

# Epidemiological Bulletin



From 1 October to 31 December, 2011

## Gaza Strip in Numbers:

The Palestinian territories consist of two geographically separated areas West Bank (WB) and Gaza Strip. Gaza strip 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. Gaza strip is very crowded place with 46 kilometers long and 5 –12 kilometers wide and with a total area of 365 sq km. Gaza strip is administratively divided into five governorates: North, Gaza, Mid-zone, Khan-Younes and Rafah. It consists of four cities, fourteen villages and eight refugees' camps.

\* Gaza Strip has a population of 1,561,906 people (PCBS, 2010).

\* Male/Female ratio in general population is 103.100.

\* Population density is 4279 inhabitants per sq km. Gaza Strip has an extremely high population growth rate of over 3.3%, and as a result some 44.2% of the population is under the age of 15.

\* Infant Mortality Rate is 17.1 per 1000 live births.

\* Crude Birth Rate is 38.3/1000.

\* Crude Death Rate is 3.1/1000.

\* Average life expectancy is 70.2 years for males and 72.9 years for females.

\* Fertility rate is 5.7%.

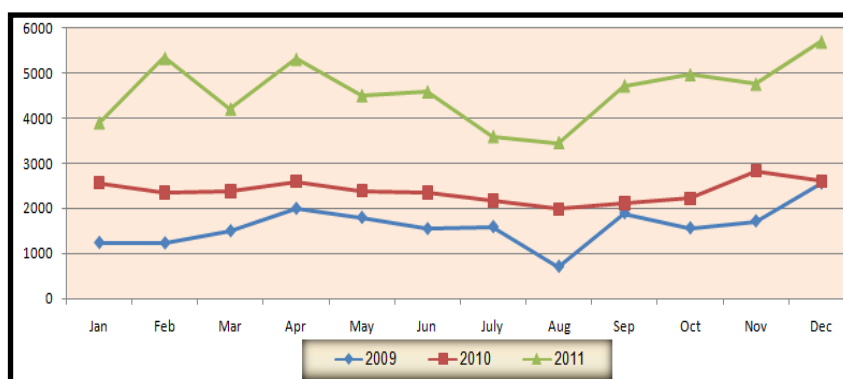
\* Family size Average is 5.8.

## Influenza vaccine and Upper Respiratory Tract Infection (URTI):

In Palestine, influenza virus infections occur every year. Infections may be asymptomatic, or they may produce a spectrum of manifestations, ranging from mild upper respiratory tract infection to pneumonia and death. Efforts to prevent and control influenza have been aimed to protecting those at greatest risk of serious illness or death.

immune response to the influenza virus, without actually causing the illness. This vaccine contains inactivated virus and so cannot cause influenza. Influenza vaccines stimulate the immune system to produce antibodies against the virus that cause influenza. Protection against influenza usually occurs within two to three weeks after vaccination, and the length of the protection varies, but usually lasts 6 to 12 months.

## Distribution of Upper Respiratory Tract Infection in Gaza strip, years 2009-2011



Recently we have received a vaccine called “Inflvac 2011/2012”, which is a vaccine against seasonal influenza. It works by provoking the body's

In Gaza, there are noticeable increase of URTI incidence this year than the two previous years. In 2009 the incidence was

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## Communicable diseases surveillance system:

In Gaza Strip, we apply a multi-disease approach of communicable disease surveillance, which depends essentially on passive surveillance system from health facilities of different health providers (Primary Health Care Centers, Hospitals and Laboratories), governmental and nongovernmental (MOH, UNRWA, NGOs and private sector). The collected data by this system are routinely analyzed and interpreted to help in making decision for prevention and control of communicable disease and to be part of the monthly, quarterly and annually reports on communicable diseases.

Communicable diseases and their related events in Palestine are divided into three groups according to their epidemiological importance:

**Group A diseases:** Diseases of this group are of high importance so they must be immediately notified with accuracy due the urgency of investigation and intervention. This group includes Acute Flaccid Paralysis, Acute Poliomyelitis, HIV/AIDS, Cholera, Diphtheria, Food poisoning, Measles, Rubella, Meningococcal diseases, Hemophilus Influenza B Meningitis, Rabies, Tetanus and Adverse Events Following Immunization.

**Group B diseases:** Diseases of this group are of the second highest 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 infection, Ascariasis, Amebiasis, Giardiasis, Strongyloidiasis, Enterobiasis, Trichuriasis, Hymenolepiasis, Toxoplasmosis and Leprosy.

Each issue of Epidemiological Bulletin will include information about the time of notification, number and distribution of cases of notifiable communicable diseases under surveillance system.

### Some selected notifiable diseases by governorates, October, November and December 2011.

Disease	North	Gaza	Mid-Zone	Khan-Younes	Rafah	Total 2011	3 Years Average
AFP	0	0	0	1	0	1	1
AIDS/HIV	0	0	0	1	0	1	0.3
Meningococcal Disease	8	11	3	1	7	32	32
Food poisoning	0	0	0	0	9	9	37
Hepatitis A	24	22	20	94	18	178	127
Hepatitis B	42	28	4	7	16	97	92
Hepatitis C	4	8	2	4	5	23	18
Mumps	4	9	13	7	0	33	17
TB Pulmonary	0	2	0	3	0	5	3
TB Extrapulmonary	0	1	1	1	0	3	2
Diarrhea <3 years	3302	2296	2292	3830	1119	12839	11663
Diarrhea >3 years	1880	1190	2073	1062	983	7188	5935
Bloody Diarrhea	338	254	826	352	97	1867	1338
Upper Respiratory Tract Infection	5660	2284	2358	3566	1558	15426	9331
Conjunctivitis	4092	1401	1672	3066	868	11099	8189

### Reports of notifiable communicable diseases:

During the fourth quarter 2011 a total of 47141 cases of notifiable diseases were reported to the epidemiology department which constitute more than 25% increase comparing with the same quarter 2010 (34801 cases). This increase was mainly related to the increase in number of cases of diarrhea, URTI and conjunctivitis. These diseases were the top three diseases on the reporting form, constituting a total of 88% of all notifications. When compared with the average notifications in the preceding three years, HIV, mumps and pulmonary TB showed more than 50% increase whereas hepatitis A, Diarrhea <3 years, bloody diarrhea and upper respiratory tract infection showed about 30% increase. Only food poisoning showed decrease comparing with the three years average. During this period, none of the following infection was recorded: acute poliomyelitis, diphtheria, measles, tetanus adult, influenza H1N1, brucellosis and malaria.

### Immediately and Weekly Reported Diseases during the third quarter, 2011

#### Acute Flaccid Paralysis/Acute Poliomyelitis:

During the fourth quarter 2011 no any case of acute poliomyelitis was reported, only one case of AFP was reported in November in Khan-Younes governorate. Comparing with the same period of 2010, two cases were reported.

### Epidemiology department E-Mail:

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#### Reported HIV/AIDS cases:

The global HIV epidemic 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 a surprising levels in Arab and Islamic countries over the last few years. Many cases go unreported because of stigma and/or discrimination. HIV has features that distinguish it from many other infections, including multiple modes of transmission (e.g. through sex, by sharing injection equipment, through blood transfusion, during pregnancy, at delivery and through breast milk), lifelong infection, little evidence of immunity, a long period between infection and the manifestation of disease and

## *HIV infection is both preventable and treatable*

associations with illegal and highly stigmatized behavior; there is no vaccine nor is there a cure; its treatment is costly and of life-long duration; its prevention has proven difficult but it is applicable.

So a part of the epidemiology department strategy is to encourage the development of voluntary counseling and testing (VCT) sites at all governorates. Integration between sexually transmitted infection especially HIV program and other programs in the primary health care like productive health services will be a priority to improve the efficiency and effectiveness of implemented services. This collaboration will have a number of benefits:

- \* More people will come forward for counseling and testing and ongoing support
- \* More people will feel secure in disclosing their HIV status to partners, families and associates.

During the fourth quarter 2011 one HIV case was reported in November in Khan-Younes governorate. Now in Gaza Strip there are a total of eight cases living with HIV/AIDS, seven of them are under treatment and one is asymptomatic with a prevalence of 0.52/100.000. During the year of 2011 the incidence rate was 0.39/100000.

## *All physicians are invited to fill in the notification sheet*

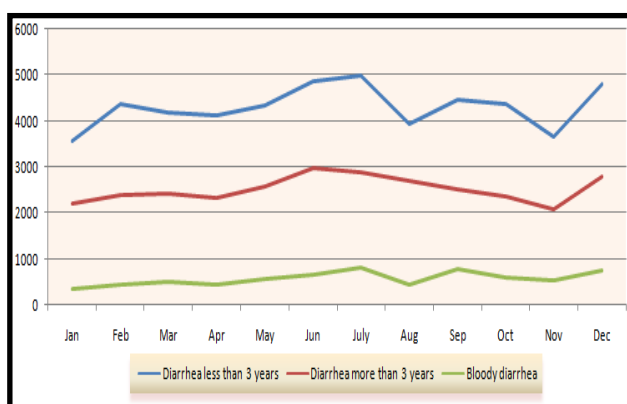
#### Meningococcal disease

During weeks 41-52 the weekly attack rate returned to the normal reported rate. A total of 32 cases were reported in Gaza strip with a mean of 2.6 cases weekly. The case fatality rate during this period was zero. The majority of reported cases (65%) were in Gaza and North. In Rafah only 7 cases (22%) were reported. Among all cases only 3 (9%) were meningococcal meningitis (in Rafah, Khan-Younes and Gaza governorates) and all others were meningococcemia cases. This show that the distribution of cases returned to the previous reported distribution mainly in the North and Gaza Governorates.

## Diarrheal diseases:

During the fourth quarter the diarrheal disease situation was improved comparing to the third quarter. A total of 21,894 cases of diarrhea were notified during this period, representing a 17% increase from 18,132 cases reported in the same quarter 2010. The usual seasonal variation was seen during 2011 and the numbers of notifications were more among age group less the three years.

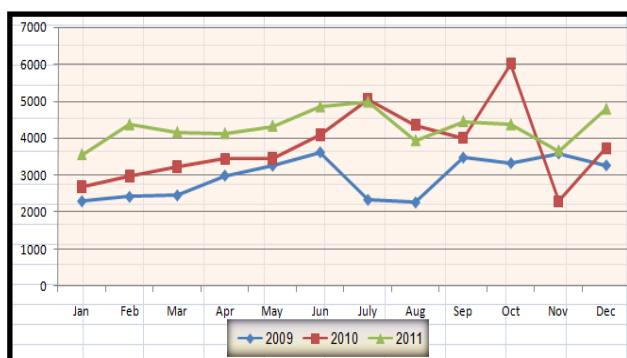
### Distribution of All diarrheal diseases in Gaza strip during the year 2011



### Diarrhea < 3 years:

There were a total of 12,839 cases of diarrhea among children aged less than three years during the fourth quarter 2011. There was an obvious increase in the incidence during the fourth quarters of the year 2011. In 2011 the incidence was 20%. The increase of incidence during 2011 could be attributed to the improvement of reporting system since the beginning of this year. This increase showed the usual previous seasonal variations.

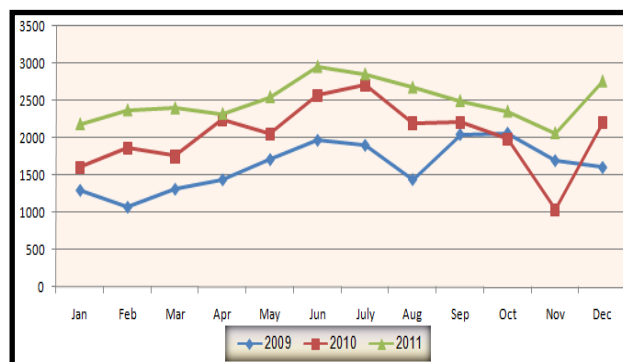
### Distribution of diarrhea less than 3 years in Gaza strip during the years 2011



### Diarrhea > 3 years:

There were a total of 7,188 cases of diarrhea among children aged more than three years during the fourth quarter 2011. There was an obvious increase in the incidence during the fourth quarters of the year 2011. In 2011 the incidence was 2.3%. The increase of incidence during 2011 was mainly noticed in Mid-Zone and Rafah governorates. In Rafah governorate this improvement was noticed since the beginning of the year, but in Mid-Zone governorate this increase was noticed since April. This increase could be attributed to the improvement of reporting system since the beginning of this year. This increase show the usual seasonal variations.

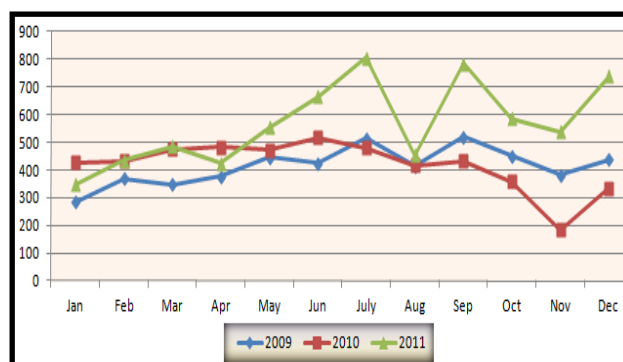
### Distribution of diarrhea more than 3 years in Gaza strip, years 2009-2011



### Bloody diarrhea

There were a total of 6,826 cases of bloody diarrhea during the fourth quarter 2011. There was an obvious increase in the incidence during the fourth quarters of the year 2011. In 2011 the

### Distribution of Bloody diarrhea in Gaza strip, years 2009-2011



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## Elimination of Measles

**Measles** is a highly contagious viral disease, which affects mostly children. It is an airborne disease transmitted via droplets by direct or indirect contact from the nose, mouth or throat of infected persons. Humans act as reservoirs. This illness caused by measles virus. Clinical features of measles include prodromal stage with fever, cough, conjunctivitis, coryza and Koplik's spots on the buccal mucosa. These are present for three to four days prior to rash onset. Then the eruptive stage characterized by generalized maculopapular rash starting on face, neck and generally downward not included the palms.

During the Forty-first Session of the Regional Committee for the Eastern Mediterranean (1997), the Regional Committee passed a resolution to eliminate measles by the year 2010. In 1999, EMRO developed a five-year plan for measles elimination based on the WHO-UNICEF joint strategy for measles mortality reduction. This plan has evolved over time and includes the following key elements:

- \* Strengthening routine infant immunization and achieving >90% coverage of first dose of a measles containing vaccine (MCV1) in all districts.

1. supplementary immunization activities every 3 to 4 years or
  2. inclusion of a 2<sup>nd</sup> measles dose in the EPI schedule
- \* Strengthening surveillance for measles
  - \* Optimal case management for children with measles

In Palestine the incidence of measles still under control, approximately a few or no cases reported yearly in the last ten years. Measles was totally integrated into the national immunization program for children at 9 months of age since 1980 with high coverage rate of more than 98%. A second dose included into Measles , Mumps and Rubella (MMR) was added since 1985 at 15 months of age. On January 2009 extra-dose of MMR was implemented at 18 month of age. By November 2011, a 9 month measles dose was stopped and the two doses of MMR is given on 12 and 18

***The World Health Organization criteria for elimination of measles have been implemented in Palestine***

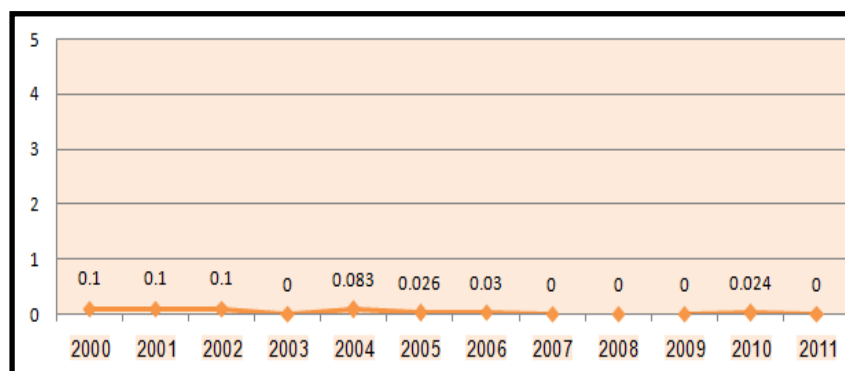
### Case definition:

**Suspected case:** Any case of a temperature greater than or equal to 38.3 C, severe cough, coryza, or conjunctivitis with maculopapular rash.

**Probable case:** A suspected case as defined above with Koplik's spots and generalized maculopapular rash appears on the third to seventh day. It begins on the face before becoming generalized not included the palms and generally lasts four to seven days.

**Confirmed case:** by demonstration of anti-measles IgM antibody, or detection of measles RNA by polymerase chain reaction (PCR) techniques.

**Annual Reported Incidence Rate (per 100,000) of Measles, Palestine, 2000 -2011**



- \* Conducting catch-up supplementary immunization activities for all susceptible age groups.
- \* Achieving high coverage (>90%) with a second dose of measles vaccine either through:

months.

The results of a serosurvey conducted by UNICEF in December 2003 revealed that about one third of previously immunized children from 9 months to five years in the West Bank and Gaza Strip were not immune

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## Tuberculosis (TB)

### Case Definition for TB:

**Suspected case:** Any person with a cough of 2 weeks or more with no clinical response after using broad spectrum antibiotic for one week.

### Confirmed case:

#### Smear-positive pulmonary TB

a) a suspected patient with at least 2 sputum specimens positive for acid-fast bacilli (AFB), **or**

b) one sputum specimen positive for AFB by microscopy and radiographic abnormalities consistent with active pulmonary TB as determined by the treating medical officer, **or**

c) one positive sputum smear by microscopy and one sputum specimen positive on culture for AFB.

#### Smear-negative pulmonary TB

a patient who fulfills all the following criteria:

a) two sets taken at least 2 weeks apart of at least two sputum specimens negative for AFB on microscopy AND radiographic abnormalities consistent with pulmonary TB and a lack of clinical response despite one week of broad spectrum antibiotic AND a decision by a physician to treat with a full course of anti-TB chemotherapy, **or**

b) a patient who fulfills all the following criteria: severely ill, at least two sputum specimens negative for AFB by microscopy AND radiographic abnormalities consistent with extensive pulmonary TB (interstitial and miliary) AND a decision by a physician to treat with a full course of anti-TB chemotherapy, **or**

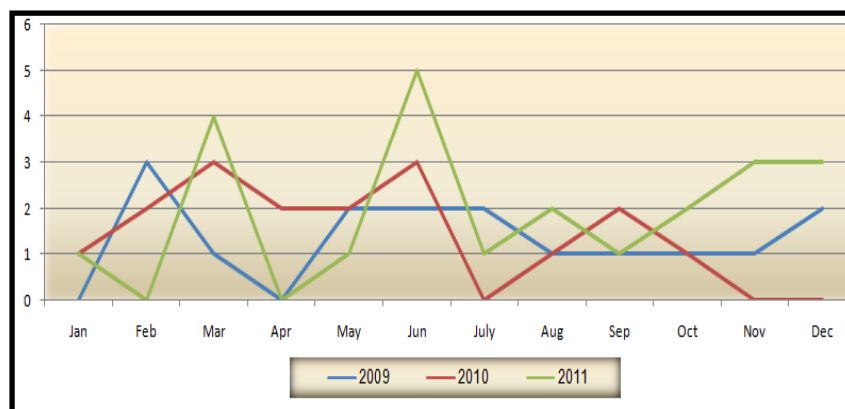
c) a patient whose initial sputum smears were negative and is diagnosed positive for AFB by other diagnostic means like culture.

TB is an acute or chronic bacterial infection caused by *Mycobacterium tuberculosis*, characterized pathologically by the formation of granulomas. The most common site of infection is the lung in 80-85% (Pulmonary), but other organs may be involved in 15-20% (Extrapulmonary). TB is transmitted mainly by inhalation of infectious droplets produced by persons with pulmonary or laryngeal tuberculosis during coughing, shouting or sneezing. Extrapulmonary TB is generally not infectious. Humans are the primary reservoir but some diseased animals rarely act as reservoirs. The incubation period is about 4 to 12 weeks. For untreated or inadequate treated

***Don't forget  
that TB is a  
curable disease***

global TB control are to reduce the prevalence and deaths rates in 2015 by 50%, as compared with 1990, to detect 70% of new smear-positive patients arising each year and to successfully treat 90% of these patients. National TB program (NTP) has set up a functioning national committee for TB control involving all interested parties. All partners in addition to MOH, UNRWA, NGOs, public and private sectors have accepted

**The incidence of Tuberculosis in Gaza strip,  
years 2009-2011**



cases period of communicability may extend for years, but for correct treated cases within 2-3 weeks. The most common symptoms include a chronic cough sometimes accompanied by haemoptysis, fever, night sweats, loss of weight and generalized weakness.

The Ministry of Health in Palestine is adopting the UN Millennium Development Goals. The sixth principal targets for

Directly Observed Treatment, Short-course (DOTS) as the international recommended strategy of choice for TB. DOTS strategy assures a compulsory and free availability of good quality drugs to all TB cases and necessitates drug administration under direct supervision, thereby ensuring the requisite regimen-compliance.

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## **Tuberculosis**

*Continued from page 6*

NTP has two levels of responsibility to ensure efficacy of TB control: peripheral and central levels. **Peripheral level** offers its services through Primary Health Care (PHC) Units and chest clinics. **The central level** is responsible for policy making, planning and logistics, program co-ordination, training development, laboratory services and program monitoring and evaluation.

Every pulmonary TB suspect should submit at least three morning sputum samples in three days for microscopy. Active case detection is applied only for certain risk groups "contacts of pulmonary TB patients". It is important that following notification of a case of tuberculosis appropriate contact procedures be initiated with view to identifying other associated cases of tuberculosis. If the first notified or index case is one of primary tuberculosis, then a source case is sought. If the index case has post primary tuberculosis, then although a source may be searched for, the concern is that other contacts may have been infected by the index case; contacts should be screened by tuberculin testing and chest films. Negative skin reactors should be retested at 6 weeks to exclude the possibility of recent primary infection. Positive skin reactors should receive Isoniazid chemoprophylaxis for 6 months. Priority should be given to household and close family contacts of smear-positive cases of pulmonary tuberculosis where 5-14% of contacts have been found to have disease.

Chemoprophylaxis may be

given to some contacts with strongly positive skin tuberculin test reactions (more than 18 mm), but no clinical or radiological evidence of TB disease. The standard preventive treatment is daily isoniazid (5 mg/kg) for 6 months.

Breastfed infant of a mother with pulmonary TB should receive 3 months of isoniazid treatment. After 3 months a PPD test should be done. If the result is negative then the child should be vaccinated. If the result is positive but without evidence of disease, continue with isoniazid treatment for 3 more months. If there is evidence of disease a full treatment is necessary. If the mother's condition permits, breastfeeding of an infant should continue, since infection is not spread through the milk.

All tuberculin test positive children under the age of 6 years

***DOTS remains  
at the heart of  
the Stop TB  
Strategy***

should benefit from INH preventive therapy. If the child with known history of contact and PPD test positive, without previous BCG vaccination then he is most at risk of infection, and should be examined.

If the child without symptoms then he must be given 6 months' isoniazid preventive treatment

If the child with symptoms and the examination showing TB then full anti-TB treatment should be given. A child with symptoms, but examination not showing TB then isoniazid

***Don't forget  
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preventive treatment should be given.

Palestine is a low TB burden country with a low estimated incidence rate by WHO of 19 per 100,000 population. In 2010 in Gaza, the treatment success rate was high (94%), while the case detection rate was low (4.4%). However, there are lots of uncertainties regarding the estimated TB burden in Palestine, field experience shows that this burden has been overestimated of the case detection rate. This could be attributed to overestimation of TB by the WHO or under-diagnosis.

The incidence rate is higher in Gaza strip than in West bank. This may be attributed to a lower socioeconomic status and more refugees camps in Gaza Strip (refugees account for 70% of population in Gaza Strip and 31% of population in West Bank).

The incidence of TB is more in males for new smear positive cases with a Male:Female ratio 1.2:1 and 1.5:1 for new smear negative cases. For extrapulmonary TB the incidence is more in females with a ratio of 1:2.7. About 64% of sputum smear positive cases occur in the age group 15-44 years.

Patients presenting with TB are tested for HIV and so far there has been no report of coinfection. No cases of MDR-pulmonary TB were detected in 2009 and one defaulter case was traced and treated.

### **Influenza vaccine**

*Continued from page 1*

1.3% increased to 1.9% in 2010 and now it is 3.5%, so we advise all population at risk to be vaccinated. The vaccine is distributed for free and you can find it in all epidemiology departments in all governorates. A seasonal influenza vaccine is recommended for people who run an increased risk of complications. It is particularly recommended for the following categories of patients, depending on national immunization policies:

- \* Persons aged over 65 years, regardless their health condition.
- \* Adults and children with chronic disorders of the pulmonary or cardiovascular systems, including asthma.
- \* Adults and children with chronic metabolic diseases such as diabetes mellitus.
- \* Adults and children with chronic renal dysfunction.
- \* Adults and children with immunodeficiencies due to disease or immunosuppressant medication (e.g., cytostatics or corticosteroids) or radiotherapy.
- \* Children and teenagers (6months-18 years) who receive long-term acetylsalicylic acid containing medications, and might therefore be at risk for developing Reye's syndrome following an influenza infection.
- \* Healthcare workers who are involved in direct patient care.

Influenza vaccine can cause some side effects, but these are rare. The following are some of the side effects that are known to be associated with this vaccine: Headache, sweating, pain in the muscles and joints,

fever, general feeling of being unwell (malaise), shivering, fatigue, pain, swelling, redness and hardening of the skin at the injection site, small purplish blood spots in the skin (ecchymoses).

These reactions are due to the immune system responding to the vaccine and are not influenza. They usually disappear within one to two days without treatment.

### **Bloody Diarrhea**

*Continued from page 4*

incidence was 0.43%. The increase of incidence during the fourth quarter 2011 was mainly noticed in Mid-Zone governorate. In Khan-Younes and North governorates the reported increased incidence during the third quarter returned to the usual reported level. In other governorates the showed increase of incidence during the previous two quarters 2011 normalized and returned to the usual reported level.

### **Elimination of Measles**

*Continued from page 5*

against measles. The Ministry of Health of the Palestinian Authority in consultation with WHO and UNICEF decided to launch a mass measles campaign and distribution of vitamin A to all children from 9 months to

five years of age. The campaign was started on 26 May 2004. Then a serosurvey was done on 2005 for the same age group and showed that more than 98% of children had high immunity against measles. Other campaign was held in West Bank in May 2005 for all school pupils and university students against MMR. On February, 2009 a campaign for preparatory school pupils was held in Gaza strip using MMR. Only sporadic cases were reported in the last ten years. Measles elimination means that no measles cases should occur inside the country but cases could be imported from other countries and the virus could circulate inside the country without infection. Palestine is considered by WHO to be in the phase of eliminating this disease as the WHO criteria are fulfilled. High vaccination coverage (about 98%) is sustained with two-vaccine doses (since 1985), added to the mobbing up for high-risk areas. In 2011, all suspected cases were analyzed for anti-measles immunoglobulin M and all results were negative. All reported cases since 2000 were from West Bank and there is no cases were reported in Gaza strip.

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