



Palestinian National Authority
Ministry of Health
Gaza Strip



Annual Epidemiological Report

2011

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Palestine Map



Preface

Despite the overall political difficulties and instabilities, the unjust siege, difficult living conditions of Gaza people, an increase of unemployment and poverty and frequent electrical interruption, the health system is still sustainable and uncollapsed and achieves improvements on the land. The ongoing health emergency situation in Gaza poses additional challenges on the health services added to the financial crises facing health system which constitute a threat for MOH and its health program.

At this time an epidemiological report is issued to reflect the accurate communicable disease situation. Now it is about 7 years since the edition of the last epidemiological report was published. A comparison of reports reflects great scientific improvement and advances in surveillance system. Epidemiological data on disease frequency, pattern, causes and risk factors underpin public health and develop a sense of priorities that guide public health and health policy. The information of this report shed light on sensitive and important areas for the health system, providing basic statistical analysis to vital health indicators. This report shows an achievement and improvement of our health indicators over the last years which is supported by the reports from international organizations. No single case of acute poliomyelitis was reported since 1984 and Palestine was declared as free country from poliomyelitis since the year of 2006. No cases of cholera, diphtheria, measles, rabies, rubella or tetanus were reported during the year 2011. Maintenance of high level of immunization coverage about 99% or more and introducing new vaccines reflects the great success achieved by the health system. Hence we need all health professionals to have an epidemiology sense, to organize research and do actions.

I have the honor to present this annual report of the primary health care about communicable diseases 2011 and hope that this report will be an important reference contributing in support the decision makers in terms of planning and evaluation, will add an additional source about the health situation and will help in creation of an effective and suitable health care system.

This work is seen as a multidisciplinary and done in large teams. Thanks to our medical, health and administrative teams for this effort and diligent work.

We look forward to continue progress to achieve the main goal of MOH "Provide a comprehensive health services to Palestinian people to prevent morbidity and reduce mortality".

Minister of health

Dr. Mofeed Mokhallati

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Acronyms And Abbreviations

AEFI	Adverse Events Following Immunization
AFP	Acute Flaccid Paralysis
AIDS	Acquired immunodeficiency syndrome
BCG	Bacille Calmette and Guérin
CFR	Case Fatality Rate
DTP	Diphtheria–Tetanus- Pertussis
ELISA	Enzyme-Linked Immunosorbent Assay
EMR	Eastern Mediterranean Region
EPI	Expanded Program of Immunization
GIVS	Global Immunization Vision and Strategy
GS	Gaza Strip
HAV	Hepatitis A Virus
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
Hib	Haemophilus influenza type b
HIV	Human Immunodeficiency Virus
MNT	Maternal and Neonatal Tetanus
MOH	Ministry Of Health
MOI	Ministry Of Interior
NGOs	Non-Governmental Organizations
PHC	Primary Health Care
PHIC-G	Palestinian Health Information Center in GS
PNA	Palestinian National Authority
SIAs	Supplementary Immunization Activities
STD	Sexual Transmitted Diseases
TB	Tuberculosis
TT	Tetanus Toxoid
UN	United Nations
UNICEF	United Nations International Children's Emergency Fund
UNRWA	United Nations Relief and Works Agency for Palestinian Refugees
URTI	Upper Respiratory Tract Infection
WB	West Bank
WHO	World Health Organization

Foreword

We are pleased to present this annual epidemiological report as another accomplishment of the epidemiology department. During the year 2011, online epidemiological bulletin (www.moh.gov.ps; www.moh.gov.ps/cars) began publishing and already has covered topics with epidemiological importance. This report is a comprehensive report about the epidemiological situation of communicable diseases in Gaza strip and summarizes our prevention and control activities from January 1, 2011, through December 31, 2011. One of the epidemiology department goals is to provide a yearly summary of communicable diseases incidence and outbreaks report in order to understand, monitor and prevent diseases and other health related illnesses in Gaza strip.

The last annual epidemiological report was published in 2004, and much has changed since then. We hope that this report will be an informative accurate reference and will positively contribute in helping national and international organizations in identifying needs and following the health situation for additional support.

This publication can be obtained from the above mentioned web-sites. Please send any comments and feedback to the Epidemiology Department-Gaza;

Email: epidept-phc@moh.gov.ps.

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Contributors team

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We thank all those, who participate in data reporting for their invaluable contribution.

1. Introduction

The Palestinian National Authority (PNA) territories consist of two geographically separated areas West Bank (WB) and Gaza Strip (GS). GS is a narrow zone of land bounded of the south by Egypt, on the west by the Mediterranean Sea, and on the east and north by the occupied territories in 1948. GS has a total area of 365 sq km with 46 kilometers long and 5–12 kilometers wide and constitute 6.1% of a total area of Palestinian territory land. The mid-year population of the year 2011 was 1.588.691 that represents 38 percent of the total population in the Palestinian territories. GS is considered as one of the most overcrowded areas in the world with a population density of 4.353 inhabitants/sq.km. According to the United Nations Relief and Works Agency (UNRWA) statistics in 2010, the total number of registered Refugees in GS constitutes about 72.8% from the total population.

Gaza strip consists of four cities, fourteen villages and eight refugees' camps and administratively divided into the following main five governorates:

North-Gaza governorate with an area of 61 sq. km, constitutes 16.7% of the total area of GS and 1.0% of the total Palestinian territory. The total number of population lived in North-Gaza governorate during 2011 was 309.434 individuals with 5073 inhabitants/sq. km.

Gaza governorate with an area of 74 sq. km, constitutes 20.3% of the total areas of GS and 1.2% of the total Palestinian territory. The total number of population lived in Gaza governorate during 2011 was 551.832 individuals with 7457 inhabitants/sq. km.

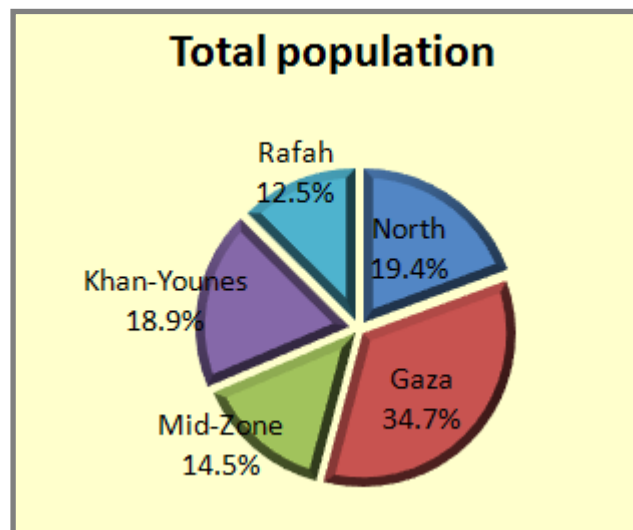
Mid-Zone governorate with an area of 58 sq. km, constitutes 15.9% of the total area of GS and 1.0% of the total Palestinian territory. The total number of population lived in Mid-Zone governorate during 2011 was 230.689 individuals with 3977 inhabitants/sq. km.

Khan-Younes governorate with an area of 108 sq. km, constitutes 29.6% of the total area of GS and 1.8% of the total Palestinian territory. The total number of population lived in Khan-Younes governorate during 2011 was 301.138 individuals with 2788 inhabitants/sq. km.

Rafah governorate with an area of 64 sq. km, constitutes 17.5% of the total area of GS and 1.1% of the total Palestinian territory. The total number of population lived in Rafah governorate during 2011 was 195,598 individuals with 3056 inhabitants/sq. km.

According to the distribution of the population by governorates during the year 2011 (graph 1), the most populated governorate was Gaza governorate with 34.7% of the total GS population, followed by North-Gaza governorate with 19.4%. On the other hand, Rafah governorate has the lowest rate of population of 12.5%. The percentage of population under 15 years old was 43.8% of the total population in GS.

Graph 1: Distribution of population by governorates in GS, 2011



Gaza is a vital part of the Palestinian entity and identity, and its place in the middle of the Palestinian territory makes it a prominent focus of global politics. In August, 2005 the Israel evacuated the occupied GS, including all existing Israeli settlements and all military installations which redeployed outside the GS. In reality, the Israeli unilateral disengagement imposed huge prison for the Palestinian people introduced by Israeli government for the first time in modern world. This is the newest and most dangerous reoccupation of people with disavowal from their rights and the entitled to live with self determination in their occupied land. Also, all these Israeli activities violate the United Nations (UN) human rights conventions and UN decisions. Since 2006, a strict siege was began on Gaza resulted in severe restriction of population movement, increased health risks and impede the delivery of health and social services. On 27 December 2008, Israeli army launched a devastating War on Gaza and lasted about 23 days. By 18 January 2009,

when unilateral ceasefires were announced by both Israel and Hamas, some 1400 Palestinians had been killed, including some 300 children and hundreds of other unarmed civilians, and large areas of GS had been razed to the ground, leaving many thousands homeless and the already dire economy in ruins. Economically, the Gaza Strip continues to be totally dependent on the Israeli Occupation State, which is considered as its primary trading partner. As a result, unemployment increased and people were induced to migrate for work and create conditions conducive to alcohol and drug use which have expanded rapidly in GS in recent years. Israeli policy of limiting the daily amount of fuel and electricity to Gaza has not only made healthcare unreliable and inadequate but leaves entire health care centers without electricity for 8 to 12 hours per day. Water and sewage plants cannot function without power, leaving an estimated 25-30% of Gazans without running water, while 40-50 million liters of sewage floods untreated into the sea each day. Moreover, the accessibility of the modern facilities of transportation have a great role in facilitating the transmission of communicable diseases from person to person and spreading the diseases from place to another.

The above-mentioned factors make GS susceptible for frequent outbreaks of communicable diseases from time to time. So the Ministry of Health (MOH) realizes this fact and provides continuous support to epidemiology department in order to conduct more efforts to prevent and control communicable diseases. On other hand, this situation has led to adopt a changeable strategy according to the situation on the ground in order to guarantee the continuity of services.

Besides that, the health system of GS has many strengths. These include a relatively healthy population; a high societal value placed on health; many highly qualified, experienced health professionals and the presence of national plans for health system development; and a strong base of governmental and non-governmental institutions. At the same time, there are important areas of concern include poor coordination and implementation of policies and programs across geographic areas and between the governmental and nongovernmental (NGOs) sectors of the health system; many under-qualified health care providers; and weak systems for continuing education.

1.1 Sources of data

After the establishment of Palestinian National Authority (1994), communicable diseases surveillance programs in GS have been developed in Al-Rimal martyrs clinic in order to protect our people from major endemic health problems. In 1996 a second center was opened in Khan-Younes governorate to serve southern governorates. Now we have centers in all governorates. Epidemiology department developed the surveillance system as an activity to monitor, prevent and control communicable diseases.

Communicable diseases and their related events in GS are divided into three groups according to their epidemiological importance (annexes 1-3):

Group A diseases: Diseases of this group are of high importance so they must be immediately notified with accuracy due to the urgency of investigation and intervention. This group includes Acute Flaccid Paralysis (AFP), Acute Poliomyelitis, Human immunodeficiency virus / Acquired immunodeficiency syndrome (HIV/AIDS), Cholera, Diphtheria, Food poisoning, Measles, Rubella, Meningococcal diseases, Hemophilus Influenza b (Hib) Meningitis, Rabies, Tetanus and Adverse Events Following Immunization (AEFI).

Group B diseases: Diseases of this group are of the second highest of importance and must be notified within one week. It includes other Bacterial and Viral Meningitis, Brucellosis, Hepatitis (A, B and C), Lishmaniasis, Influenza A H1N1, Malaria, Mumps, Sexual Transmitted Diseases (STD), Shigellosis, Tuberculosis, Salmonellosis, Typhoid and Paratyphoid fever, and Whooping Cough.

Group C diseases: Diseases of this group are of low importance and monthly notification is needed. This group includes Animal Bites, Chicken Pox, Diarrhea, Upper respiratory Tract infection (URTI), Ascariasis, Amebiasis, Giardiasis, Strongyloidiasis, Enterobiasis, Trichuriasis, Hymenolepiasis, Toxoplasmosis and Leprosy.

Data about communicable diseases are collected from all health providers and facilities participated in notification. In Gaza Strip, we apply disease specific approach of communicable disease surveillance, which depends essentially on passive surveillance system from health facilities of different health providers. Reporting is very important for detecting any unusual increase of the disease to take needed preventive measures. In spite

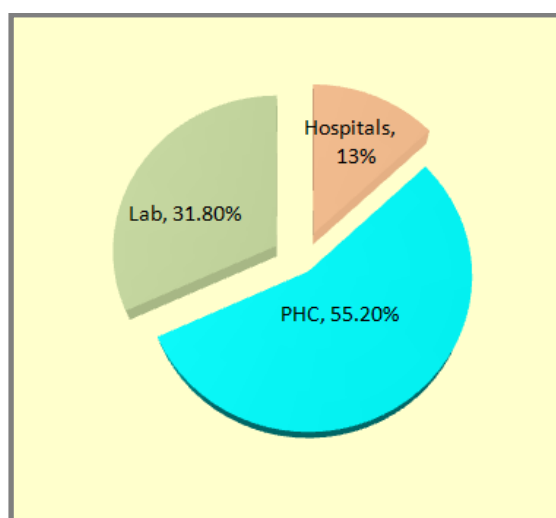
of the significant gap between real data and received, recorded and reported data from all providers, all received data are routinely analyzed and interpreted to be part of the (monthly, quarterly and annually) reports on communicable diseases to control and prevent communicable diseases and to help decision making.

1.2 Health facilities participated in the notification

There are four health care providers (Governmental, UNRWA, non-governmental organizations (NGO's) and Private sector) in GS. The Governmental and UNRWA offer health services to the most population of GS. The NGO's and Private sector serve small part of the population so why we will include these providers under one item "NGO's".

During 2011, there was a total of 154 facilities participated in notification of communicable diseases from all health providers. The main source of data is received from PHC centers which constitute more than 55% from all participation (graph 2).

Graph 2: Distribution of health facilities participation in notification of communicable diseases GS, 2011



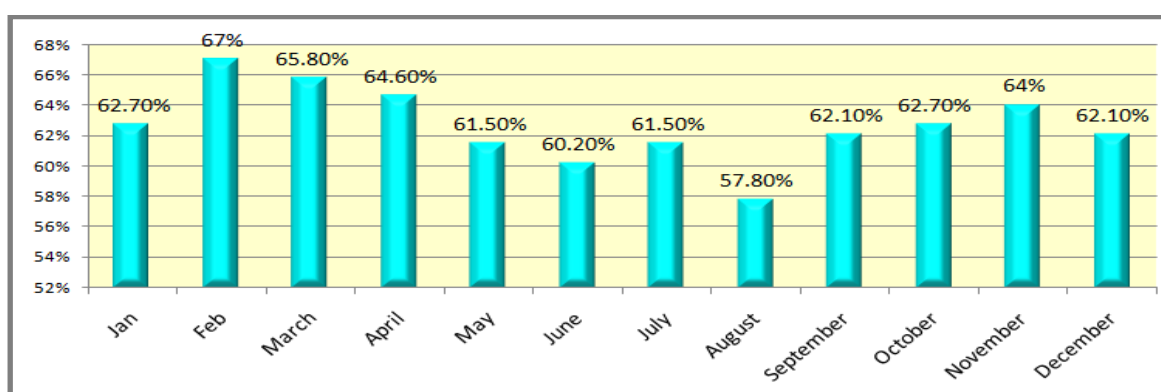
Among these facilities, there were 20 hospitals (12 governmental and 8 NGOs), 85 primary health care (PHC) centers (54 governmental, 18 UNRWA and 13 NGOs) and 49 laboratories (31 governmental and 18 NGOs) participated in the notification (table 1).

Table 1: Percentage of notification by type of health providers in GS, 2011

Type of Provider		Monthly Average received	Monthly Total expected	Percentage of notification
Hospitals	Gov	7	12	59%
	NGOs	3.4	8	42.7%
PHC	Gov	30.6	54	68%
	UNRWA	18	18	100%
	NGOs	1	13	7.7%
Laboratories	Gov	26	31	84.7%
	NGOs	4.6	18	26%

As shown on table 1, the notification from UNRWA facilities was very significant. The notification from NGOs PHC facilities was very poor (7.7%). In fact, NGOs facilities serve a few quantity of people and more effort should be paid at this level for better notification. An average of 59% of governmental hospitals participated in the notification process. This average should be increased in order to improve reporting and notification.

Graph 3: Monthly Percentage of health facilities notification in GS, 2011



As shown on graph 3, the participation in reporting varies by months. The average notification during the year 2011 was 62.67%. The participation was better during the first quarter and mainly during February where 67% off all participated health facilities participated in notification. The lowest month of notification was in August where only 57.8% off all participated health facilities participated in notification.

By the end of the year 2011, a total of 189.473 cases of notifiable diseases were reported to the epidemiology department in the five governorates with about 32% increase comparing

with 2010 (143.620 cases). The majority of reported cases were from North governorate (30% of notifications) followed by Khan-Younes governorate (23.2%). The lowest notification was reported from Rafah governorate (8.5%). Where in 2010, the majority of reported cases were from Khan-Younes governorate (32.6% of notifications) followed by Mid-Zone governorate (23.2%). The lowest notification was reported from Rafah governorate (9.9%).

We are looking to improve the participation of health facilities in notification and reporting of communicable diseases through:

- Increasing the awareness of the notification by all health providers,
- Active collaboration between Epidemiology Department and health facilities,
- Establishing the Feedback information from Epidemiology department to all health providers, who participated in notification of communicable diseases.

1.2.1 Primary Health Care centers

Primary health care (PHC) is a major component of Palestinian health care system. PHC provides preventive, promotional, curative and rehabilitative health care to all Palestinian people especially for children and other vulnerable groups through MOH, UNRWA, non-governmental and private centers. PHC centers try to offer accessible and affordable health services for all Palestinians regardless of geographical locations. According to MOH policy, PHC centers classified from level I to level IV according to health services they provide which include:

- Child's health including the care of child at birth, and immunization;
- Women's health including prenatal care, high risk pregnancy, family planning and reproductive health;
- Nutrition and micronutrient deficiencies, including breast feeding;
- Communicable and non-communicable disease control including control of diarrhea diseases, acute respiratory infections, brucellosis and others;
- School health;
- Health promotion and education;
- Environmental health;

- Curative care for children and adults with provision of essential drugs in the PHC centers including medical emergency and chronic diseases;
- Oral preventive and curative health care; and
- Diagnostic services including laboratory and x- ray.

At the end of 2011, the total number of PHC centers in the GS were 54 centers guided by MOH, 20 centers guided by UNRWA and many other centers guided by NGOs.

1.2.2 Secondary Health Care (Hospitals)

In GS, the secondary healthcare is provided by the governmental, non-governmental and private hospitals. The MOH is responsible for a significant portion of the secondary healthcare of general and specialized hospital beds. According to Palestinian health information center in GS (PHIC-G), there was a total of 29 hospitals at the end of 2010 (13 guided by MOH, 13 by NGOs and 3 by Military services).

1.2.3 Laboratories

The laboratory services in GS are offered to the Palestinian people mainly through MOH and UNRWA at three levels: Central, Intermediate, and Peripheral. According to PHIC-G, there were a total of 51 laboratories at the end of 2010 guided by MOH (11 hospital laboratories, 38 PHC laboratories, 1 central laboratory and 1 public health laboratory), in addition to 20 PHC laboratories were guided by UNRWA. Many other laboratories are guided by NGOs.

1.3 Morbidity of communicable diseases

Communicable diseases are one of the main causes of morbidity, mortality and disability in the world. While these diseases present a large threat for the well-being of humans, there are well-known interventions that are available for controlling and preventing them. The development and strengthening of national surveillance systems is a key part of communicable disease prevention and control. The Palestinian health authority had succeeded in prevention and complete control of many communicable diseases, where there are no registered cases of poliomyelitis, rabies, diphtheria, plague, leprosy, schistosomiasis or malaria had been reported in the last years. Other communicable diseases, such as meningococcal meningitis, HIV/AIDS, hepatitis, tuberculosis, diarrhea,

pneumonia and parasitic infestation remain challenges. Improvement of regular notification, reporting, evaluation and intervention is needed for the success of their prevention and control. In spite of the amelioration of reporting system, we still have under reporting from some health providers. So the data presented in this report does not reflect the real situation of these diseases.

1.4 Vaccine Preventable Diseases

Vaccination is one of the most important public health interventions. Their use had led to eradication of smallpox, partial eradication of polio, elimination of tetanus, partial elimination of measles and substantial reductions in the morbidity and mortality attributed to diphtheria and pertussis. The targets of the Global Immunization Vision and Strategy (GIVS) set by World health organization (WHO) and UNICEF call for all countries to be immunizing by 2010 at least 90% of their total child population under five years old, and at least 80% of children under five in every district throughout the country. Each country has its own policies as to which vaccines to use. Immunization program performance is now increasingly measured not only by immunization coverage rates, but also, and more important, by measuring the reduction in the incidence of expanded program of immunization (EPI) target diseases. Surveillance data are crucial in assessing whether disease eradication, elimination and reduction targets are being met and where resources should be targeted for maximum cost-effectiveness.

Palestinian MOH adopted a comprehensive EPI to prevent 10 vaccine-preventable diseases that occur mainly in infants and children. The strength of the Palestinian immunization program plays an important role in improving child health. The main target diseases for which vaccines are used are Tuberculosis (TB), Poliomyelitis (polio), Diphtheria-Tetanus-Pertussis (DTP), Measles-Mumps-Rubella and congenital rubella syndrome (MMR), Hepatitis B and Haemophilus influenza type b (Hib).

In 2011, some changes in measles vaccine policy was adopted. By November 2011, a nine month measles dose was stopped and a two doses of MMR is given at 12 and 18 months. Our target is that every child will receive a safe and effective vaccine for each childhood vaccine-preventable disease. So according to MOH policy, any infant from any governorate can receive his vaccine at any PHC centre in any governorate. Table 2 shows the national immunization schedule for these diseases.

Table 2: National immunization schedule in GS, 2011

Age at vaccination	Type of vaccine
At birth	BCG, Hepatitis B1
1 month	IPV1, Hepatitis B2
2 months	IPV2, TOPV1, DTP1, Hib1
4 months	TOPV2, DTP2, Hib2
6 months	TOPV3, DTP3, Hib3, Hepatitis B3
9 months	Measles
12 months	MMR1
18 months	MMR2, TOPV4, DTP4
6 years	DT, TOPV5
12 years	Rubella for female
15 years	Td

Based on the reports received from immunization department, the average coverage rates exceeded 98% for all vaccines (table 3), which had clear impact on eradication, elimination or reduction in the incidence of vaccine preventable diseases.

Table 3: Annual immunization coverage for all vaccines in GS, years 2003-2011

Vaccine	2003	2004	2005	2006	2007	2008	2009	2010	2011
BCG	99.5%	100%	100%	100%	100%	100%	99.6%	100%	99%
Hep B1	98.3%	97.9%	98.7%	97.9%	97.9%	98.9%	94.1%	98.9%	99%
TOPV3	98.2%	98.3%	98.8%	98.5%	98.5%	98.7%	96.5%	100%	101.3%
DTP3+Hib3	97.7%	97.6%	97.8%	98.7%	98.7%	98.9%	99.1%	100%	101%
Measles	100%	98.3%	99.3%	100%	100%	90.6%	95.4%	100%	100.4%
MMR2	97.2%	95.4%	95.1%	98.5%	98.5%	94.4%	98%	100%	98.2%

Immunization coverage is used in order to monitor progress in achieving and maintaining high levels of immunization. According to table 3, the overall coverage for BCG was 99%, for Hep1 was 99%, for TOPV3 was 101.3%, for DTP3 was 101%, for first dose of measles was 100.4% and for MMR2 was 98.2%.

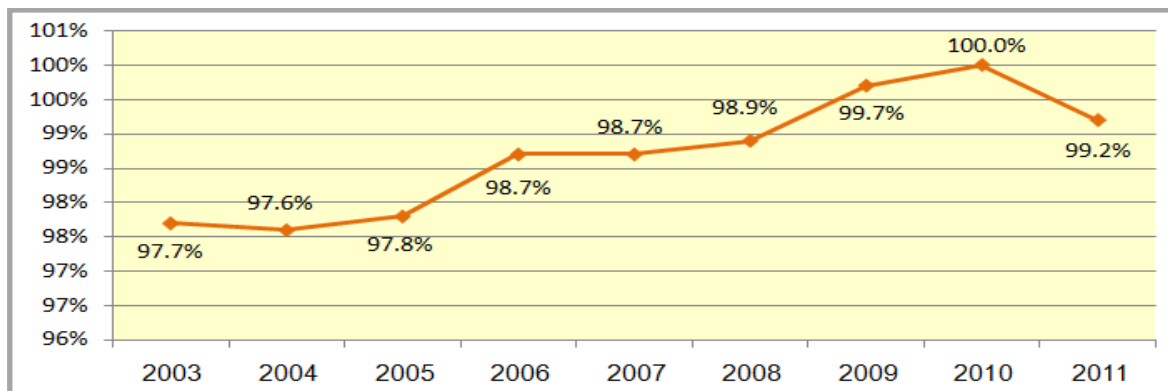
The continuous supply and distribution of vaccines is one of the pillars that allow this program to be one of the best health programs. This extraordinary achievement were accomplished because of a combination of different reasons like the availability of the vaccines throughout the year, efficient cold chain (including refrigerators powered by solar energy are located in each governorate), continuous follow up of defaulters by the health centre staff, good appointment system and increase the awareness of Palestinians mothers regarding the importance of vaccines.

In Gaza strip, all data about immunization coverage are timely and relatively easy to collect so the reporting of vaccine doses administered and coverage percentage are always accurate. By the end of the year 2011, the total number of newborns was 57808 and according to MOI (civil affairs) there are a lot of defaulters who register their infant after a long period from delivery (more than two years) and they constitute about 14.7% from the all newborns (about 1000 newborn) which must be added to the total number of newborns. In fact these infants in spite of lack of registration, received there immunization on time so they will be added to the total number of newborns bringing the total number of 59718 newborns. During this period, a total of 1034 infants were died.

During 2011, a total of 58136 infants received their vaccines which constitute about 99% from the total population. For some vaccines, immunization coverage exceeded 100% because of the fact that geographically some areas belong to a defined governorate but administratively they belong to other governorate. And any child, even from outside and resides in the strip in need to take the vaccine is given it. By convention, the success of routine immunization programs has been measured by the coverage achieved with the third dose of DTP3 among children aged 6 months. DTP3 coverage serves as the primary indicator of an immunization program's performance and in 2011 in Gaza strip, it was 101%.

According to graph 4, since the year of 2003 till 2011 there was a continuous improvement in immunization coverage.

Graph 4: Annual DTP3 immunization coverage in GS, 2003-2011



In spite of the War on Gaza on 2009; restriction of the movement of people and goods; the isolation policy of the Gaza strip; the increasing poverty rate, high unemployment rate and socio-economic hardship etc.; the immunization coverage was not affected but still growing and was closed to about 100%.

2. Group A disease

By analyzing the reported data of diseases of this group we realize that no cases of acute poliomyelitis, cholera, diphtheria, measles, rabies, rubella or tetanus were reported during year 2011 (Annex 1).

2.1 Poliomyelitis and AFP

The World Health Organization (WHO) adopted a resolution to eradicate poliomyelitis from the world by 2015. The pillars of polio eradication are routine immunization, supplementary immunization, targeted “mopping-up” campaigns, surveillance for AFP and environmental surveillance.

PNA adopted this pillars. In Gaza Strip, there was a high coverage of poliomyelitis vaccination closed to 100% (2 doses of IPV at ages 1 and 2 months in addition to 5 doses of TOPV at ages 2, 4, 6, 18 months and 6 years); national immunization days were conducted targeting children under five years of age for three consecutive years (regardless of previous immunization status); mopping up campaigns were carried out as needed; active surveillance of AFP was implemented; no cases of polio were reported since 1984 and testing sewage for the presence of poliovirus was conducted. So in the year 2006, the regional committee for the Eastern Mediterranean Region (EMR) of the WHO certify that Palestine is free from poliomyelitis.

Table 4: Polio immunization coverage in GS, 2011

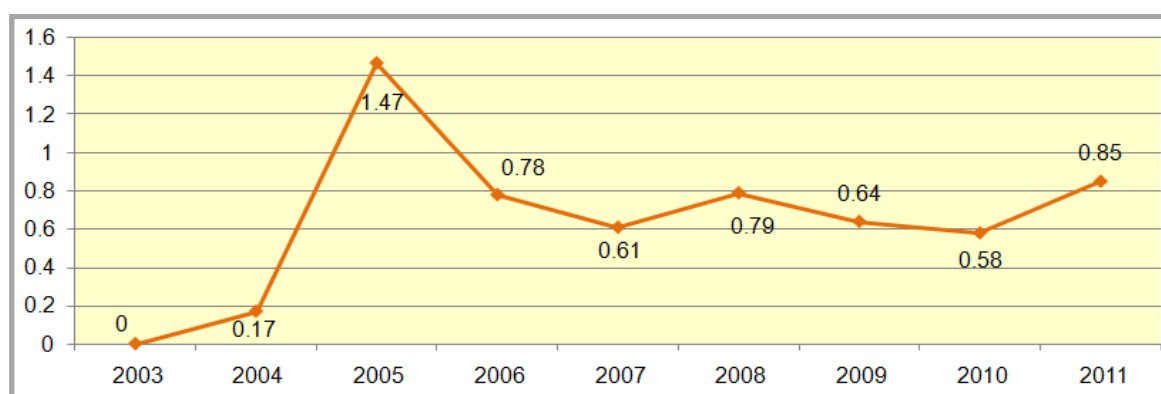
Type of vaccine	Vaccinated and registered	Total
IPV1	Total vaccinated	59127
	Total registered population	58943
	Coverage	100.3%
TOPV3	Total vaccinated	60319
	Total registered population	59534
	Coverage	101.3%

As seen on table 4, the total number of children received IPV1 vaccine was 59127 children constituting a coverage of about 100.3% from the total number of children, while the total

number of children received TOPV3 vaccine was 60319 children constituting a coverage of about 101.3% from the total number of children.

According to WHO estimation, the incidence rate for AFP must be at least one case for every 100.000 children under 15 years. As shown on graph 5 during the year of 2011, an improvement of reported cases (6 cases) was noticed in GS with an incidence rate of 0.85 per 100,000 children under 15 years in comparison to the year 2010 where the incidence rate was 0.58 (4 cases) per 100.000 population and to the year 2009 where the incidence rate was 0.64 (4 cases) per 100.000 population.

Graph 5: Annual incidence of AFP per 100.000 population in GS, years 2003-2011



The registered cases in the year 2011 were reported mainly in Gaza (3 cases) and Khan-Younes (3 cases) governorates. All these cases were free of Poliomyelitis. An improvement of AFP surveillance is needed through strengthening cooperation between epidemiology department and all health providers.

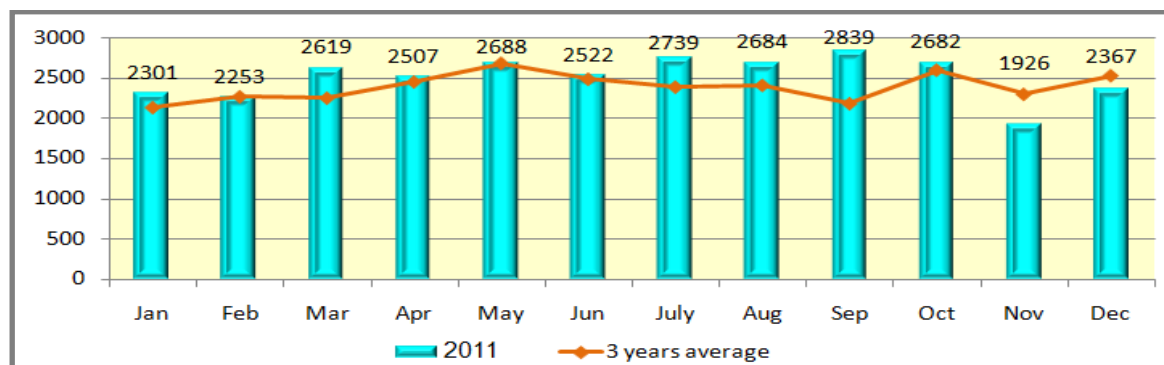
2.2 AIDS/HIV

The global HIV pandemic continues to remain a serious public health problem in spite of the advances in fighting this disease. According to recent reports, the number of AIDS patients has risen to surprising levels in Arab and Islamic countries over the last few years.

In Palestine, HIV screening was started in 1987 for blood donors. In 1996 screening was extended to include pre-employment investigation, university student, drug addicts, prostitutes, TB patients and close HIV contacts. Provisional testing of samples for

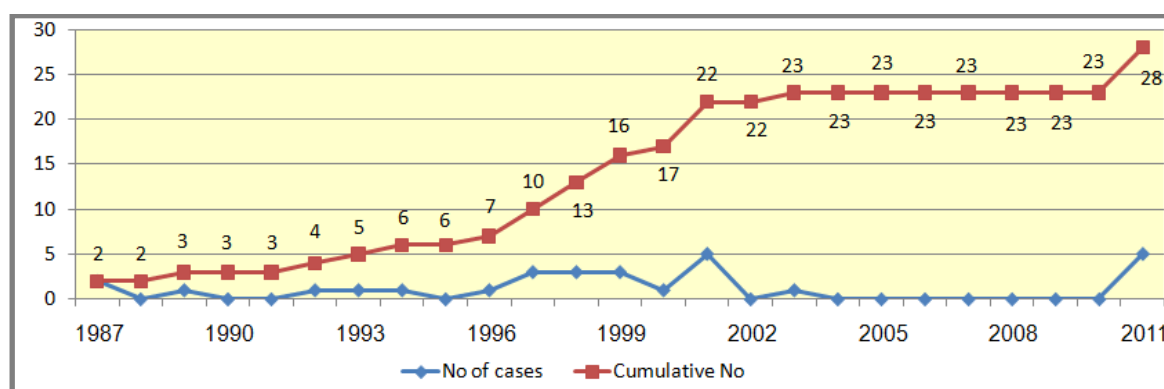
HIV/AIDS is carried out using ELISA test. Samples with ELISA positive results are confirmed using Western Blot test (Annexes 5-7).

Graph 6: Monthly tested blood samples for HIV from blood donors in GS, 2011



In 2011, a total of 45,516 blood samples were tested for HIV (Annex 7). Among these samples, about 66% were tested from blood donors and no positive samples were registered among them (graph 6). Among the rest samples tested from different patient, a total of 5 samples were positive with an overall incidence of 0.01%. In 2010, a total of 42,243 blood samples were tested for HIV (Annex 6). Among these samples, about 71% were tested from blood donors and the rest were for different patients while no positive samples were reported. Although HIV infection is reported in most countries in the world, Gaza as other Arabic regions, reports low incidence rate of HIV/AIDS. Since the year of 2004 till 2010, no cases of HIV/AIDS were reported in Gaza strip, while in the year 2011, a total of 5 new cases were reported.

Graph 7: Annual new and cumulative HIV/AIDS reported cases in GS, 1987-2011



As seen on graph 7, the cumulative reported cases in Gaza Strip from 1987 till 2011 was 28 cases. From these cases 20 cases (71.4%) were male, 13 cases (46.4%) were married and ten (35.7%) were single. The majority of cases 16 (57.1%) were from Gaza

governorate. The main route of transmission 15 cases (53.6%) was heterosexual. At the date of diagnosis, 16 (57.1%) cases were diagnosed as having first stage (asymptomatic) according to WHO classification and 10 (35.7%) cases as having AIDS stage (severe). The majority of cases 21 (75%) were in their productive age. The majority of cases 19 (67.9%) were died due to lack of treatment.

During the year of 2011 a total of five cases were reported with an incidence rate of 0.31/100.000 population. Now in Gaza Strip, there are a total of eight cases living with HIV/AIDS with a prevalence of 0.5/100.000 population. According to national adopted treatment protocol, seven of them are under treatment and one is un-eligible for treatment. Of these 8 cases only 3 (37.5%) are male, 4 (50%) cases are married, 4 (50%) cases from Gaza governorate. The majority of infections 37.5% were transmitted through heterosexual route. Only 2 infections were attributed to maternal to child transmission and one to blood transfusion. The majority of these cases 5 (62.5%) were diagnosed during the year of 2011. In GS since the introduction of treatment in the year 2010, the case fatality rate is zero%.

It is important to note that, given the strong “taboos surrounding the discourse on HIV”, the real mode of transmission is not likely to be documented in many instances. There are strong limitations about what patients living with HIV can tell us, so these data do not reflect the real transmission route.

2.3 Measles

The WHO Regional Committee for the Eastern Mediterranean passed a resolution to eliminate measles based on the following strategy:

- Strengthening routine infant immunization and achieving >90% coverage of first dose of a measles containing vaccine (MCV1) in all districts.
- Conducting catch-up supplementary immunization activities for all susceptible age groups.
- Achieving high coverage (>90%) with a second dose of measles vaccine either through:

1. supplementary immunization activities every 3 to 4 years or

2. inclusion of a 2nd measles dose in the EPI schedule

- Strengthening surveillance for measles
- Optimal case management for children with measles

Before the introduction of measles vaccine at age of 9 months in 1980, the disease was endemic in Palestine. In 1985, a second-dose incorporated with mumps and rubella vaccine as a combined vaccine (MMR) was added at 12 months and once again a second dose of MMR was added to the immunization schedule since 2009 at 18 months.

In GS the incidence of measles is under control. The current elimination strategy has led to a dramatic decline in measles cases. No cases were reported in the last ten years. GS is considered by WHO to be in the phase of eliminating this disease as the WHO criteria are fulfilled. High immunization coverage (more than 98%) is sustained with two-vaccine doses (since 1985), added to the different national campaigns conducted at different times. In 2011, all suspected cases were analyzed for anti-measles immunoglobulin M and all results were negative.

As seen on table 5, the total number of children received MCV1 (Measles) vaccine were 51913 children constituting a coverage of about 100.5% from the total number of children, while the total number of children received MMR1 vaccine were 57325 (with a coverage of 96.8%) and those who received MMR2 vaccine were 54472 with a coverage of 98.2%.

Table 5: Measles immunization coverage in GS, 2011

Type of vaccine	Vaccinated and registered	Total
Measles	Total vaccinated	51913
	Total registered population	51673
	Coverage	100.5%
MMR1	Total vaccinated	57325
	Total registered population	59193
	Coverage	96.8%
MMR2	Total vaccinated	54472
	Total registered population	55486
	Coverage	98.2%

2.4 Tetanus

Tetanus is an acute, often fatal disease caused by the spore-forming bacterium *Clostridium tetani*. Tetanus is almost entirely preventable through immunization. The WHO recommended strategies for achieving Maternal and Neonatal Tetanus (MNT) elimination include:

- Strengthening routine immunization of pregnant women with tetanus toxoid vaccine (TT)
- TT Supplementary Immunization Activities (SIAs) in selected high risk areas, targeting women of child bearing age with 3 properly-spaced doses of TT
- Promotion of clean deliveries
- Reliable NT surveillance

In Palestine, TT was introduced in the immunization schedule since 1957. It is incorporated with diphtheria and pertussis as a combined vaccine (DTP). Primary vaccination with the DTP series consists of a four-doses, administered at ages 2, 4, 6 and 12 months. A fifth dose incorporating with diphtheria (DT) is given for children aged 6 years to confer continued protection against disease during the first year of schooling. And a sixth dose incorporating with adult diphtheria (Td) vaccine is given for children aged 15 years.

In GS, all WHO recommended strategies have been implemented: almost all deliveries were at public health institutions in hygienic circumstances; a high immunization coverage (more than 100%) against tetanus among infants is reached; six-dose vaccination policy is implemented according to EPI protocol and MNT elimination has been achieved. Since the last several years neither cases of NT nor MT were reported in GS.

Table 6: DTP immunization coverage in GS, 2011

Type of vaccine	Vaccinated and registered	Total
DTP3	Total vaccinated	60171
	Total registered population	59534
	Coverage	101%

Table 6 shows that the total number of children received DTP3 vaccine was 60171 children constituting a coverage of about 101% from the total number of children.

2.5 Meningitis

Meningitis is an infection that involves the membranes overlying the brain and spinal cord (meninges) and the causative agents vary greatly among the different age groups. Meningitis has a high prevalence in developing countries, with associated mortality and risk of severe residual neurological problems. There are several different causes of meningitis like bacteria, virus or fungus infection.

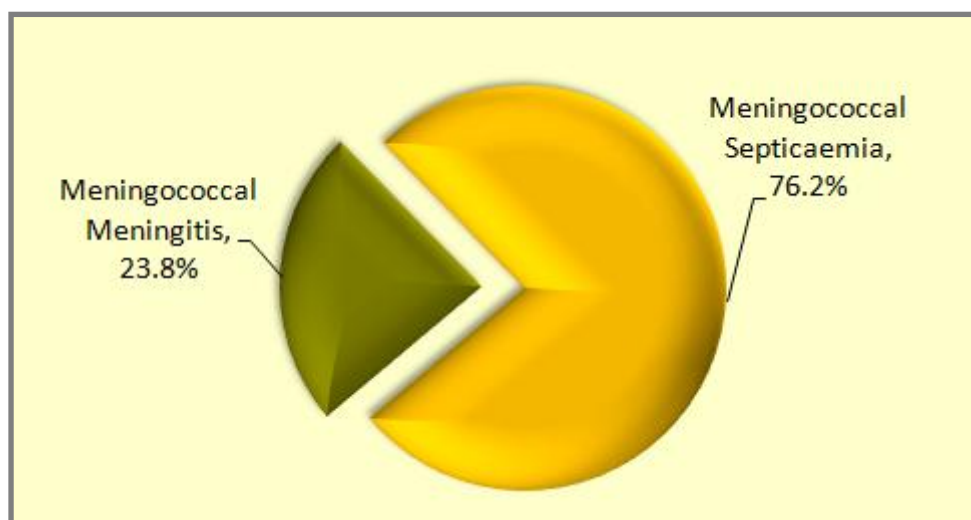
2.5.1 Bacterial Meningitis:

Bacterial meningitis is an important serious illness worldwide; it can be caused by a range of different bacteria: *Neisseria Meningitides*, *Haemophilus influenza* type b, *Streptococcus pneumoniae* and others.

2.5.1.1 *Neisseria Meningitides* Diseases:

Diseases caused by *Neisseria Meningitides* are considered as life threatening illnesses and involve many organs causing meningitis and septicemia. These types should always be viewed as a medical emergency. These diseases remain a priority concern types because of the fatality they cause. Meningococcal meningitis is an endemic disease in GS.

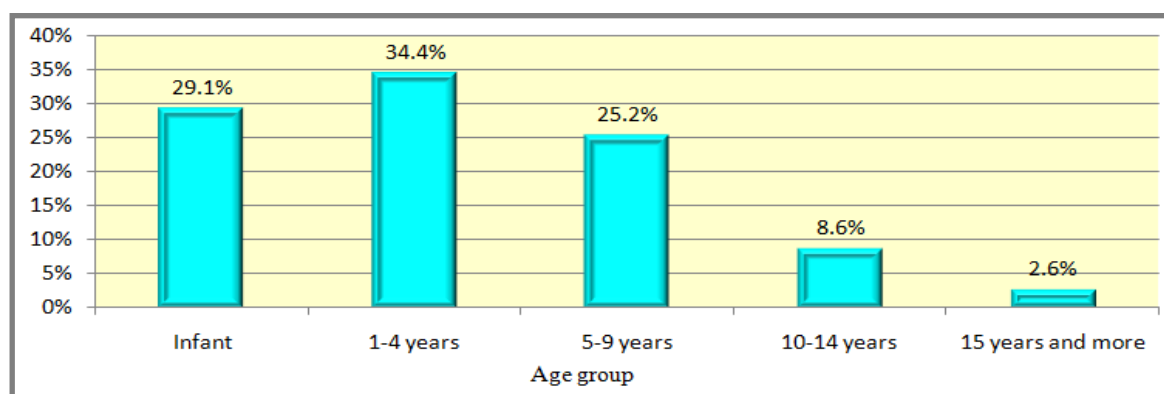
Graph 8: Distribution of *Neisseria Meningitides* diseases by type of disease in GS, 2011



In GS these diseases are endemic with seasonal and governorate variations. In the year 2011, a total of 151 cases were reported with an incidence rate of 9.5 per 100.000 population. As seen on graph 8, the majority of cases 76.2% (115 cases) were meningococcal septicemia.

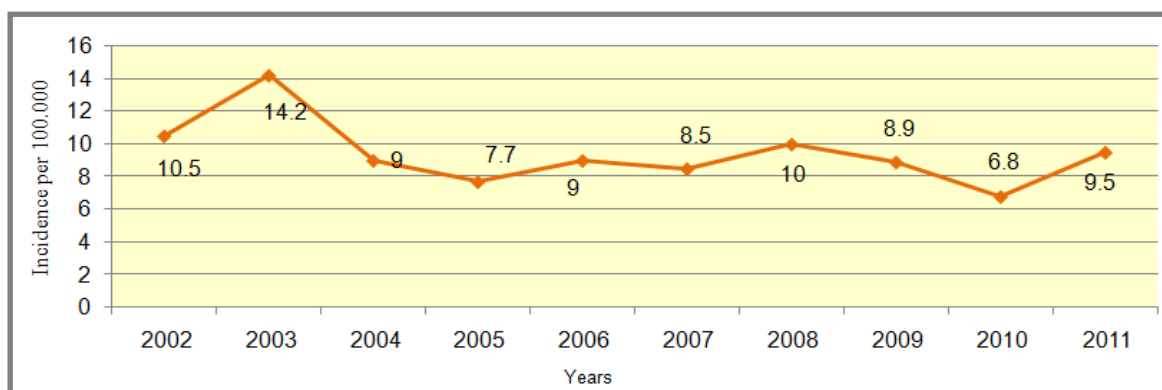
There was a male predominance 92 cases (60.9%) than female. Age distribution showed that, it occurred mainly in infants were 29.1% were reported. The disease mainly was reported in northern governorates were 42 cases (27.8%) and 40 cases (26.5%) were reported in Gaza and North governorates respectively. The case fatality rate (CFR) among all cases was 15.2%. The highest case fatality rate reported among children 1-4 years old.

Graph 9: Distribution of Neisseria Meningitides Diseases by age group in GS, 2011



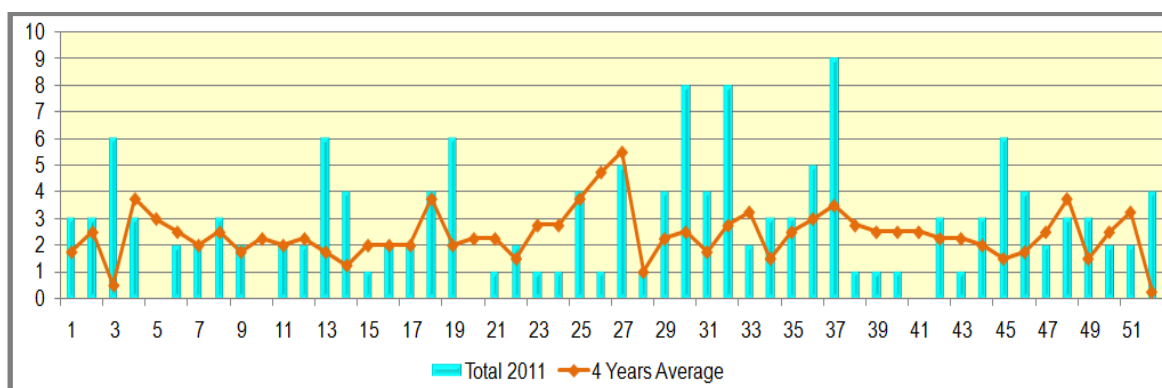
As seen on graph 9, the main affected age groups were infants (44 cases constitute 29.1%) and children aged 1-4 years (52 cases constituted 34.4%). The age group 5-9 constituted 25.2% (38 cases) of cases. No obvious seasonal distribution was noted except an increase of reported cases in southern governorates (Rafah and Khan-Younes) in July, August and September and then it returned to the previous incidence.

Graph 10: Annual incidence of Neisseria Meningitides diseases per 100.000 in GS, years 2002-2011



As seen on graph 10, the yearly incidence of Neisseria Meningitides diseases is fluctuating but generally is decreasing since the year of 2003.

Graph 11: Weekly reported cases of Neisseria Meningitides diseases in GS, 2011

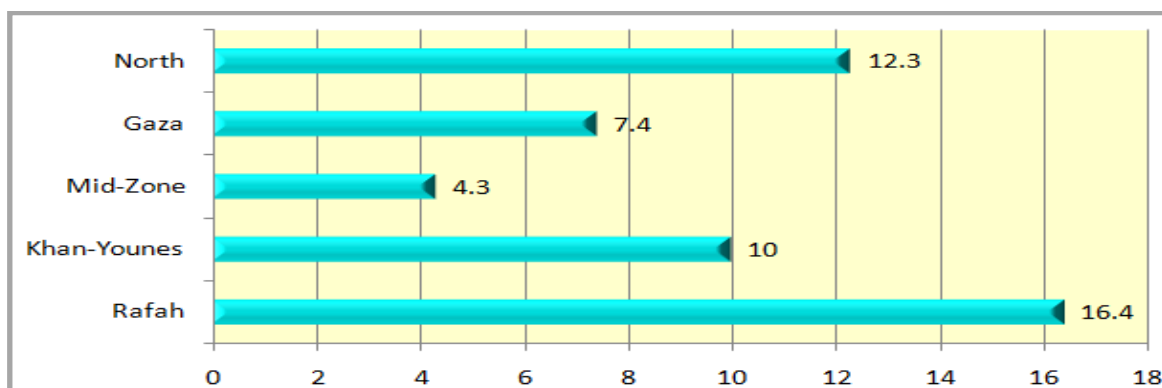


As shown on graph 11, there was an increase in reported cases in the weeks 30, 32 and 37 mainly in Rafah governorate.

In 2009 and 2010, a total of 132 and 104 cases of Neisseria Meningitides diseases were reported with an incidence of 8.8 and 6.8/100.000 population respectively. In 2009, the majority of cases 75 (56.8%) were male and in 2010, there was a total of 57 (52.3%) male cases.

As seen on graph 12, the incidence of reported cases per 100.000 population was 16.4 (32 cases) in Rafah governorate; in North governorate it was 12.3 (38 cases); in Khan-Younes governorate it was 10 (30 cases); ; in Gaza governorate it was 7.4 (41cases); and in Mid-Zone governorate it was 4.3 (10 cases).

Graph 12: Geographical distribution of Neisseria Meningitides diseases per 100.000 population, 2011



2.5.1.1.1 Meningococcal meningitis

During 2011, a total of 36 cases (23.8% from all Neisseria Meningitides diseases cases) were reported with an incidence of 2.3 per 100.000. Among these cases 19 (52.8%) cases were male. The majority of cases were among infants (52.8%) and was reported in Gaza governorate (11 cases constitute 30.6%) followed by Khan-Younes governorate (10 cases constitute 27.8%). Among these patients, the CFR was zero%. For some cases, serogroup was done and showed only serogroup B.

During 2009 and 2010, a total of 26 and 29 cases were reported with an incidence of 1.7 and 1.9/100.000 respectively.

2.5.1.1.2 Meningococcal Septicemia

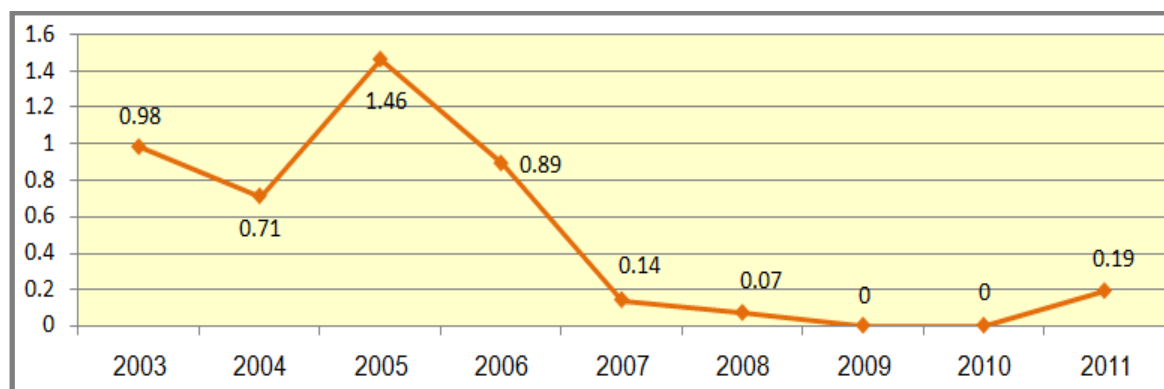
During 2011, a total of 115 cases (76.2% from Neisseria Meningitides diseases cases) were reported with an incidence of 7.2 per 100.000. The majority of cases 73 (63.5%) were male and reported in North (35 cases constitute 30.4%) and Gaza (31 cases constitute 27%) governorates. About 22 cases were died with a case fatality rate of 19.1%.

During 2009 and 2010, a total of 106 and 75 cases were reported with an incidence of 7.1 and 4.9/100.000 respectively. About 28 cases were died in 2009 and 27 cases in 2010 with a CFR of 26.4 and 36% respectively.

2.5.1.2 *Haemophilus influenza Type b meningitis*

Haemophilus influenza type b bacteria is a cause of bacterial infections that are often severe, particularly among infants. This bacteria can cause several diseases such as meningitis, pneumonia and others. Since the introduction of conjugate Hib vaccine in the routine immunization schedule in 2007 (three doses at 2, 4 and 6 months), Hib meningitis registered cases dramatically decreased and had nearly been eliminated.

Graph 13: Annual incidence per 100.000 population of Hib meningitis in GS, years 2003-2011



As seen on graph 13, a total of 3 cases were reported in GS in 2011 with an incidence of 0.19 per 100.000 population. In 2007, no cases were reported but in 2008 only one case was reported in Gaza governorate. In 2009 and 2010, no cases were reported.

Table 7: Hib3 immunization coverage in GS, 2011

Type of vaccine	Vaccinated and registered	Total
Hib3	Total vaccinated	60171
	Total registered population	59534
	Coverage	101%

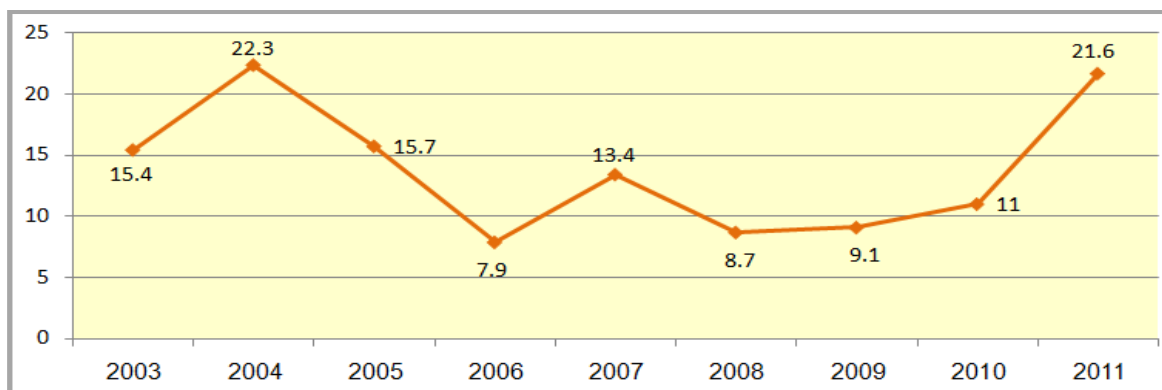
Table 7 shows that in 2011 a total of 60171 infants were vaccinated with a total coverage with Hib3 vaccine of 101%.

2.5.1.3 *Other Bacterial Meningiti*

Other bacterial meningitis are caused by variety of bacterial infection including mainly gram-negative rods (especially *Escherichia coli*) and gram-positive rods (streptococcal

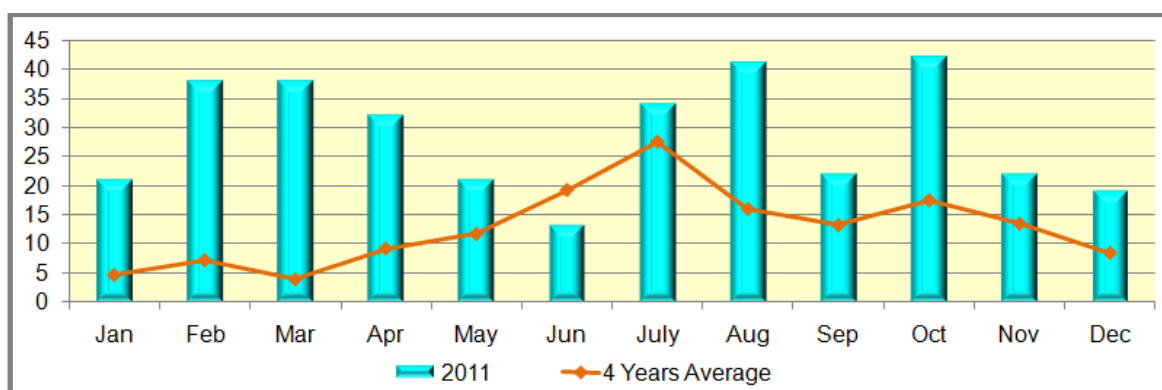
pneumonia). During 2011, a total of 343 cases were reported with an incidence rate of 21.6 per 100.000 population.

Graph 14: Annual incidence of Other Bacterial Meningitis per 100.000 in GS, years 2003-2011



As shown on the graph 14, a significant increase of other bacterial meningitis was reported in the year 2011 in comparison with the previous years. During 2011, a total of 343 cases were reported with an incidence of 21.6 per 100.000 population. In the last 5 years the incidence rate ranged between 7.9 and 11. This increase was due to improvement of surveillance system as the increased incidence was reported since the beginning of the year and during all months (graph 15). The majority of reported cases were not confirmed by laboratory which is strongly recommended.

Graph 15: Monthly distribution of Other Bacterial Meningitis cases in GS, 2011



As we don't have a diagnostic technology to differentiate the cause of the disease, the increased of reported cases in the year 2011 could be attributed to the real increase of this

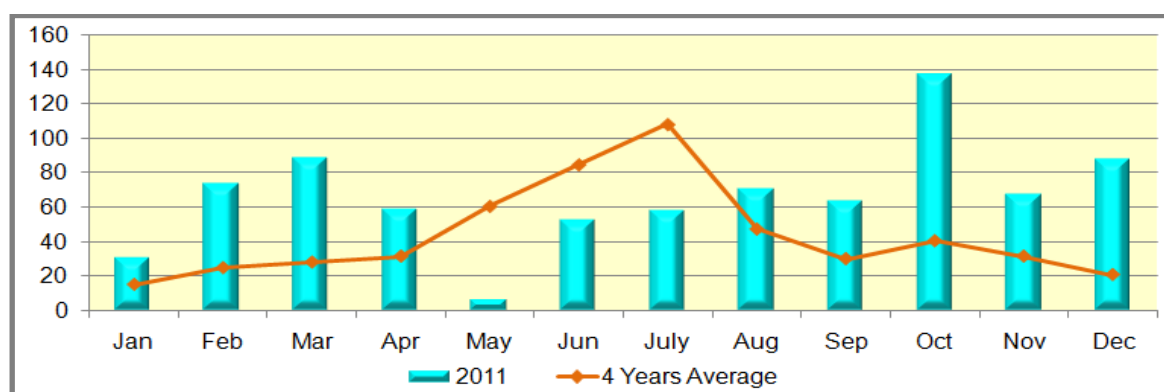
disease, to the improvement of notification of communicable diseases or to the improvement in lab technologies of diagnoses methodology.

2.5.2 Non Specific Meningitis

One of the most important causes of non-specific meningitis is viral (aseptic) meningitis which is serious but rarely fatal disease. In Palestine, viral meningitis is considered as one of the endemic diseases with some seasonal variation.

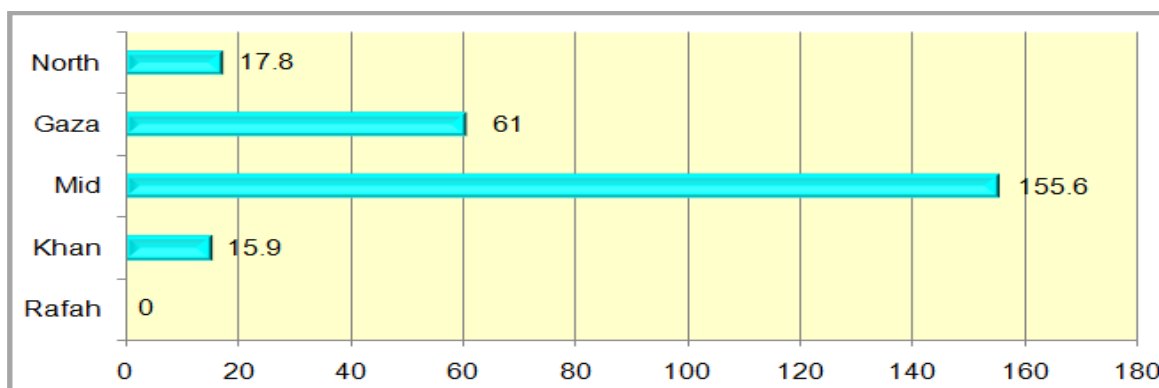
In the year 2011, there was a notable increase in viral meningitis, where 799 cases were reported with an incidence rate of 50.3 per 100,000 population compared with 643 cases in 2010 with an incidence rate of 41.9 per 100,000 population. Graph 16 shows monthly distribution of viral meningitis cases.

Graph 16: Monthly distribution of Viral Meningitis cases in GS, 2011



The majority of cases were reported in Mid-Zone (359 cases) and constitute an incidence of 155.6 per 100000 population. In Gaza governorate a total of 337 cases were register constituting an incidence of 61 per 100000. In North and Khan-Younes governorates a total of 55 and 48 cases were reported constituting an incidence of 17.8 and 15.9 per 100000 respectively. In Rafah governorate, no cases were reported because all notified cases were included in Khan-Younes cases report.

Graph 17: Geographical distribution of Viral Meningitis cases per 100000 population in GS, 2011



Regarding to the seasonal distribution, about 36.7% of total cases were reported in autumn, were 24.3% and 24% were reported in winter and summer respectively. The lowest proportion was reported in spring where 14.9% of cases were reported.

2.6 Rabies

Rabies is an acute infection of the nervous system caused by rabies virus which is usually transmitted by bites from infected animals. After recognition of a rabies exposure, rabies can be prevented with initiation of appropriate steps including active and passive immunization. After a human is bitten by a known animal, the animal should be captured, confined, and observed for a period of at least 10 days. If an animal escapes after an exposure, it should be considered as infected animals unless proved otherwise and rabies prophylaxis should be initiated using a regimen of four doses of rabies given on days 0, 3, 7, and 14.

Since many years no cases of rabies were reported in GS.

2.7 Diphtheria

Diphtheria was one of the most common causes of illness and death among children. Since the introduction and widespread use of vaccines containing diphtheria toxoid beginning in the 1957 with an infant EPI program, diphtheria has been well controlled. In Palestine, the available diphtheria vaccine is combined with tetanus toxoids and pertussis (DTP). Primary vaccination with the DTP series consists of a four-doses, administered at ages 2, 4, 6 and

12 months. A fifth dose incorporating with tetanus toxoid (DT) is given for children aged 6 years to maintain a continued protection against disease during the primary years of schooling. And a sixth dose having adult diphtheria incorporating with tetanus toxoid (dT) vaccine is given for children aged 15 years.

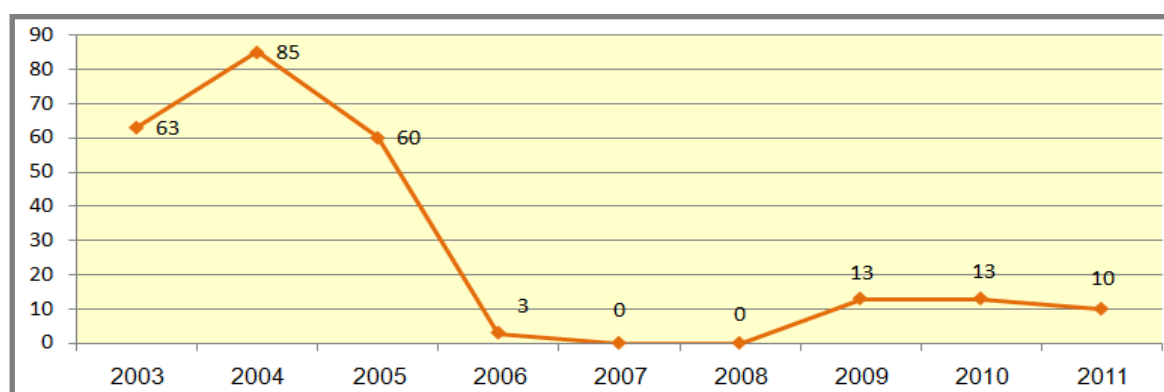
Table 6 shows that a total of 60171 children received DTP3 vaccine with a total coverage of 101%.

2.8 Adverse events following immunization

Adverse events following immunization (AEFI) are defined as medical incidence that take place after an immunization and is believed to be caused by the immunization within four weeks of a vaccine administration. The main AEFI are divided into local adverse events (injection site abscess, lymphadenitis and sever local reaction) and general adverse events (Fever, vaccine associated paralytic poliomyelitis, encephalitis, meningitis, allergic reaction, anaphylactic shock). In the last years only post BCG axillary lymphadenitis cases were reported.

In the year 2011 only 10 cases of post-BCG lymphadenitis were reported (graph 18) while in the year 2010 a total of 13 cases were reported. The significant decrease of reported post-BCG lymphadenitis since 2006 could be explained by using high quality of BCG vaccine and highly qualified health care providers.

Graph 18: Annual reported cases of post-BCG lymphadenitis in GS, years 2003-2011



No case of other AEFI were reported in the last years which means that there was a serious under reporting of AEFI which needs more efforts in the future to convince the health providers to report other types of vaccine adverse events.

3. Group B diseases

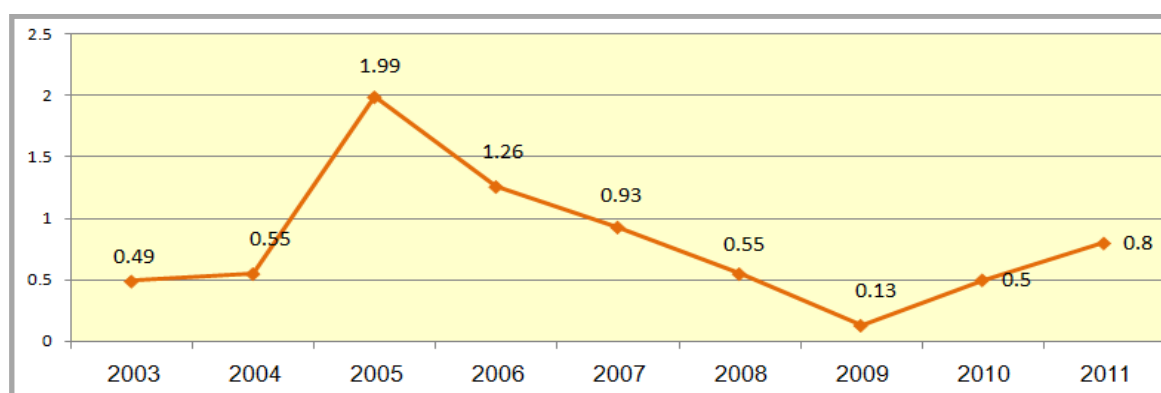
An obvious decrease of reported cases of group B diseases was registered in the last years. This decrease was due to adoption of special programs for controlling of some diseases (brucellosis and TB) and adoption of other preventive activities (mumps, pertussis, rubella and hepatitis B vaccines).

3.1 Brucellosis

Brucellosis is an endemic disease worldwide, especially in developing countries. As zoonotic diseases it cannot be adequately controlled only by monitoring the disease in human populations. In Palestine, the disease is contagious of domestic animals. In 1998, PNA adopted the Brucellosis Control Program (BCP) in cooperation with WHO and UNDP. The BCP focused on animal health through comprehensive animal testing, vaccination and depopulation of affected animals and human health by focusing on good management of cases and health education for at risk population. As a result of this strategy, control and near-elimination of the disease in animals was achieved till now.

In Gaza strip since 2005, a continuous decline of reported cases was noticed (graph 19). The incidence rate in the year 2005 was 1.99/100.000 population decreased to 0.13/100.000 population in 2009. In 2010 and 2011, the incidence increased from 0.5 to 0.8/100.000 population. The increase of incidence could be explained by the poor control on the tunnels with Egypt as many un-tested animals could be entered to Gaza strip.

Graph 19: Annual incidence of Brucellosis cases per 100.000 in GS, years 2003-2011



During 2011, a total of 13 cases of brucellosis were reported in GS. The majority of cases 6 (46%) were reported in North governorate, followed by Rafah governorate were 3 (23%) cases were reported.

3.2 Mumps

Mumps is a viral illness caused by a paramyxovirus of the genus Rubulavirus. As a part of prevention and control activities of this illness, mumps vaccine was introduced in Palestine in 1985 using the combined measles, mumps and rubella vaccine (MMR) at age of 12 months. In 2009, children effectively began receiving two doses of mumps vaccine because of the implementation of a two-dose measles vaccination policy using the combined MMR vaccine at age of 18 months.

Table 5 shows that a total of 57325 children received MMR1 vaccine with a total coverage of 96.8% while the total number of children received MMR2 vaccine were 54472 with a total coverage of 98.2%.

During the year of 2011, no cases were confirmed among 54 suspected cases (mainly in the period May-June) due to the lack of confirmatory test reagents, while in the year 2010, 2 cases were confirmed among 76 suspected cases (mainly in the period June-August).

3.3 Pertussis

Pertussis, a cough illness commonly known as whooping cough, is caused by the bacterium *Bordetella pertussis*. Severe disease is infrequent in healthy, vaccinated persons. In Palestine, the pertussis vaccines available is combined with diphtheria and tetanus toxoids (DTP). Primary vaccination with the DTP series consists of a four-doses, administered at ages 2, 4, 6 and 12 months.

In Gaza strip, there are no reported cases of pertussis since more than 10 years which reflect the good effect of high immunization coverage on controlling this disease. During 2011, the immunization coverage for DTP1 was more than 100% (table 4), for DTP2 was more than 101%, for DTP3 was more than 101% and for DTP4 was about 100%.

3.4 Rubella

Rubella is a viral illness caused by a togavirus of the genus Rubivirus. In 1985, live attenuated rubella vaccines were used in Palestine. The goal of the rubella vaccination program was to prevent congenital infections, including congenital rubella syndrome (CRS). Live attenuated rubella virus vaccine is combined with measles and mumps vaccine (MMR), recommended for infants 12 months of age. In 2009, two doses of combined measles-mumps-rubella (MMR) vaccine are recommended at 18 months. Sixth grade girls in the Gaza Strip received Rubella vaccine. So, since many years no confirmed cases of Rubella or CRS were reported. During 2011, the total MMR1 coverage was 96.8% and MMR2 was 98.2% (table 5).

3.5 Viral Hepatitis infection

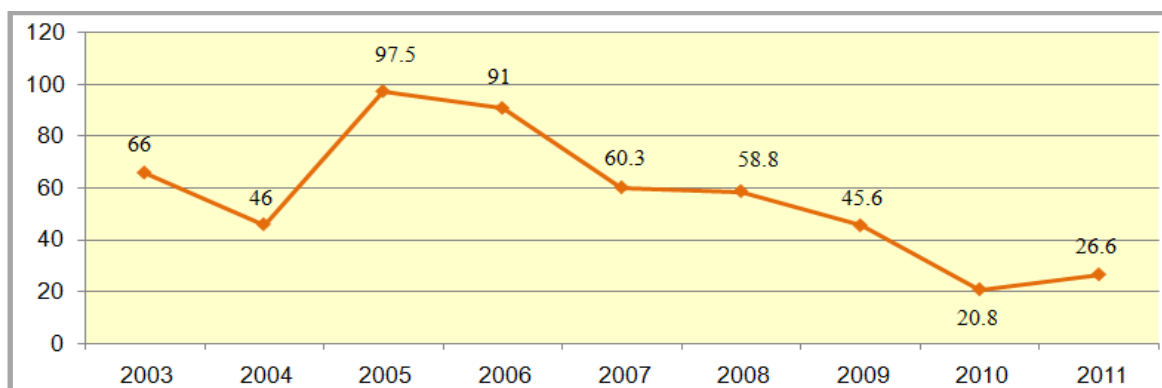
Viral hepatitis is one of the most serious health problem worldwide, with some variation from one type to another and from country to another. It caused by several viruses that differ in clinical presentation, risk of chronicity, transmission, and means of prevention. In Palestine the most common are hepatitis A, hepatitis B and hepatitis C.

3.5.1 Hepatitis A

Hepatitis A is considered one of the most common diseases and the leading cause of acute viral hepatitis worldwide. The majority of HAV infection still takes place in early childhood, where it is asymptomatic, self-limiting and leaves life-long immunity. Palestine as one of developing countries is still endemic for hepatitis A. Since the year 2005, a noticeable decrease of incidence per 100.000 population was reported with an incidence of 97.5 per 100,000 population decreased to 26.6 per 100,000 in the year 2011 (graph 20).

This noticeable decrease could be explained by good personal hygiene. During the year 2011, a total of 423 cases were reported with an incidence of 26.6 per 100.000 population. The majority of cases were reported in Khan-Younes governorate were 185 cases constituting 43.7% of total reported cases.

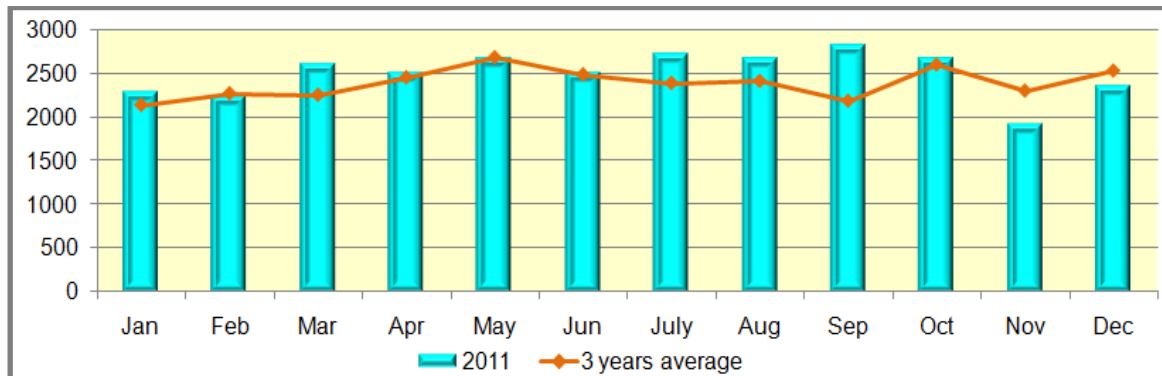
Graph 20: Annual incidence of Hepatitis A virus per 100.000 population in GS, years 2003-2011



3.5.2 Hepatitis B

Hepatitis B is caused by infection with the HBV, a virus of the family hepadnaviridae. HBV infection is a major public health problem in the Middle East. According to WHO classification, Palestine is considered as intermediate endemic area of hepatitis B.

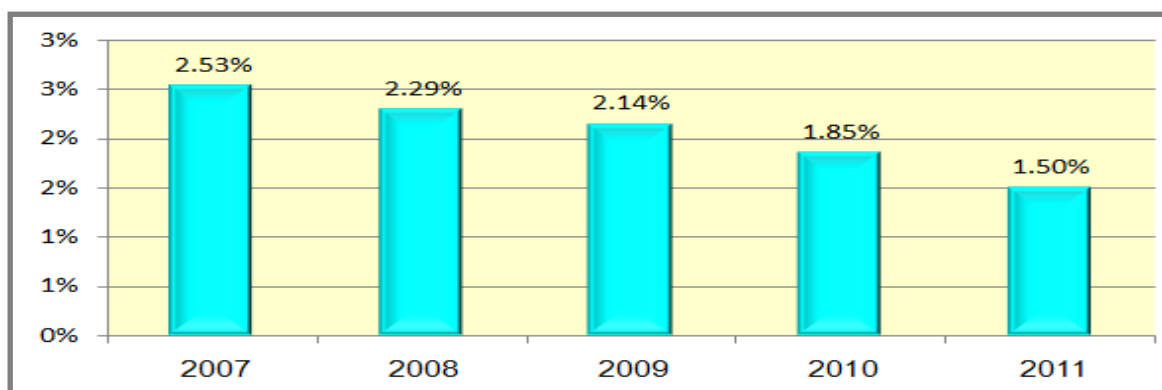
Graph 21: Monthly tested samples for HBV among donors in GS, 2011



Among blood donors (Annex 7), a total of 30127 blood samples were tested for hepatitis B and 453 samples were positive with an incidence of 1.5% (graph 21).

As seen on graph 22, the incidence of hepatitis B infection among blood donors decreasing since 2007 to 2011 from 2.5% to 1.5%.

Graph 22: Annual incidence rate of Hepatitis B infection among blood donors in GS, years 2007-2011



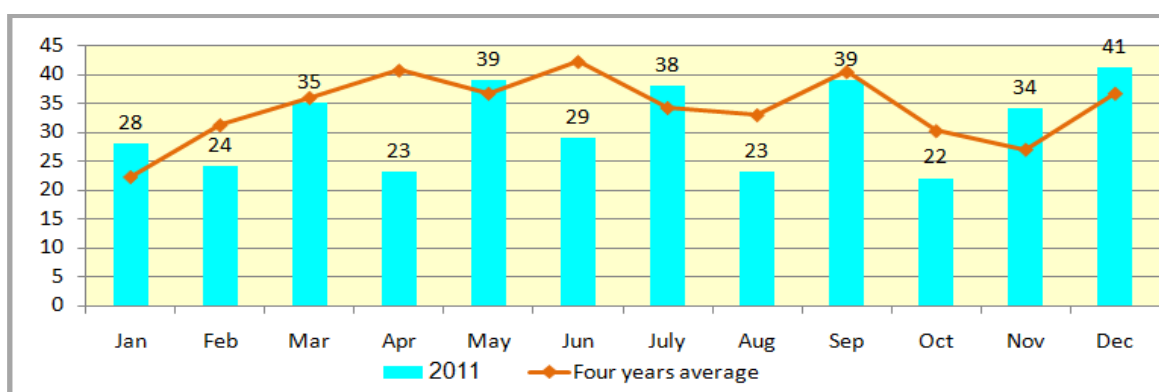
Vaccination is the most important tool for hepatitis B prevention, and Hepatitis B vaccine is fully integrated into the national immunization program for children under 1 year of age since 1993 with high coverage rate of 99%. Primary vaccination with the Hepatitis B series consists of a three-doses; the first dose is administered at birth; the second dose at the age of one month and the third dose at six months.

Table 8: Hepatitis B immunization coverage in GS, 2011

Type of vaccine	Vaccinated and registered	Total
Hep B3	Total vaccinated	60388
	Total registered population	59534
	Coverage	101.4%

Use of hepatitis B vaccine is assessed through population coverage with the third dose of the vaccine (HepB3). Table 8 shows that a total of 60388 children were vaccinated with a total coverage with Hep3 vaccine of 101.4%.

Graph 23: Monthly reported cases of Hepatitis B carrier in GS, 2011



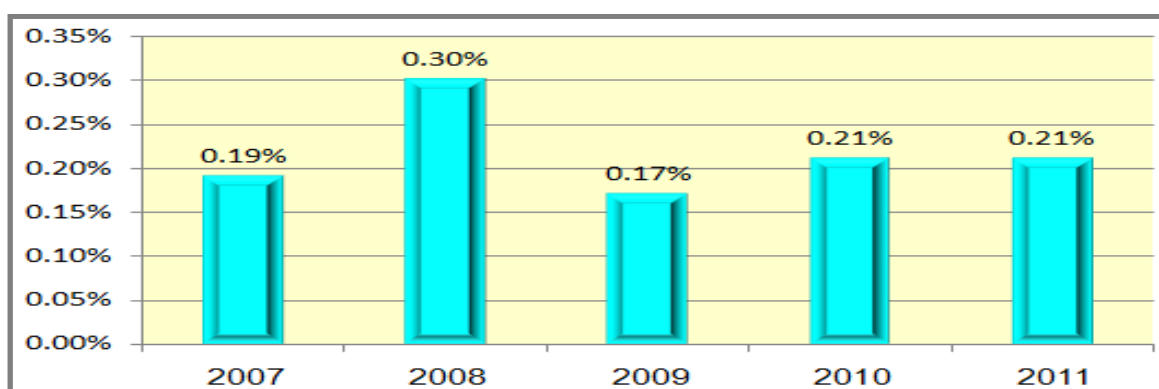
In 2011, a total of 375 cases of hepatitis B carrier were reported to the epidemiology department with an incidence of 23.6/100.000 population (graph 23). About 35% of cases were reported in Gaza governorate. In 2010, a total of 407 cases were reported with an incidence of 26.5/100.000 population. About 37% of all reported cases were reported in North governorate followed by Rafah governorate (28%).

3.5.3 Hepatitis C

Surveillance of hepatitis C in Palestine started in 1994, but it needs more national attention.

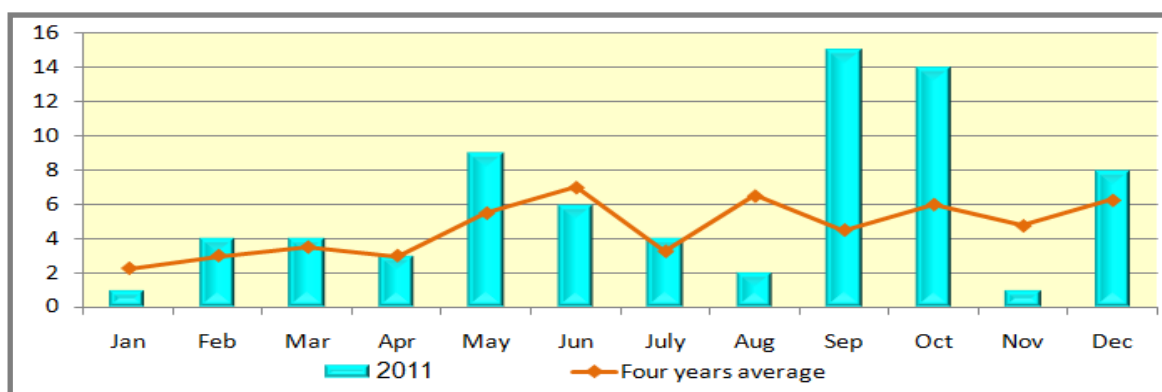
Among blood donors (Annex 7), a total of 30127 blood samples were tested for anti-hepatitis C and 65 samples were positive with an incidence of 0.21% (graph 24). This incidence is not representative as not all Anti-HCV positive samples in fact are infected.

Graph 24: The incidence of Hepatitis C infection among blood donors in GS, 2011



In 2011, a total of 71 new cases were reported to epidemiology department having positive anti-HCV with an incidence of 4.4/100.000 population (graph 25). About 28% of cases were reported in Rafah governorate followed by Gaza governorate with 26.8% of cases.

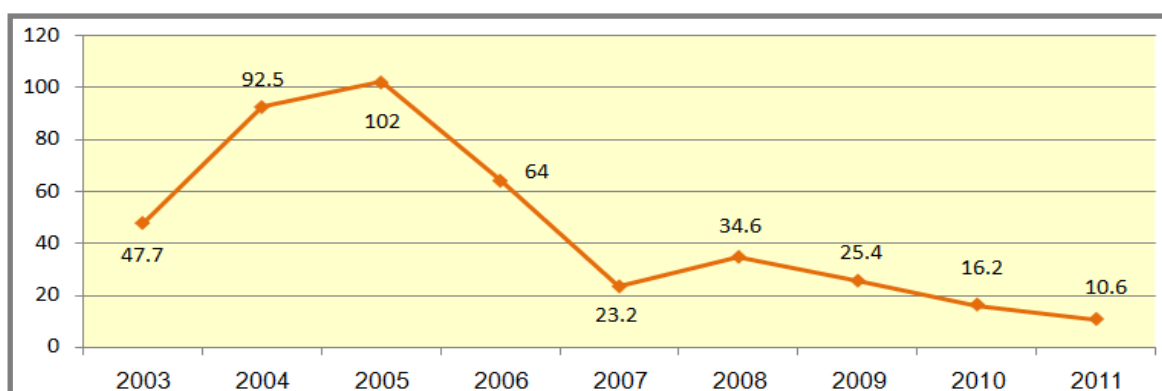
Graph 25: Monthly reported cases of Hepatitis C carrier in GS, 2011



3.6 Typhoid fever

Typhoid fever (enteric fever) is a septicemic illness caused by *Salmonella typhi*. This disease is endemic in Palestine.

Graph 26: Annual incidence rate of Typhoid fever per 100.000 population in GS, years 2003-2011



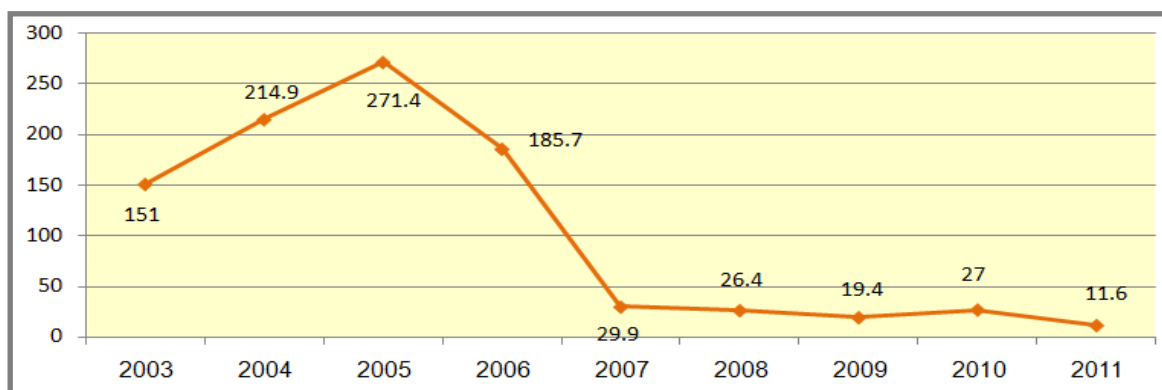
Since the last several years, there are steadily decline of incidence (graph 26). In the year 2011, a total of 169 cases were reported to the epidemiology department with an incidence of 10.6 per 100.000 population. While in the year 2010, a total of 249 cases were reported with an incidence of 16.2 per 100.000 population.

3.7 Typhus (spotted) fever

Typhus fever is a disease caused by gram-negative coccobacilli and short bacilli. This disease is endemic in Palestine. In spite of that, epidemics are associated with conditions that prevent bathing and washing of clothes in hot water, such as war, poverty,

displacement of populations and lack of hygiene, the disease is under control.

Graph 27: Annual incidence rate of Typhus Fever per 100.000 population in GS, years 2003-2011



Since the last several years, there are steadily decline of incidence (graph 27). During the year 2011, a total of 185 cases were reported to the epidemiology department with an incidence of 11.6 per 100.000 population. All reported cases were not confirmed due to lack of confirmatory tests.

During the year 2010, a total of 415 cases were reported with an incidence of 27 per 100.000 population.

3.8 Tuberculosis

Tuberculosis is an infectious disease caused mainly by *Mycobacterium tuberculosis*. Tuberculosis can affect most organs in the body, but the lung is the main organ affected. In spite of major advances in diagnosis, treatment and prevention of TB the disease still constitutes a major health problem throughout the world.

The current coverage level for BCG is a good indicator of an immunization program's ability to reach newborns. The bacilli Calmette and Guérin (BCG) vaccine is one of the most widely used of all current vaccines and it is a part of the national childhood immunization program. BCG, which is currently the only available TB vaccine, provides protection against TB meningitis and the disseminated form of the disease in infants and young children. In Palestine, BCG vaccine was introduced into the EPI in 1957 and is given to all infants as soon as possible after birth.

Table 9: BCG immunization coverage in GS, 2011

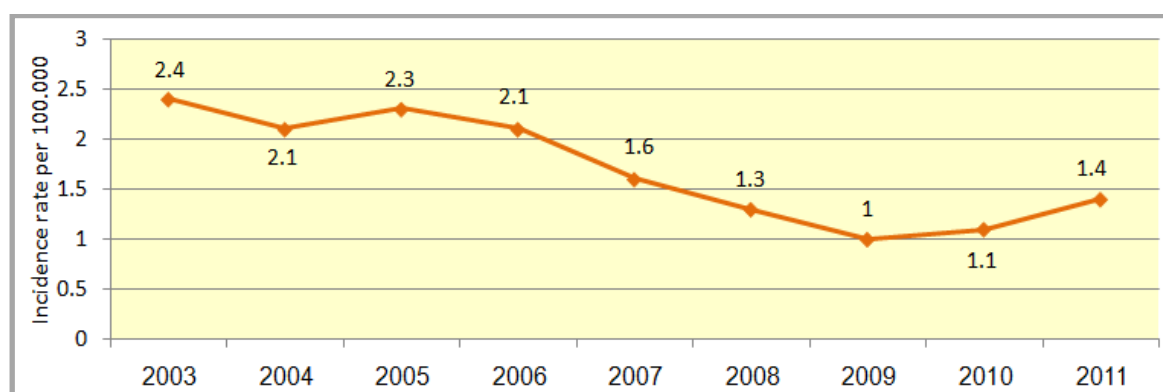
Type of vaccine	Vaccinated and registered	Total
BCG	Total vaccinated	58136
	Total registered population	58684
	Coverage	99%

Table 9 shows that a total of 58136 children were vaccinated with a total coverage with BCG vaccine of 99%.

Palestine is a low TB burden country with a low estimated incidence rate by WHO of 19 per 100,000 population. In 2010, the treatment success rate was high (94%), while the case detection rate was low (less than 5.5%).

During 2011, a total of 23 cases of tuberculosis were reported in Gaza strip with an incidence of 1.4 per 100.000 population. Among them 13 cases (56.5%) were pulmonary with an incidence of 0.8 per 100.000 population. The incidence of extra-pulmonary TB was 0.62 per 100.000 population. The incidence of TB was more among males (70%) with a male : female ratio of 2.3:1. The majority of pulmonary TB cases were smear positive (83.3%). About one third of cases (34.8%) were in Gaza governorate followed by Khan-Younes governorate (26.1%). During 2010 and 2011, there are slightly increasing incidence of reported cases referred to notification improvement.

Graph 28: Annual incidence of Tuberculosis per 100.000 population in GS, years 2003-2011



As seen in graph 28, the incidence rate of TB decreased dramatically from 2.4 per 100.000 in 2003 to 1 per 100.000 in 2009. This decrease of incidence could be explained by real

decrease as Palestine considered as a low burden country or by under-diagnosis and under-reporting from health providers. Since 2009 till 2011, there was a mild increase of incidence (from 1 to 1.4 per 100.000 population).

The majority of contacts for pulmonary TB cases were traced and screened by PPD test (118 contacts). Only 24 (19.7%) were eligible for chemo-prophylaxis and four contacts were less than five years old were treated directly without PPD testing. More than one half 16 (57%) were male and the majority 15 (53.6%) were from Mid-zone governorate.

4. Group C diseases

Some of diseases of this group registered a mild increase of incidence (different types of diarrhea and amebiasis) and other diseases remain under expected trend (varicella, pneumonia, guardiasis and ascariasis).

4.1 Diarrheal diseases

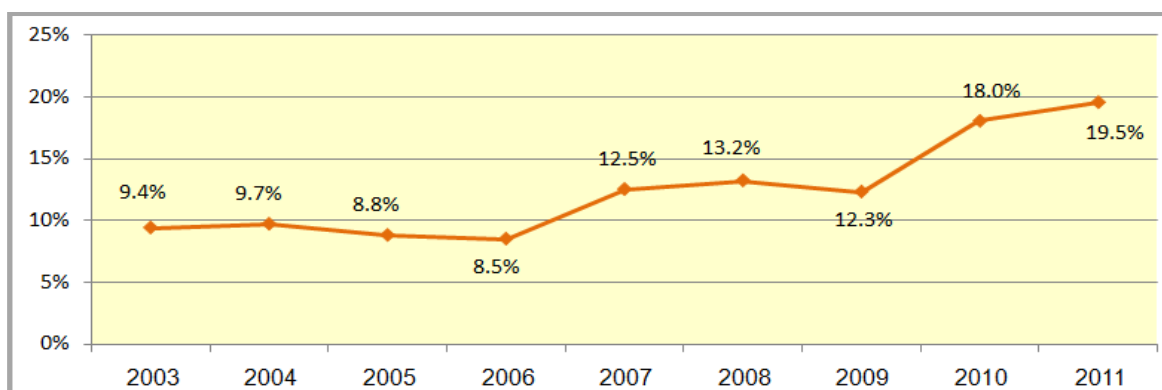
Diarrhea is a common problem that generally lasts for few days. In Gaza strip, acute diarrhea is one of the most common childhood illnesses and the main cause of outpatient visits and hospitalizations. Globally, the average of diarrhea among children under 3 years of age reaches one to three episodes annually and acute diarrhea accounts for almost 10% of all childhood hospital admissions. The high incidence of diarrheal disease in some governorates often linked to contaminated food, poor water quantity and quality and due to bad sanitation and hygiene. The most effective control measures to prevent diarrhea are maximizing access to sanitation, safe water, safe food supplies, and improving personal hygiene practices.

According to surveillance system classification, diarrhea is classified into diarrhea less than 3 years, diarrhea more than 3 years and bloody diarrhea.

4.1.1 Diarrhea less than 3 years

In Gaza strip, a total of 51667 cases of diarrhea among children less than three years old were reported in the year of 2011 with an incidence of 19.5%. Since the year of 2006, there are a continuous increase in incidence which could be due to deterioration of infrastructure (graph 29).

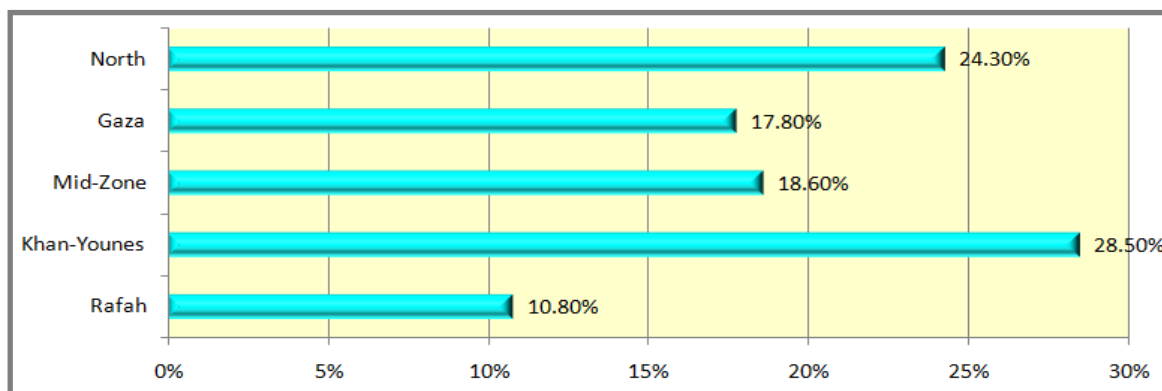
Graph 29: Annual incidence rate of Diarrhea less than 3 years in GS, years 2003-2011



As shown on graph 30, more than 28% were reported in Khan-Younes governorate followed by 24% in North governorate.

In 2010, a total of 45259 cases were reported with an incidence of 18%. More than 32% of cases were reported in Khan-Younes governorate followed by Mid-Zone governorate were 22% of cases were reported.

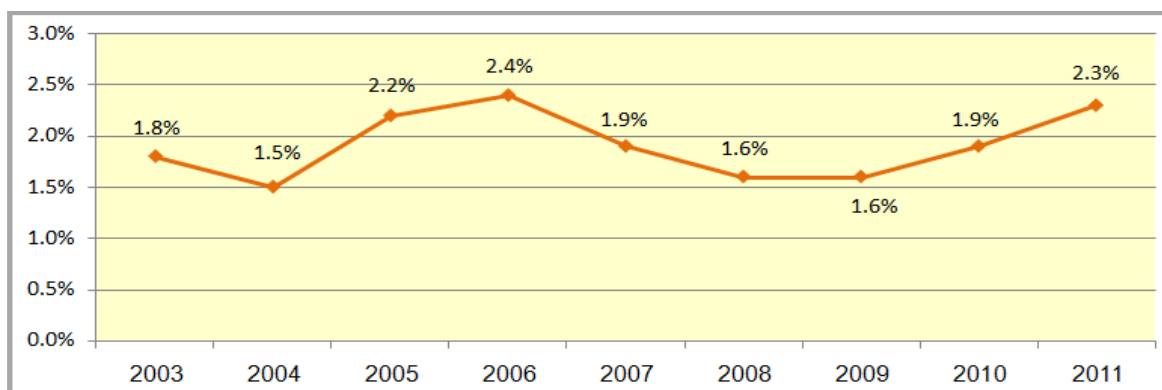
Graph 30: Geographical distribution of Diarrhea less than three years in GS, 2011



4.1.2 Diarrhea more than 3 years

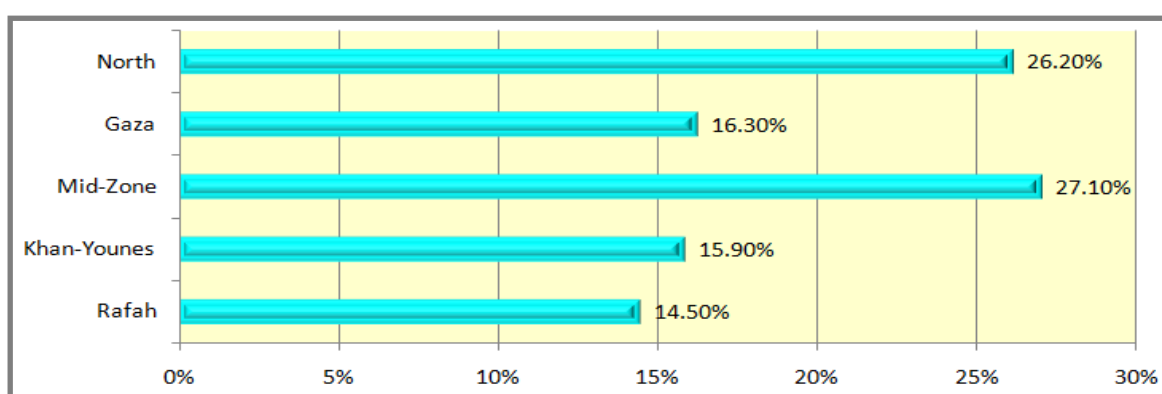
As seen on graph 31, there was a consecutive increase of the incidence rate of reported cases of diarrhea among children more than three years old in the year 2010 and 2011 (a total of 24,501 cases with an incidence of 1.9% in 2010 and 30,037 cases with an incidence rate of 2.3% in the year of 2011).

Graph 31: Annual incidence rate of Diarrhea more than 3 years in GS, years 2003-2011



As seen on graph 32, during the year 2011 more than 27% were reported in Mid-Zone governorate followed by 26% in North governorate while in 2010, more than 28% of cases were reported in Mid-Zone governorate followed by North governorate were 20% of cases were reported.

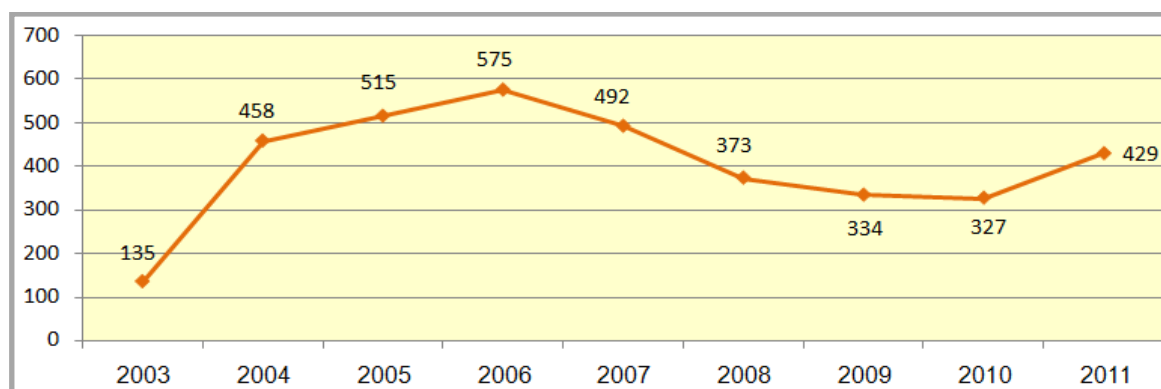
Graph 32: Geographical distribution of Diarrhea more than three years in GS, 2011



4.1.3 Bloody Diarrhea

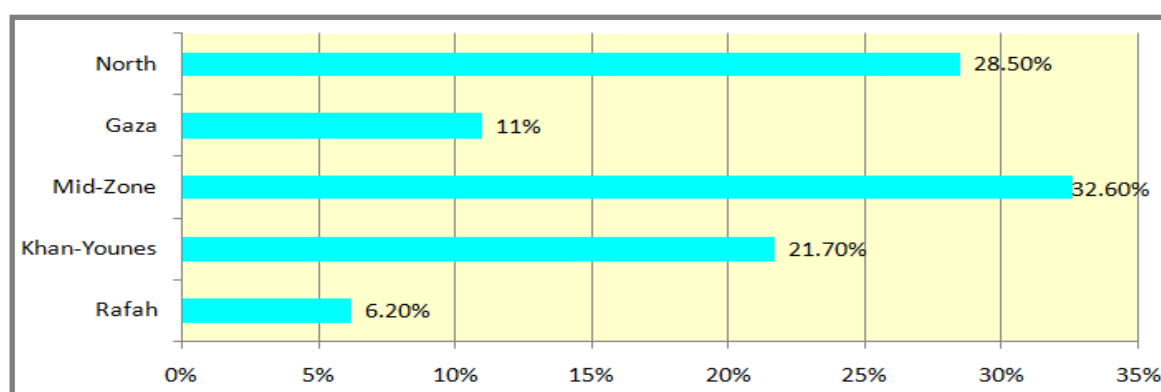
Bloody diarrhea is a potentially critical condition in which there is blood mixed with loose watery stools.

Graph 33: Annual incidence of Bloody Diarrhea per 100.000 population in GS, years 2003-2011



As seen on graph 33, there was a mild increase of reported cases of bloody diarrhea in the year 2011 (6826 cases were reported with an incidence rate of 429/100.000) after a continuous decrease since the year 2006 to 2010.

Graph 34: Geographical distribution of bloody diarrhea in GS, 2011



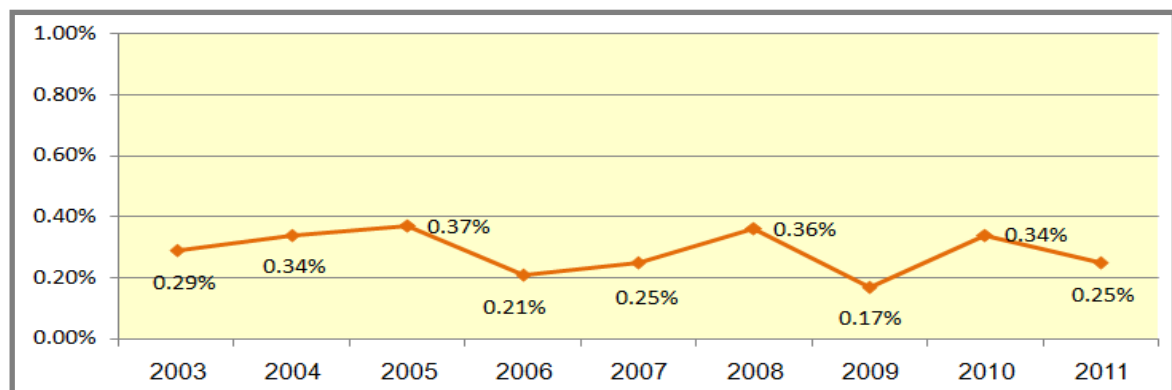
As seen on graph 34, more than 32% were reported in Mid-Zone governorate followed by North governorate were 28% of cases were reported.

In 2010, a total of 5018 cases were reported with an incidence of 362/100.000 population. More than 25% of cases were reported in Khan-Younes governorate followed by North governorate were 24% of cases were reported.

4.2 Varicella (Chickenpox)

An illness caused by varicella-zoster virus. This disease is considered of low importance in Palestine and to be notified monthly.

Graph 35: Annual incidence rate of Chicken Pox in GS, years 2003-2011



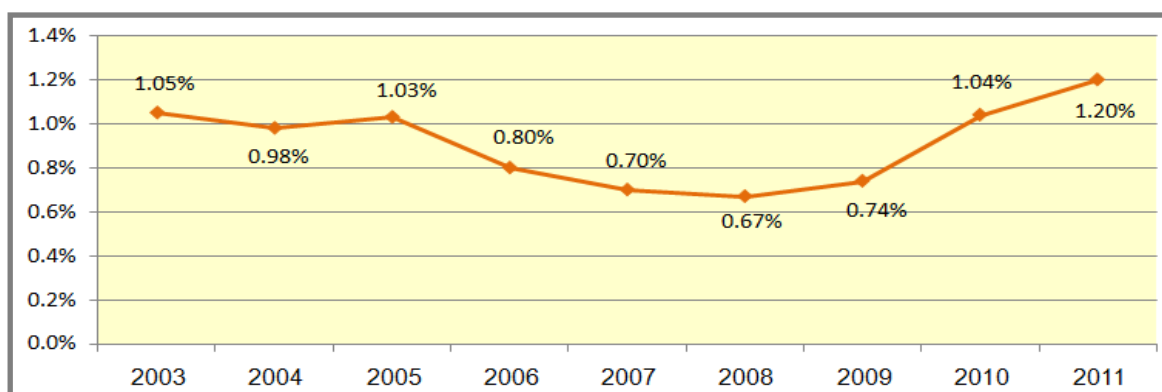
During 2011, a total of 4030 cases were reported with an incidence of 0.25%. As seen on graph 35, the annual incidence is fluctuating with some variation from year to year but this fluctuation does not have an epidemiological importance.

4.3 Conjunctivitis

Conjunctivitis is an inflammation of the conjunctiva that can arise from a number of causes, with viral, bacterial and allergic being the commonest. Viral conjunctivitis is highly contagious and can cause epidemics in communities. Transmission is through direct or indirect contact with infected individuals. Seasonal allergic conjunctivitis occurs mainly in spring and summer. Conjunctivitis is an endemic disease in Palestine and to be notified monthly.

As seen on graph 36, it was observed that there is a gradually obvious increase of the incidence in the last three years from 0.67% in the year 2008 to 1.2% in the year 2011. The increased incidence was noticed mainly in Gaza and North governorates due to improvement of notification.

Graph 36: Annual incidence rate of Conjunctivitis in GS, years 2003-2011

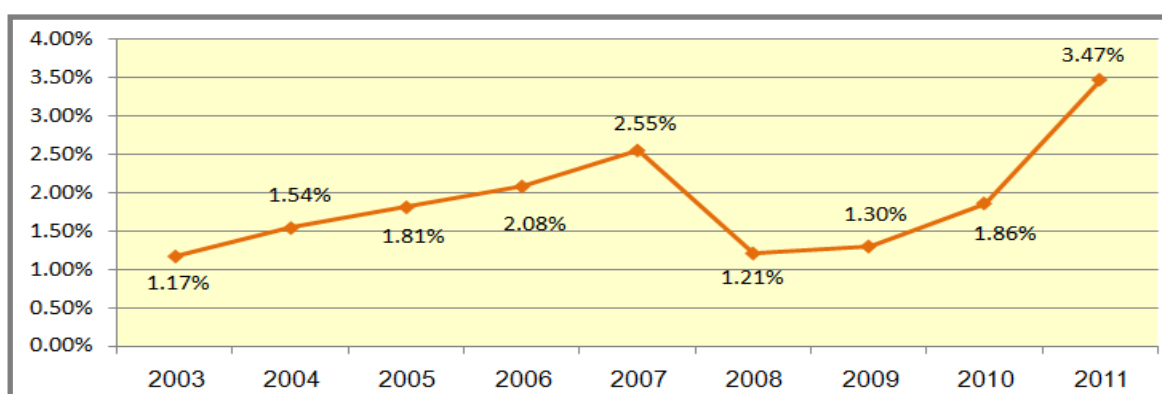


4.4 Influenza and URTI

Influenza is a viral infection mainly caused by influenza group A viruses which is endemic in Palestine. It is diagnosed as a clinical syndrome. Seasonally Influenza vaccine is available in Palestine which is given to risky population.

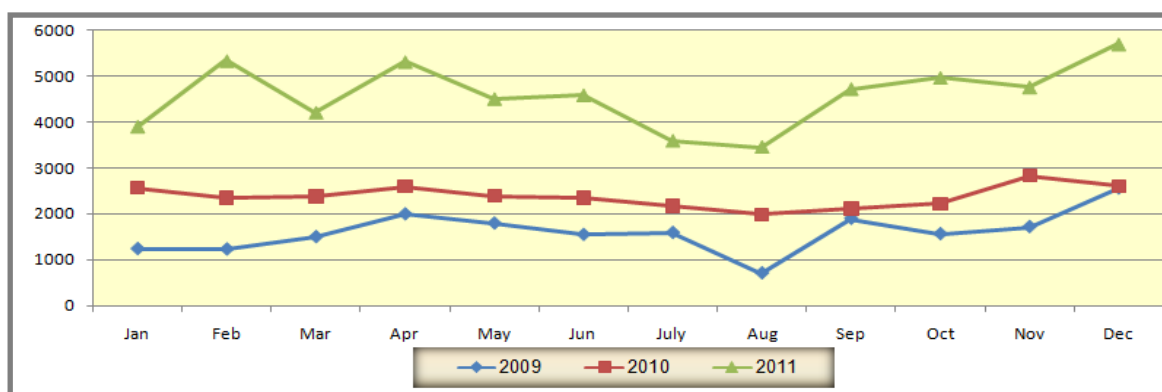
URTI are the illnesses caused by an acute infection which involves the upper respiratory tract. URTI is the commonest acute problem dealt with in primary care caused by viruses or bacteria. URTI ranges from mild self-limited to life-threatening illnesses.

Graph 37: Annual incidence rate of influenza and URTI in GS, years 2003-2011



As seen on graph 37, the observed obvious increase in incidence since 2008 (1.21%) till 2010 (1.86%) could be attributed to the improvement of notification. Since the beginning of the year 2011, the incidence was increased to 3.47% because of the modification policy, that not only influenza like syndrome cases were notified on monthly bases but also all URTI cases under the name of URTI (graph 38).

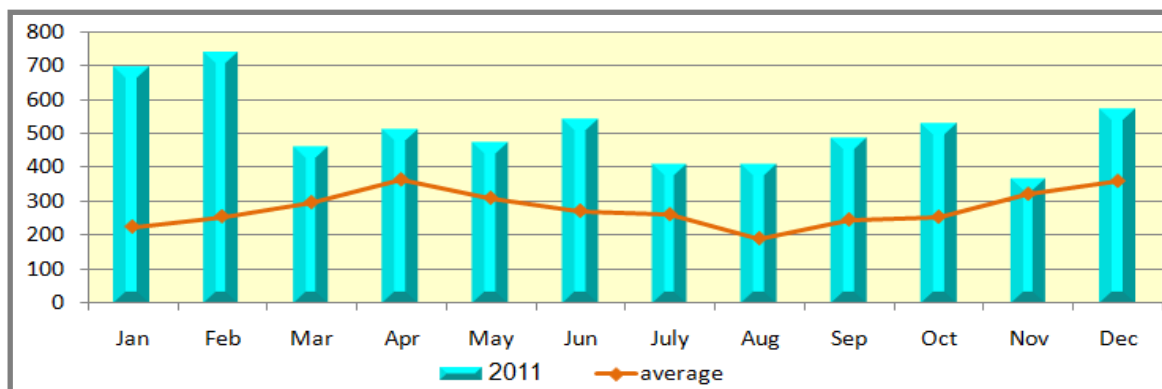
Graph 38: Monthly reported cases of influenza and URTI in GS, years 2009-2011



4.5 Pneumonia

Pneumonia is an infection of the lungs that is caused by bacteria, viruses, fungi, or parasites. It is an endemic disease in Palestine and has a seasonal variation. In Palestine, Hib vaccine is available as a part of EPI program since 2007 to prevent the pneumonia caused by Haemophilus influenza type b bacteria (table 7).

Graph 39: Monthly reported cases of Pneumonia in GS, 2011

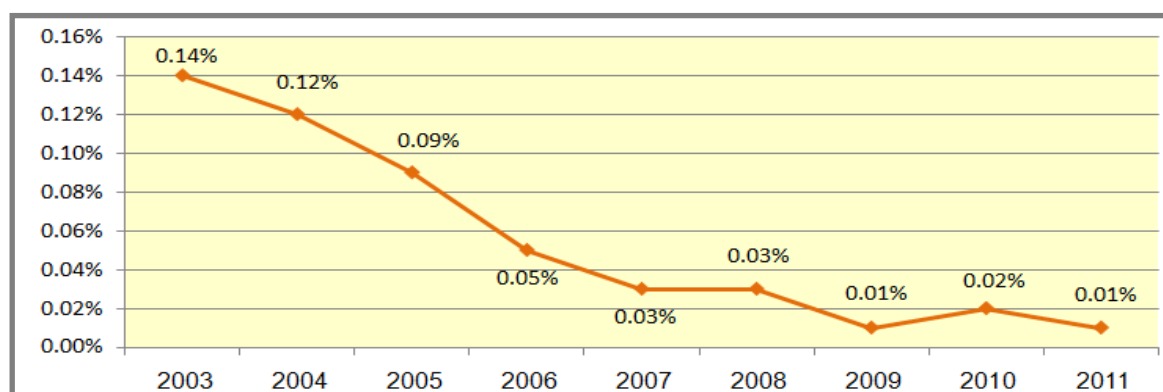


During the year 2011, a total of 6158 cases were reported with an incidence of 0.39% (graph 39). During the years 2007-2010 the average incidence rate was 0.23%. In the year 2011 this increase of the incidence is likely to be due to an improvement of notification by health providers.

4.6 Ascariasis

Ascariasis is a human disease known as soil-transmitted helminthes caused by *Ascaris lumbricoides*, a large intestinal roundworm and *Ascarissuum*, a similar parasite primarily affecting pigs and occasionally humans. Ascariasis is an endemic disease in Palestine.

Graph 40: Annual incidence rate of ascariasis in GS, years 2003-2011



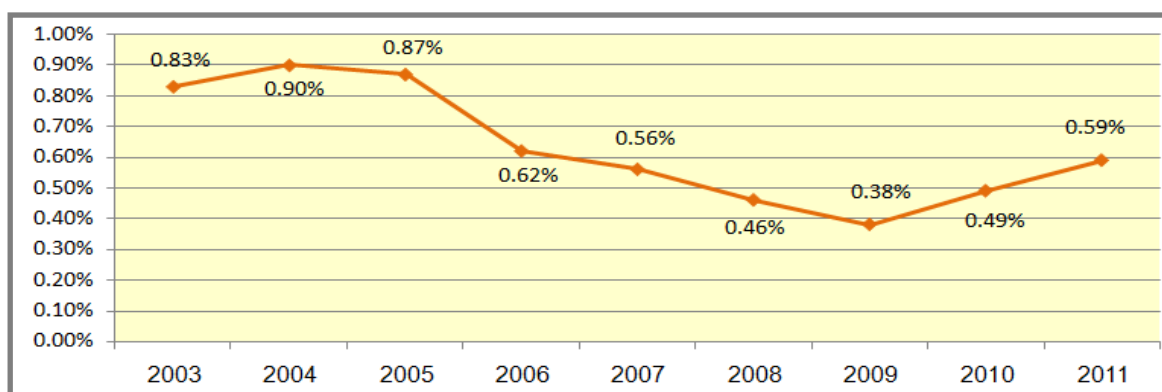
During the year of 2011, a total of 192 cases were reported with an incidence of 0.01%. As seen on graph 40, there are continuous decrease of reported incidence since the year 2004 till 2011. The reported incidence was 0.12% in 2004 declined to 0.01% in 2011.

4.7 Amebiasis

Amebiasis is an infection of the intestine (but there are extra-intestinal forms) caused by a protozoa called *Entamoeba histolytica*. In Palestine, the disease is endemic and confirmed cases were reported from the laboratories.

During the year 2011, a total of 9445 cases were reported with an incidence of 0.59%. This incidence represents an increase in comparison with the last two years (0.38% in the year 2009 and 0.49% in the years 2010) but it shows a decreasing trend since 2003 (graph 41). As a part of diarrheal diseases, this increase could be due to poor infrastructure. This incidence represents only the laboratory confirmed cases and could not reflect the real situation because the disease is treated empirically.

Graph 41: Annual incidence rate of Amebiasis in GS, years 2003-2011

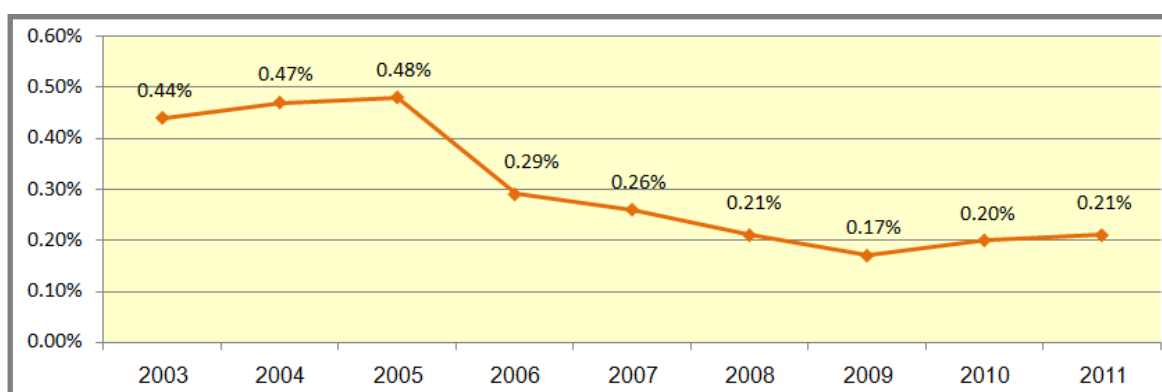


4.8 Giardiasis

Giardiasis is an infection of the small intestine caused by a protozoa called *Giardia lamblia* which lives in the duodenum and jejunum. In Palestine, the disease is endemic and confirmed cases were reported from the laboratories.

During the year 2011, a total of 3311 cases were reported with an incidence of 0.21%. This incidence represents a mild increase in comparison with the last two years (0.17% in the year 2009 and 0.20 in the years 2010) but it shows a decreasing trend since 2003 (graph 42). As a part of diarrheal diseases, this increase could be due to poor infrastructure. This incidence represent only the laboratory confirmed cases and could not reflect the real situation because the disease is treated empirically.

Graph 42: Annual incidence rate of Giardiasis in GS, years 2003-2011



Other diseases including parasitic infestation were registered during 2011 with low incidence and low epidemiological importance.

Annexes

Annex 1: Monthly epidemiological report, 2009

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
Group A													
AFP	0	1	0	1	0	0	0	1	1	0	0	0	4
AIDS/HIV	0	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	0
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningococcal Disease	3	14	19	10	3	15	12	13	12	11	12	8	132
HI Meningitis	0	0	0	0	0	0	0	0	0	0	0	0	0
Bacterial Meningitis	4	1	1	3	11	11	15	16	17	25	20	12	136
Non Specific Meningitis	0	0	6	2	32	39	66	44	39	54	35	26	343
Vaccine Adverse Events	1	1	2	3	1	1	0	1	1	0	1	1	13
Food poisoning	0	0	93	0	0	0	0	1	0	0	0	0	94
Influenza H1N1	0	0	0	0	0	0	0	0	0	0	0	230	230
Group B													
Brucellosis	0	0	0	0	0	1	1	0	0	0	0	0	2
hepatitis A	56	65	74	66	48	48	63	59	66	49	53	31	678
Hepatitis B	7	43	45	32	38	34	31	33	23	30	20	21	357
Hepatitis C	0	0	6	4	4	8	2	5	3	7	3	4	46
Malaria	0	0	0	0	0	0	0	0	0	0	0	0	0
Mumps	2	1	1	0	0	0	6	9	5	2	8	0	34
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0
Salmonellosis	0	0	0	2	0	0	0	0	0	0	0	0	2
Septicemia	21	16	36	13	15	33	25	16	2	23	26	26	252
Shigellosis	0	0	0	0	0	1	0	0	2	0	0	0	3
TB Pulmonary	0	2	1	0	0	2	1	0	1	1	1	1	10
TB Extra-pulmonary	0	1	0	0	2	0	1	1	0	0	0	1	6
Typhoid Fever	31	15	32	41	51	3	65	7	49	41	24	19	378
Typhus Fever (ox19)	8	12	1	32	48	5	28	0	74	35	28	17	288
Whooping Cough	0	1	0	0	0	0	0	0	0	0	0	0	1
Chemical Poisoning	6	7	4	13	11	0	0	0	5	0	6	6	58
Group C													
Animal Bite	3	9	26	30	43	154	29	20	11	19	23	32	399
Chicken Box	106	113	112	417	479	447	234	96	159	160	117	99	2539
Conjunctivitis	685	545	827	1194	1174	1040	962	392	1106	1024	967	1092	11008
Diarrhea <3 years	2290	2409	2447	2979	3247	3607	2328	2258	3464	3313	3574	3253	35169
Diarrhea >3 years	1302	1076	1317	1443	1713	1970	1903	1445	2047	2065	1699	1608	19588
Bloody Diarrhea	285	368	349	378	447	425	515	413	520	450	383	437	4970
Influenza	1238	1228	1498	1994	1793	1546	1589	708	1897	1562	1716	2558	19327
Pediculosis	0	0	0	0	0	0	0	0	0	0	0	0	0
Pneumonia	81	177	183	249	249	173	235	146	283	345	301	436	2858
Rheumatic Fever	0	0	0	0	1	1	2	0	0	0	0	2	6
Scabies	0	0	0	0	14	5	0	1	2	6	5	5	38
Trachoma	0	0	0	0	0	0	0	0	0	0	0	0	0

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
Laboratory													
Ascariasis	9	32	14	30	10	21	26	17	9	13	20	15	216
Hymen. Nana	5	9	8	7	20	6	7	9	7	2	4	2	86
Tricuris Trich.	1	1	0	2	0	1	1	0	1	0	0	4	11
Enterobiasis	0	6	1	0	0	3	4	2	1	0	2	3	22
Strongoloidosis	0	0	2	0	0	0	0	1	4	0	0	0	7
Entam. His	207	454	381	666	375	766	811	450	346	382	403	395	5636
Giardia lambila	110	218	155	310	204	353	280	199	160	194	184	214	2581
Screening													
HBsAg test	3039	3644	3986	3973	3878	3051	3467	3919	3617	4341	3174	2426	42515
HBsAg test +ve	64	111	133	95	110	80	97	514	73	131	103	85	1596
HCV test	2863	2780	3376	3499	3155	2804	2975	3173	3231	3978	2841	3176	37851
HCV test +ve	17	22	32	34	34	26	29	433	19	26	22	17	711
HIV test	2871	2931	3258	3209	2969	2744	3247	3835	3343	3594	2468	2978	37447
HIV test +ve	0	0	0	0	0	0	0	0	0	0	0	0	0

Annex 2: Monthly epidemiological report, 2010

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
Group A													
AFP	0	1	0	0	0	0	1	0	0	1	1	0	4
AIDS/HIV	0	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	0
Diphtheria	0	0	0	0	0	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningococcal Disease	7	10	8	3	7	17	7	6	7	9	9	14	104
HI Meningitis	0	0	0	0	0	0	0	0	0	0	0	0	0
Bacterial Meningitis	4	14	5	8	5	19	17	19	9	25	19	18	162
Non Specific Meningitis	23	22	44	80	86	121	49	46	32	63	45	32	643
Vaccine Adverse Events	1	1	0	3	0	1	2	3	0	1	0	1	13
Food poisoning	0	0	0	0	3	0	0	0	0	102	0	0	105
Influenzae H1N1	36	0	0	0	0	0	0	0	0	0	0	0	36
Group B													
Brucellosis	1	1	2	0	0	1	1	0	0	2	0	0	8
hepatitis A	23	27	18	14	18	29	47	32	40	30	8	33	319
Hepatitis B	32	27	36	33	18	42	41	36	35	48	25	34	407
Hepatitis C	7	3	2	2	7	7	5	12	3	8	3	5	64
Malaria	0	0	0	0	0	0	0	0	0	0	0	0	0
Mumps	1	1	1	0	0	1	21	40	15	9	0	0	89
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0
Salmonellosis	0	0	0	1	0	0	0	0	1	0	0	0	2
Septicemia	15	32	17	27	23	37	44	18	24	44	32	20	333
Shigellosis	0	0	0	0	0	0	0	30	0	0	0	0	30
TB Pulmonary	0	1	1	1	1	3	0	0	0	0	0	0	7
TB Extrapulmonary	1	1	2	1	1	0	0	1	2	1	0	0	10
Typhoid Fever	3	13	11	15	13	39	51	23	34	29	5	13	249
Typhus Fever (ox19)	5	24	27	22	26	56	72	61	52	50	10	10	415
Whooping Cough	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Poisoning	5	5	16	16	20	16	18	14	9	8	8	6	141
Group C													
Animal Bite	26	23	35	35	34	41	36	38	28	42	20	30	388
Chicken Box	144	235	320	649	895	1089	685	301	314	246	198	144	5220
Conjunctivitis	1069	1146	1463	1591	1360	1703	1464	1317	1278	1136	1176	1329	16032
Diarrhea <3 years	2681	2972	3229	3433	3452	4083	5052	4349	3999	5998	2294	3717	45259
Diarrhea >3 years	1615	1864	1760	2248	2056	2582	2712	2204	2214	1993	1044	2209	24501
Bloody Diarrhea	427	434	475	483	473	518	480	418	433	359	183	335	5018
Influenza	2559	2346	2366	2590	2382	2346	2172	1984	2110	2217	2818	2598	28488
Pediculosis	0	0	0	0	0	0	0	0	0	0	0	0	0
Pneumonia	306	316	480	415	411	365	272	313	257	292	527	628	4582
Rheumatic Fever	1	3	2	2	0	0	0	0	12	0	2	0	22
Scabies	0	7	9	8	3	4	0	0	0	0	0	0	31
Trachoma	0	0	0	0	0	0	0	0	0	0	0	0	0

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
Laboratory													
Ascariasis	20	22	20	13	20	17	12	13	9	25	51	10	232
Hymen. Nana	2	5	8	10	3	6	5	8	5	5	5	3	65
Tricuris Trich.	1	2	0	0	0	2	4	0	0	2	0	1	12
Entrobiasis	2	2	2	3	8	1	23	1	0	5	3	7	57
Strongoloidosis	0	0	1	0	0	0	3	0	3	1	0	0	8
Entam. His	445	517	646	751	743	860	695	699	461	705	572	420	7514
Giardia lamblia	185	225	261	330	321	298	257	274	220	286	221	172	3050
Screening													
HBsAg test	3892	3452	4326	3404	3100	3607	4186	4270	4049	4633	3305	3730	45954
HBsAg test +ve	118	94	99	73	90	90	118	111	101	113	87	84	1178
HCV test	3404	3221	3250	2971	3433	3913	3760	3712	3768	4371	2930	3228	41961
HCV test +ve	27	25	40	23	27	27	30	38	30	27	27	28	349
HIV test	3434	2960	3753	3252	3043	3187	3731	3705	3690	4079	2631	3178	40643
HIV test +ve	0	0	0	0	0	0	0	0	0	0	0	0	0

Annex 3: Monthly epidemiological report, 2011

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
Group A													
AFP	1	0	0	2	0	1	0	0	1	0	1	0	6
AIDS/HIV	0	0	0	0	0	0	2	0	2	0	1	0	5
Cholera	0	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	0
Measles	0	0	0	0	0	0	0	0	0	0	0	0	0
Meningococcal Disease	16	7	13	11	11	8	20	15	18	7	14	11	151
HI Meningitis	1	0	1	0	0	0	0	0	0	0	0	1	3
Bacterial Meningitis	21	38	38	32	21	13	34	41	22	42	22	19	343
Non Specific Meningitis	31	74	89	59	7	53	58	71	64	137	68	88	799
Vaccine Adverse Events	0	3	0	1	0	0	1	1	2	0	0	2	10
Food poisoning	0	1	0	0	0	0	0	0	0	9	0	0	10
Influenza H1N1	20	11	2	0	0	0	0	0	0	0	0	0	33
Group B													
Brucellosis	0	2	2	2	0	2	3	2	0	0	0	0	13
hepatitis A	31	22	26	20	15	15	25	27	64	38	71	69	423
Hepatitis B	28	24	35	23	39	29	38	23	39	22	34	41	375
Hepatitis C	1	4	4	3	9	6	4	2	15	14	1	8	71
Malaria	0	0	0	0	0	0	0	0	0	0	0	0	0
Mumps	1	1	0	2	3	31	17	1	2	23	10	0	91
Rubella	0	0	0	0	0	0	0	0	0	0	0	0	0
Salmonellosis	5	0	0	0	0	1	0	0	5	5	1	0	17
Septicemia	25	38	29	18	29	20	32	45	27	49	27	11	350
Shigellosis	0	1	6	1	0	1	2	1	3	0	1	1	17
TB Pulmonary	1	0	3	0	1	1	1	1	0	1	2	2	13
TB Extrapulmonary	0	0	1	0	0	4	0	1	1	1	1	1	10
Typhoid Fever	9	3	11	53	18	19	11	27	15	3	0	0	169
Typhus Fever (ox19)	11	6	11	20	19	19	28	37	8	21	0	5	185
Whooping Cough	0	0	0	0	0	0	0	0	0	0	0	0	0
Chemical Poisoning	13	14	1	13	18	12	8	18	8	13	9	6	133
Group C													
Animal Bite	25	28	29	32	38	43	29	25	23	23	14	21	330
Chicken Box	182	229	377	312	582	523	526	269	263	265	256	246	4030
Conjunctivitis	1384	1811	2093	2038	1721	1570	1573	1321	1535	1472	1362	1373	19253
Diarrhea <3 years	3559	4374	4167	4135	4336	4863	4993	3941	4460	4375	3668	4796	51667
Diarrhea >3 years	2187	2374	2403	2325	2553	2964	2860	2683	2500	2358	2064	2766	30037
Bloody Diarrhea	347	435	487	426	554	666	807	453	784	587	539	741	6826
Influenza	3965	5336	4203	5311	4505	4587	3590	3454	4721	4967	4759	5700	55098
Pediculosis	0	0	0	0	0	0	0	0	0	0	0	0	0
Pneumonia	692	734	457	508	472	541	406	406	483	528	363	568	6158
Rheumatic Fever	0	0	0	0	0	0	0	0	0	0	0	0	0
Scabies	0	0	0	0	0	0	0	0	0	0	0	0	0
Trachoma	0	0	0	0	0	0	0	0	0	0	0	0	0

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sep	Oct	Nov	Dec	Total
Laboratory													
Ascariasis	19	11	11	13	14	21	18	14	22	19	7	23	192
Hymen. Nana	8	6	2	8	1	14	7	6	12	9	4	9	86
Tricuris Trich.	0	0	2	1	0	2	0	0	3	4	1	0	13
Entrobiasis	8	14	6	12	11	14	3	5	4	2	0	4	83
Strongoloidosis	1	0	1	0	3	2	0	0	0	0	0	0	7
Entam. His	389	512	605	622	975	1186	1114	787	961	1233	493	568	9445
Giardia lamblia	188	208	239	280	316	289	346	253	385	443	163	201	3311
Screening													
HBsAg test	3541	3424	3827	4327	4884	4786	4245	4922	4153	4763	2140	3683	48695
HBsAg test +ve	73	69	77	96	111	108	113	73	105	378	49	42	1294
HCV test	2380	3048	3560	3513	3783	3646	2651	4238	3470	4423	1886	3502	40100
HCV test +ve	14	18	34	26	34	27	23	39	40	35	19	26	335
HIV test	2824	2983	3128	3754	4391	4134	3236	4427	3225	3761	1625	3050	40538
HIV test +ve	0	0	0	0	0	0	0	0	0	0	0	0	0

Annex 4: Weekly Epidemiological situation of Meningeococcal Disease in Gaza Strip, 2009-2011

Weeks	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	Total
Total 2009	1	1	0	1	4	3	2	4	2	3	4	6	5	2	3	3	1	3	1	0	0	0	4	2	5	5	5	0	2	3	2	4	4	1	4	1	4	4	3	1	2	2	6	5	0	2	5	2	1	3	2	0	133
Total 2010	2	0	0	3	2	3	3	3	2	4	1	1	0	0	2	3	2	4	0	1	2	1	3	4	7	3	3	2	2	0	0	0	0	3	4	1	1	2	2	1	2	4	1	4	1	2	1	3	2	1	5	0	103
Total 2011	3	3	6	3	0	2	2	3	2	0	2	2	6	4	1	2	2	4	6	0	1	2	1	1	4	1	5	1	4	8	4	8	2	3	3	5	9	1	1	1	0	3	1	3	6	4	2	3	3	2	2	4	151

Annex 5: Blood screening in Gaza strip, 2009

Blood screening in Gaza Strip, 2009						
	HBsAg		HCV		HIV	
	Blood Bank	Laboratory	Blood Bank	Laboratory	Blood Bank	laboratory
Total Number Of Examined Samples	11623	7376	11623	5371	11623	3418
Number of +ve sample	249	254	20	87	0	0
% of +ve samples	2.1%	3.4%	0.17%	1.6%	0%	0%

Annex 6: Blood screening in Gaza strip, 2010

Blood screening in Gaza Strip, 2010						
	HBsAg		HCV		HIV	
	Blood Bank	Laboratory	Blood Bank	Laboratory	Blood Bank	laboratory
Total Number Of Examined Samples	30086	17837	30086	13310	30086	12157
Number of +ve sample	559	618	63	278	0	0
% of +ve samples	1.85%	3.5%	0.2%	2.1%	0%	0%

Annex 7: Blood screening in Gaza strip, 2011

Blood screening in Gaza Strip, 2011						
	HBsAg		HCV		HIV	
	Blood Bank	Laboratory	Blood Bank	Laboratory	Blood Bank	laboratory
Total Number Of Examined Samples	30127	22494	30127	14226	30127	15389
Number of +ve sample	453	652	65	263	0	5
% of +ve samples	1.5%	2.9%	0.22%	1.8%	0%	0.03%

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