b>0</b>	<b>329</b>	<b>224</b>	<b>110</b>	<b>406</b>	<b>215</b>	<b>1284</b>
INTERNATIONAL	4	0	0	0	0	0	4
<b>Grand total</b>	<b>17</b>	<b>1064</b>	<b>574</b>	<b>512</b>	<b>1239</b>	<b>793</b>	<b>4199</b>

<sup>1</sup> Including staff of Qalqilia hospital

<sup>2</sup> Including senior managerial staff, specialists and school medical officers

<sup>3</sup> Including laboratory technicians, Asst. pharmacists, X-Ray technicians and dental hygienists

The staff to population ratios in 2007 continued to be very low compared to national and regional standards, even if calculated based on served population, and not the total number of registered refugees.

*Table 2, Number of staff to population ratios, per 100,000 served population*

Indicators	Jordan	Lebanon	Syria	Gaza	West Bank	Agency-wide
Physicians	10	22	18	20	18	16
Nurses	23	52	42	35	45	34

Coupled with high utilization rates, the low staff and population ratios continued to be the reason for the heavy workloads at UNRWA's primary health care facilities. One of the major objectives of the Medium Term Plan is to reduce excessive workloads by recruiting additional staff and improving access to basic health services through expansion and upgrading of primary health care facilities. However, achieving these objectives depends on the level of funding the Agency's receives in the future.

Ongoing difficulties in the recruitment and retention of staff, both at the managerial and professional levels, have continued to hamper efforts to maintain the level of Health Programme staff. This is partially due to the low pay scales in UNRWA and the lack of career planning programmes over the past ten years, owing to the discontinuation of external support for the Agency's post-graduate fellowship programme.

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In addition, the cumulative effect of under-budgeting and under-funding over many years has generated a state of imbalance between the ever-growing needs of the Palestine refugee community, and the resources that could be mobilized by the Agency to address the problem of heavy workloads at its primary health care facilities.

In spite of regular training to upgrade the skills and capabilities of staff, it has become increasingly difficult to preserve the investment in primary health care staff training, and unless additional resources become available to the Programme, the UNRWA health system will suffer without well-trained and adequately paid health care workers.

### **7.4 Financial resources**

The approved Health Programme Budget in 2007 was USD \$95 million which represented USD \$19.0 per registered refugee. However, the total Health Programme expenditure in 2007 amounted to approximately USD \$81 million, and expenditure per registered refugee was USD \$17.6. Even if a more conservative approach was used to estimate the per capita budget and expenditure based on the number of population served by the Agency (approximately three million) rather than the total number of registered refugees (4.6 million), the annual per capita allocation is still lower than USD\$21 per capita per year Agency-wide. This is far below the USD \$30-50 per capita that WHO recommends for the provision of basic health services in the public sector.

*Table 3, Breakdown of budget & expenditure by sub-programme, 2007 (thousand USD)*

Programme	Approved Budget**	Allotted Budget	Expenditure	% from allotted budget
Programme Management	4 104	3 916	3 747	90.5%
<b>Sub-total</b>	<b>4104</b>	<b>3916</b>	<b>3747</b>	<b>90.5%</b>
<b>Medical Care Services</b>				
Laboratory services	3 288	3,200	3,337	106.7%
Out-patient services	32 089	30,024	30,520	101.7%
Maternal & child health	3 204	3,197	3,290	102.9%
Disease prevention & control	6 585	6,223	6,250	100.2%
Physical rehabilitation	1 002	924	929	100.5%
Oral health	3 402	3,070	3,207	104.5%
School health	572	522	532	101.9%
Hospital services	17 576	13,277	13,186	99.3%
Psychosocial Support	5 043	4	-5	-125%
<b>Sub-total</b>	<b>72 771</b>	<b>60,441</b>	<b>61,246</b>	<b>101%</b>
<b>Environmental Health</b>				
Sewerage & drainage	2 077	115	113	98%
Solid waste management	11 320	11 862	12,058	101.6%
Water supply	945	942	934	99.2%
Special Environmental Health Programme, Gaza	655	467	469	100.4%
<b>Sub-total</b>	<b>14 997</b>	<b>13 386</b>	<b>13,574</b>	<b>101.4%</b>
Supplementary feeding	4 047	7,166	3,213	44.8%
<b>Grand total</b>	<b>95 919</b>	<b>84,909</b>	<b>81,780</b>	<b>96.3%</b>

\* \* This Budget includes staff costs for the maternal & child health and disease control sub-programmes.  
At the beginning of biennium 2006-2007, austerity measures led to subsequent budget freezing.

## Chapter 7

Expenditure on supplies (mainly medicines) was USD \$16.3 million and services (mainly hospital services) was USD \$13.2 million. Table 3 shows the 2007 budget allocations and expenditure for the Health Programme by sub-programme.

UNRWA has traditionally been able to provide cost-effective health services to the Palestine refugees because of its emphasis on primary health care, with very selective use of hospital services. Allocations for hospital services in 2007 represented only 15.6% of the total Health Programme Budget. This percentage will probably increase in the future because of the increase in morbidity of chronic non-communicable diseases (often associated with major complications), and rapid advances in medical technology which has led to substantial increases in the cost of hospital services. This will represent a major challenge for the Health Programme, which has to strive to preserve its notable achievements in primary health care while attempting to cope with increased hospitalization costs.

Unlike UNRWA, public health expenditure in host countries is higher in the areas of secondary and tertiary care than in primary health care. This explains the wide disparity between UNRWA allocations for health and the public health expenditure by the host authorities. Furthermore, financial allocations vary significantly from one Field to the next depending on the ease of access of the registered refugee population to UNRWA health services and the degree of utilization of the services of other health care providers. The following is data on the Agency's per capita allocations in USD for health under the 2007 regular budget:

Jordan	Lebanon	Syria	Gaza Strip	West Bank	All Fields
9.8%	36.4%	18.5%	30.1%	28.6%	21%

Syria is the only Field where the per capita allocations for health correspond to the Agency-wide average, whereas Lebanon is far above all other Fields. This is due to the heavy investment in secondary and tertiary care in Lebanon because refugees have no access to public health services and cannot afford the cost of treatment at private facilities.

### 7.5 Progress in 2007

Major progress was made during 2007 in improving programme management including data collection and analysis, institutional capacity building, revision of technical guidelines and intervention strategies, and evaluation of system performance and outcomes.

#### 7.5.1 Information systems

In 2007, the standard data collection and reporting formats on outpatient medical care, maternal and child health care and laboratory services were revised – a process that is undertaken annually to ensure data is collected on emerging diseases.

The Management Health Information System (MHIS), which is the primary data collection tool used by the Health Programme, was established in all 128 health centres. Most of the health centres were provided with computers, but in some of the small health centres and health points where computers are not available, data was collected on paper forms and then entered at either area or Field level.

The data obtained from the Maternal Health and Family Planning module of the MHIS were analyzed at Field and Headquarters level and discussed at the annual Field Family Health Officers meeting. The Non-communicable Disease module was also analyzed and indicators were evaluated early in 2007, during the Field Disease Control Officers meeting.

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The electronic family file system used in all health centres and Fields proved to be a useful tool for better evaluation and more accurate estimation of the population served. It also has the ability to detect duplications by both, name and ration card number, which has resulted in a reduction in workload for health staff.

### *7.5.2 Geographic Information System*

During 2007 the Health Department began implementation of the Geographic Information System (GIS) at Headquarters' level. The system will provide a framework for managing a broad range of challenges in public health including:

- Assessing health services availability and accessibility;
- Mapping health events and identifying disease clusters;
- Real-time disease surveillance;
- Stratifying risk factors and identifying population at risk; and
- Monitoring and resource mobilization in relation to refugee needs.

In addition, a system for monitoring crisis indicators has been updated to assess changes in the humanitarian and health conditions in the occupied Palestinian territory and to evaluate the impact of the Agency's emergency interventions including the Psychosocial Programme.

### *7.5.3 Staff development*

In 2007, the Health Department continued to focus on:

- upgrading the skills and capabilities of the various professional categories;
- implementing approved intervention strategies; and
- training staff in technical guidelines and procedure manuals.

A system was also developed to assess the impact of in-service training on staff knowledge, attitudes and practices which was implemented in mid 2007. During the year, 6640 staff/days of in-service training were conducted in the five Fields at an average of 5.2 training days per medical officer and 2.9 training days per nurse.

*Table 4, Breakdown of staff/days training by Field and staff category*

Field	Medical	Nursing	Other	Total
Jordan	1328	630	324	2282
Lebanon	235	100	123	458
Syria	185	455	172	812
Gaza	343	968	52	1363
West Bank	443	909	373	1725
All Fields	2534	3062	1044	6640

The training covered all programme components including: management, maternal and child health and family planning, control of communicable and non-communicable diseases, basic laboratory techniques and rational prescribing of medicines.

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In addition to in-service training activities, the Agency supported post-graduate training in Public Health of 31 staff at local universities as outlined in Table 5:

*Table 5, Basic and post-graduate training*

Field	Category	No	Course	Start Date	Duration	Sponsor
Jordan	Senior Medical Officer	1	Master Degree Public Health	Oct. 05	3 years	Own expense
Gaza	Medical Officer	4	Master Degree Public Health	Sept. 2005	3 years	Partially UNRWA
	Medical Officer	1	Master Degree Public Health	Sept. 2006	3 years	Own expense
	Medical Officer	1	Master Degree Public Health	Sept. 2006	3 years	Own expense
	Medical Officer	1	Master Degree Public Health	Sept. 2007	3 years	Own expense
	Medical Officer	12	Master Degree Public Health	Sep. 2007	3 years	Walid Bin Tala Saudi Arabia
	Senior Staff Nurse	1	Master Degree Public Health	Sept. 2005	3 years	Partially UNRWA
	Senior Staff Nurse	1	Master Degree Public Health	Sept. 2006	3 years	Own expense
	Senior Staff Nurse	3	Master Degree Public Health	Sept. 2007	3 years	Walid Bin Tala Saudi Arabia
West Bank	Medical Officer	2	Master Degree Public Health	March 2006	1½ year	Royal college & Alquds Univ.
	Medical Officer	1	Master Degree Mental Health	Jan. 2007	Ongoing	UNRWA
	Dental Surgeon	1	Master Degree Dental Surgeon	Feb. 2007	June 2007	UNRWA
	Resident in Qalqilia Hospital	1	Master Degree Public Health	March 2007	Ongoing	UNRWA
	Senior Staff Nurse	1	Master Degree Public Health	Oct. 2007	Ongoing	Partially UNRWA
	Practical Nurse	1	Bachelor Degree Nursing	Sept. 2007	Ongoing	UNRWA
	Laboratory Technician	1	Master Degree lab. Medical Science	Oct. 2007	Ongoing	Partially UNRWA
	Laboratory Technician	1	Master Degree lab. Medical Science	Oct. 2007	Ongoing	Own expense
Syria	Medical Officers	2	Master Degree Public Health	Jan. 2007	2 years	Ministry of Health

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### 7.5.4 Gender mainstreaming

Gender is a crosscutting issue that is relevant to all core programme activities. For the last two years this issue has been addressed through different activities that raise staff awareness of gender equality and gender mainstreaming.

In accordance with the UN policy on gender equity and equality, the UNRWA Health Department has been encouraging the recruitment of female staff into various positions, while remaining mindful of the need for competitive selection processes. Table 19 shows the percentage of women recruited to the Health Department in the different categories. The overall rate, Agency-wide for 2007 was 31.6%.

*Table 19, Percentage of women employed in the Health Programme*

Staff categories	Percentage of women recruited staff (in%)					
	Jordan	Lebanon	Syria	Gaza	West Bank	All
Specialists	1	18.8	50.0	33.0	11.1	22.2
Medical Officers	14.0	21.6	30.0	24.0	6.1	19.7
Dental Surgeons	26.0	14.7	21.0	26.0	7.1	16.9
Pharmacists	0.0	50.0	100	0.0	33.3	36.7
Asst. Pharmacists	39.0	20.0	41.0	52.0	70.2	42.5
Lab. Technicians	39.0	15.0	52.0	59.0	53.65	43.5
<b>All categories</b>	<b>27.0</b>	<b>23.4</b>	<b>40.0</b>	<b>56.0</b>	<b>32.7</b>	<b>31.6</b>

The highest rate of females recruited was among Laboratory Technicians at 43.5% and the lowest was among dental surgeons and medical officers. The highest percentage of females recruited was in Gaza at 56%, followed by Syria at 40.0%, the West Bank at 32.7%, Jordan at 27.0% and the lowest was in Lebanon at 23.4%.

In addition, as part of gender mainstreaming in UNRWA, several data have been collected, analyzed and disaggregated by sex, such as infant and child mortality rates and growth retardation among children.

### 7.5.5 Health Programme strategic planning

Major efforts were exerted during the year to develop action plans that addressed the immediate needs of the refugee population, and responded to programme priorities while considering long-term development issues. These efforts addressed development of yearly planned activities for each programme component including family health, disease prevention and control, medical care and programme management. The plans were developed during various meetings held between programme managers from Headquarters and the Fields in 2007 which are outlined below:

- Field Family Health Officers' meeting from 28 January to 1 February
- Field Disease Control Officers' meeting from 19 to 22 February
- Chiefs & Deputy Chiefs, Field Health Programme meeting, from 7 to 8 March
- Senior Dental Surgeon meeting from 28 to 29 August
- Field Sanitary Engineers meeting from 2 to 4 December

## Chapter 7

Year-end reviews revealed that all planned activities for 2006-2007 with respect to each programme area were implemented and the established targets were met as outlined in the chapters on the sub-programmes.

### *7.5.6 Research and evaluation*

During 2007, special emphasis was placed on the assessment of the health status of the refugee population as well as on the assessment of system performance and outcomes. The outcomes of these assessments are as follows:

#### *Internal/Self-assessments*

The following major analytical reviews/self-assessments were undertaken during the reporting period:

- The technical instructions on Maternal Health were revised and preconception care was introduced;
- A risk assessment analysis study for non-communicable disease patients was conducted in 2007;
- An incidence rate of Reportable Infectious Diseases analysis between "1997-2006" was completed;
- An analysis of medical prescriptions relating to diabetes and hypertension was completed; and
- An assessment of trends in utilization and productivity of laboratory services was undertaken.

Comprehensive health centre assessments were also carried out in all Fields to assess the physical condition of each premises, equipment, staffing, and patterns of patient flow. The main objective was to assess the needs and priorities for re-organization and improvement of services at the primary level.

Health services research to assess the health status of Palestine refugees comprised conducting one study on the prevalence of anaemia among pregnant women and children 6-36 months in the West Bank and Gaza Fields.

Details on the findings of the self-assessments and the health services research listed above are provided under the relevant sections of this report.

## **7.6 External cooperation and partnerships**

Since 1950, under the terms of an agreement with UNRWA, the WHO has overseen the technical aspects of the Agency's Health Programme through the Eastern Mediterranean Regional Office. WHO/EMRO continued to provide on non-reimbursable loan the Director of Health and to cover the salaries and related expenses of Division Chiefs at UNRWA Headquarters. The WHO regularly includes senior UNRWA programme managers in regional technical meetings, conferences and workshops, and supplies the Agency with technical publications and periodicals. The collaborative links between UNRWA and the WHO office in Jerusalem were strengthened in 2007 through arrangements that were made to facilitate access of UNRWA Headquarters to the WHO/EMRO intranet.

The Agency's Health Programme also maintained close collaborative links with other UN organizations, in particular UNICEF. Cooperation with UNICEF focused on relevant aspects of the Integrated Management of Childhood Illnesses (IMCI) programme, which involved UNICEF continuing to meet Lebanon and Syria Fields requirements of vaccines and cold-chain supplies for the six major vaccine-preventable diseases. In addition, collaborative links were maintained between UNRWA and UNICEF country offices and Host Country MOHs, for implementing two rounds of national immunization campaigns including a mass Polio immunization campaign for children 0-5 years of age in Lebanon. The cooperation with UNICEF was further enhanced to cover future collaboration in promoting the concepts and principles of the Convention on the Rights of the Child (CRC) and psychosocial support.

## Chapter 7

The UNRWA Health Department also maintained a system of exchange of information with UNFPA and UNAIDS. UNFPA contributed to UNRWA in the West Bank by donating contraceptives and medical equipment. Also UNRWA Health coordinated with the Japanese International Cooperation Agency (JICA) to implement the MCH Handbook in the West Bank and Gaza, and to introduce new growth charts.

Other NGO collaborations included joint activities with the Centre for Disease Control Atlanta (CDC) which resulted in an agreement to conduct the Global Youth Tobacco survey in all UNRWA Fields of operation.

UNRWA has historically maintained close working relationships with the public health departments of the Host Authorities. UNRWA senior Health staff in Gaza and the West Bank enjoy membership on many technical committees established by the MoH of the Palestinian Authority to review aspects of health policy and to coordinate action in the health sector. UNRWA also participated in the work of various national committees on nutrition and food to formulate policies and strategies on food security and micronutrients. The MoH of the Palestinian Authority has also been supportive of UNRWA's health care efforts by providing all vaccines included in the expanded programme of immunization in Gaza and the West Bank.

The MoH in Jordan has provided UNRWA with its required quota of contraceptives and vaccines which are used in the expanded programme of immunization. Also in cooperation with MoH, Jordan two rounds of Polio immunization campaigns were conducted for children 0-5 years in the Jordan Valley during 2007.

The MoH in Syria continued to meet UNRWA's requirements of vaccines that are not covered by UNICEF such as Hepatitis-B and Haemophilus influenzae type b (Hib) vaccines. In Jordan, Lebanon, and Syria the MoHs also met UNRWA's requirements of anti-tuberculosis drugs and provided advanced laboratory facilities for surveillance of vaccine-preventable diseases and HIV/AIDS.

UNRWA's Health Programme maintained and further developed its cooperation with the United States Agency for International Development (USAID) in Gaza and the West Bank, and the longstanding cooperation with the Palestinian Red Crescent Society (PRCS) was further enhanced especially in Lebanon where the Agency maintained contractual arrangements for treatment of refugee patients at the five PRCS hospitals. Cooperation was also maintained with local universities especially the American University of Beirut and Birzeit University in Jerusalem, in relation to education and development of science students.

During 2007, the Director of Health, and other senior staff of the Department of Health participated in the following meetings/conferences of the WHO and other stakeholders:

MEETING	PLACE AND DATES
120 <sup>th</sup> Session of the Executive Board of the World Health Organization	Geneva, 22- 30 January 2007
22 <sup>nd</sup> Meeting of the Regional Directors with WHO Representatives and Regional Office Staff	Cairo, 2-9 February 2007
UNAIDS Regional Coordination Meeting	Amman, 14-16 February 2007
AGFUND/WHO - CEH Regional Workshop on the role of Communities in Awareness Raising and Hygiene Education in Community Based Health Solid Waste Management in EMR	Amman, 12 - 14 March 2007

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MEETING	PLACE AND DATES
Coordination of Mental Health and Psychosocial Activities in the occupied Palestinian territories	Amman, 12 - 14 March 2007
Capacity Development Workshop on Health System Development or Regional Country Officer Staff, WHO/EMRO	Alexandria, 20- 24 May 2007
24 <sup>th</sup> Inter-Country Meeting of National Managers of the Expanded Programme on Immunization	Tunis, 28 - 31 May 2007
Training of Field Laboratory Services Officers BioSystem	Barcelona, 2 - 6 July 2007
Regional Workshop on Using GIS for Linking Health & Environment Data, Regional Workshop on Introducing HINARI, OARE and AGORA	Amman, 4 - 9 August.
1 <sup>st</sup> Regional Conference on Health Promotion in Schools in the Eastern Mediterranean Region	Damascus, 3 - 5 September 2007
Regional IMCI Coordinators Meeting	Amman, 2 - 6 September 2007
54 <sup>th</sup> Session for the Regional Committee for the Eastern Mediterranean	Cairo, 20-23 October 2007
Inter-Country Meeting on Adopting Age Friendly Principles in Primary Health Care Practice in the EMR	Amman, 26-28 November 2007
Inter-Country Meeting on Measles/Rubella Control and Elimination	Cairo, 3-5 December 2007
Global Consultation on Health Recovery in Transition	Geneva, 4-6 December 2007
Regional Training Workshop for National Health Promotion - Family Planning in Health Promotion Planning, Implementation and Evaluation	Amman, 4-6 December 2007
Regional Seminar on the Health Impact of Air Pollution	Cairo, 9-11 December 2007

# Annexes

**Annex 1****FACT SHEET 2007**

	Jordan	Lebanon	Syria	Gaza	West Bank	Agency-wide
<b>A- DEMOGRAPHIC INDICATORS</b>						
Registered refugee population in thousands	1903	414	451	1048	746	4563
Percentage of camp population to total registered refugees	17.5	53.0	27.0	46.9	25.4	29.7
Percentage of refugees to total country/district population	33.4	11.4	2.3	67.6	29.8	14.0
Growth rate of registered refugees (%) (1)	2.4	1.3	2.0	3.0	3.1	2.5
Total fertility rate (2)	3.3	2.3	2.4	4.6	3.1	3.2
Percentage of children below 18 years of age	35.9	29.1	35.5	46.9	39.2	38.3
Percentage of women of reproductive age (15-49 Years)	25.9	27.4	25.9	23.3	24.6	25.2
Percentage of population 40 years and above	27.2	34.5	29.0	21.3	27.1	26.7
Aging index	37.1	57.5	36.4	20.2	33.6	33.0
Average family size (2)	5.1	4.9	4.7	5.8	5.8	5.3
<b>B- UNRWA's HEALTH INFRASTRUCTURE</b>						
<b>Primary health care (PHC) facilities :</b>						
Inside official camps	13	13	14	11	17	68
Outside camps	11	12	9	8	20	60
<b>Total</b>	<b>24</b>	<b>25</b>	<b>23</b>	<b>19</b>	<b>3</b>	<b>128</b>
Ratio of primary health care facilities per 100,000 population	1.3	6.0	5.1	1.8	5.0	2.8
<b>Services integrated within PHC facilities :</b>						
Laboratories	24	16	21	16	37	114
Dental clinics						
a) Stationed units	27	22	17	13	22	101
b) Mobile units	4	2	1	3	1	11
Family planning	24	25	23	19	37	128
Special care for non-communicable diseases	23	25	23	16	37	124
Specialists	9	10	4	16	7	46
Radiology facilities	2	4	0	5	9	20
Physiotherapy clinics	1	0	0	6	6	13
Hospitals(3)	0	0	0	0	1	1
1- Rates are calculated based on population figures as per UNRWA Registration Statistics. 2- UNRWA study, 2005 3- There is only one hospital run by UNRWA in Qalqilia, West Bank. In all other instances, hospital care is provided through contractual arrangements or reimbursement of costs.						

**Annex 1****FACT SHEET 2007**

	Jordan	Lebanon	Syria	Gaza	West Bank	Agency-wide
<b>C- BUDGET AND HUMAN RESOURCE INDICATORS</b>						
Health personnel per 100,000 registered refugees						
a) Doctors	6.0	12.3	12.9	15.7	12.3	10.6
b) Dental surgeons	1.6	4.6	4.2	3.3	2.3	2.7
c) Nurses	13.9	28.7	29.5	27.9	30.3	22.7
Annual per capita budget allocations on health USD\$	9.8	36.4	18.5	30.1	28.6	21.0
Total Health allocations as a percentage from the approved regular budget	17.6	21.8	23.3	20.4	24.1	19.0
Average expenditure on pharmaceuticals per out-patient medical consultation USD\$	1.7	1.8	1.6	1.9	1.7	1.8
<b>D- HEALTH STATUS INDICATORS</b>						
Infant mortality rate per 1000 live births (1)	22.5	19.2	28.1	25.2	15.3	22
Infant mortality rate per 1000 live births by sex (1)						
a) Boys	23.6	18	33.1	26.6	15.7	
b) Girls	20.8	20.3	22.5	22.8	14.8	
Neonatal mortality rate per 1000 live births (1)	13.5	15	22.9	17.1	9.3	15.3
Child mortality rate (below 3 years) per 1000 live births(1)	25.1	20.2	30.5	28.3	17.6	24.4
Percentage of women married by the age < 18 years (2)	21.2	26.1	21.1	34.7	35.4	27.7
Mean birth interval (months) (2)	36.3	41.0	41.3	32.4	38.3	37.9
Percentage of women with birth intervals < 24 months (2)	35.7	32.2	31.1	42.2	31.9	35.6
Prevalence of modern contraceptive use among women of reproductive age utilizing UNRWA MCH services (2)	53	69	67.2	33.7	56.3	5.4
Mean marital age (women) (2)	20.4	20.2	20.7	19.1	19.2	19.9
Percentage of infants breastfed for at least one month (3)	75.9	87.2	87.3	65.0	87.1	87.9
Prevalence of exclusive breast feeding up to 4 months (3)	24.0	30.2	40.3	33.3	34.5	32.7
Prevalence of anaemia among children < 3 years of age(4)	28.4	33.4	17.2	54.7	34.2	33.8
Prevalence of anaemia among pregnant women(4)	22.5	25.5	16.2	35.6	29.5	26.3
Prevalence of anaemia among nursing mothers(4)	22.2	26.6	21.7	45.7	23.0	28.6
Prevalence of anaemia among school children(4)	14.4	22.3	9.1	36.4	14.6	19.5
a) 1st grade	11.6	16.9	6.0	11.4	14.9	12
b) 9th grade	36.5	26.7	36.8	43.5	39.6	39.2
Percentage of pregnancies at high or moderate risk	8.9	10.2	10.8	11.8	10.5	10.3
Prevalence of diabetes among population served 40 years and above (%)	13.1	20.2	18.3	19.4	14.3	15.8

## Annex 1

## FACT SHEET 2007

	Jordan	Lebanon	Syria	Gaza	West Bank	Agency-wide
<b>No. of cases of communicable diseases reported</b>						
a) Pulmonary TB smear positive	4	4	5	4	3	20
b) Measles	17	3	8	5	10	43
c) Rubella	26	0	9	0	24	59
d) Mumps	82	133	39	40	70	364
e) HIV/AIDS	1	1	0	0	0	2
<b>E- INDICATORS OF COVERAGE WITH PRIMARY HEALTH CARE</b>						
Percentage of pregnant women who received antenatal care	60.8	75.8	95.1	100.0	73.1	77.7
Percentage of pregnant women who paid at least four * ante-natal visits to UNRWA MCH Clinics	87.6	93.8	86.6	96.1	48.4	90.3
Average No. of antenatal visits	6.3	7.3	6.1	8.6	6.9	7.3
Proportion of pregnant women registered during * the first trimester	69.2	84.8	67.8	75.9	69.8	72.1
Percentage of pregnant women protected against tetanus	99.4	99.4	99.3	99.7	99.7	99.5
Percentage of pregnant women delivered by trained personnel*	99.9	99.9	99.2	100.0	99.5	99.8
Percentage of deliveries in health institutions *	99.7	98.1	93.8	99.7	98.6	98.8
Percentage of pregnant women who received postnatal care	90.5	96.5	93.6	98.9	91.8	94.5
Percentage of surviving infants who received regular care and monitoring	63.3	70.3	94.6	95.3	65.4	75.7
Percentage of infants 12 months old fully immunized	96.8	100.0	99.3	100.0	99.6	98.7
Percentage of children 18 months old who received all booster doses of EPI vaccines	98.1	100.0	99.9	98.4	99.3	98.6
Percentage of camp shelters with access to safe water	99	100	100	100	100	99.8
Percentage of camp shelters with access to sewerage facilities	90	87	95	84	63	85
Number of camps served by UNRWA mechanized refuse collection and disposal equipment	1	12	7	8	16	44
<b>F- PERFORMANCE INDICATORS</b>						
Average daily medical consultations per doctor	95	89	92	116	88	96
Average daily consultations per dental surgeon	34	33	37	52	32	38
Actual laboratory productivity rate compared to the target of 50 workload units /hour	50.2	44.6	42	77.1	44	54.2
Actual productivity of dental services compared to the target of 50 workload units per hour	52.3	43.6	44.8	71.2	49.5	55

1- UNRWA study, 2003

2- UNRWA study, 2005

3- UNRWA study, 2001

4- UNRWA study 2004

5- No cases of diphtheria, neonatal tetanus or poliomyelitis were reported during the year.

\* Data obtained through the Management Health Information System (MHIS) 2007

**Annex 1****FACT SHEET 2007**

	Jordan	Lebanon	Syria	Gaza	West Bank	Agency-wide
Average stay (days) among hospitalized patients	2.2	2.2	1.3	3.5	2.2	2.1
Average daily bed occupancy (%)						
a) Qalqilia hospital	0	0	0	0	55.6	55.6

## Annex 2

### *Abbreviations*

ACTED	Agency for Technical Cooperation and Development
AEOs	Area Education Officers
AHOs	Area Health Officers
AIDS	Acquired Immune Deficiency Syndrome
ARI	Acute Respiratory Infection
BCG	Bacillus Calmette-Guerin
BMI	Body Mass Index
CDC	Centres for Disease Control & Prevention
CEHA	Centre for Environmental Health Activities - WHO
CRC	Convention on the Rights of the Child
CVD	Cardiovascular Diseases
CYP	Couple-Years of Protection
DFID	Department for International Development
DOTS	Directly Observed Treatment Short-Course Strategy
DPA	Department of Palestinian Affairs
DPT	Diphtheria, Pertussis, and Tetanus
EC	European Community
ECHO	European Community Humanitarian Office
EHSI	Excellent Health Services Initiative
EMRO	Eastern Mediterranean Regional Office
ENT	Ear, Nose and Throat
EPI	Expanded Programme on Immunization
EPSS	Emergency Programme Support Staff
ESCPWA	United Nations Economic and Social Commission for Eastern Asia
EU	European Union
FAO	Food and Agriculture Organization
FDCOs	Field Disease Control Officers
FAI	Fatah al Islam
FFHO	Field Family Heath Officer
FP	Family Planning
FSE	Field Sanitary Engineer
GAPAR	General Authority for Palestine Arab Refugees
GIS	Geographic Information System
Hib	Haemophilus influenzae stereotype b
HIV	Human Immuno-deficiency Virus
ICRC	International Committee of the Red Cross
IPV	Intramuscular Polio Vaccine
IMCI	Integrated Management of Childhood Illnesses
IDDs	Iodine Deficiency Disorders
IUDs	Intra-uterine Devices
IUED	Geneva's Graduate Institute of Development Studies
JICA	Japanese International Cooperation Agency
LOS	Length of Stay
MCH	Maternal & Child Health
MDG	Millennium Development Goals

## Annex 2

MHIS	Management Health Information System
MMR	Measles, Mumps, and Rubella
MoE	Ministry of Education
MoH	Ministry of Health
MSF	Medicine san Frontiers
NCDs	Non-communicable Diseases
NIDs	National Immunization Days
NGOs	Non-Governmental Organizations
NTPs	National TB Programmes
OPV	Oral Polio Vaccine
oPt	Occupied Palestinian Territory
PA	Palestinian Authority
PCBS	Palestinian Central Bureau of Statistics
PLO	Palestinian Liberation Organisation - Syria
PRCS	Palestinian Red Crescent Society
PRF	Patient Registration File
RSS	Relief and Social Services – UNRWA
SAR	Syrian Arab Republic
SDS	Senior Dental Surgeon
SEHP	Special Environmental Health Programme
SFP	Supplementary Feeding Programme
STD	Sexually Transmitted Disease
TB	Tuberculosis
Td	Tetanus/Diphtheria
TFR	Total Fertility Rate
TOT	Trainer of Trainers
TQM	Total Quality Management
UNAIDS	United Nations Programme on AIDS
UNICEF	United Nations Children's Fund
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNFPA	United Nations Fund for Population Activities
UNRWA	United Nations Relief & Works Agency for Palestine Refugees in the Near East
UNSCO	United Nations Special Coordinator in the Occupied Territories
USAID	United States Agency for International Development
UXO	Unexploded Ordnance
WHA	World Health Assembly
WHO	World Health Organization
WFP	World Food Programme
WLU	Work Load Unit

## Annex 3

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