

# Epidemiological Bulletin



From 1 October to 31 December 2013

## 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.

## The situation of Poliomyelitis in Palestine

Palestine was certified by the World Health Organization (WHO) as polio-free country since 2006 and the occupied territories in 1948 was certified as polio-free country since 2002. Since April 2013, Wild Poliovirus (WPV) has been isolated from sewage waters in the occupied territories in 1948 and occupied Palestinian territory. After receiving a confirming report from Syria about reporting cases of Poliomyelitis, a concern was raised by Palestinian Ministry of Health (MOH) and WHO because a growing health threat is posing to the neighboring countries and in the region as a whole. Seven countries and territories are holding mass polio vaccination campaigns with further extensive campaigns planned for December targeting 22 million children; in a joint resolution all countries of the WHO Eastern Mediterranean Region have declared polio eradication to be an emergency.

In Palestinian territories, till now no cases of paralytic polio has been reported, however environmental surveillance suggests that WPV1 transmission is taking place in West Bank and the Gaza Strip. In response to the threat posed by WPV1 circulation, Palestinian Ministry of Health took steps to strengthen surveillance for acute flaccid paralysis and intensify the frequency of environmental sampling collection. A supplementary Immunization activity with trivalent oral polio vaccine was conducted in different risky areas and a first round of national immunization campaign was conducted in Gaza Strip and West Bank from 8-12/12/2013 targeting children up to five years of age (about 650.00 children). The activity was carried out by all MOH and UNRWA health centers. The vaccination coverage during this campaign reached about 99.2%. During preparation of this bulletin a second round of national immunization campaign was conducted in the same areas from 12-16/01/2014 targeting children of the same age group in order to prevent further spread of the virus. The

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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 reported notifiable diseases by governorates: October, November and December 2013.

Disease	North	Gaza	Mid-Zone	Khan-Younes	Rafah	Total Q4, 2013	Total 2013	5 Years Average, Q4
AFP	0	1	1	0	0	2	12	1
Meningococcal Disease	5	3	4	6	0	18	84	28
Bacterial Meningitis	15	48	6	22	1	92	342	55
Non Specific Meningitis	33	120	59	43	0	255	2707	154
Hepatitis A	100	60	51	78	21	312	1246	190
Hepatitis B	31	21	3	13	8	76	320	94
Hepatitis C	5	5	0	2	0	12	51	18
Mumps	26	83	486	468	80	1143	1891	15
TB Pulmonary	0	2	1	1	0	4	21	1.6
TB Extrapulmonary	0	1	0	0	0	1	6	1.6
Diarrhea <3 years	4415	1481	1989	4980	1344	14209	65296	11886
Diarrhea >3 years	2452	917	1684	1669	567	7289	35284	6304
Bloody Diarrhea	370	136	621	420	110	1657	8555	1553
Upper Respiratory Tract Infection	14656	3567	4431	4534	1566	28664	123661	12625

## Epidemiological situation of reported notifiable communicable diseases

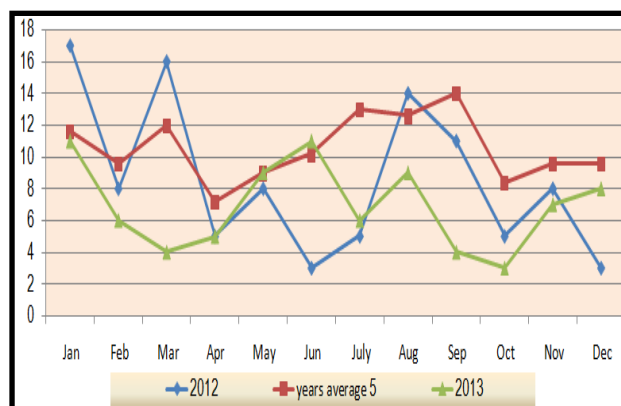
During the fourth quarter 2013 a total of 61.284 cases of notifiable diseases were notified to the epidemiology department which constitute about 15% decrease comparing with the same quarter 2012 (70.805 cases). The top two diseases on the reporting form were upper respiratory tract infection (URTI) and diarrhea. These diseases are constituting a total of more than 70% of all notifications. The five years average (during the fourth quarter) for URTI was very low because only influenza cases were reported. Recently, URTI was added to the notification list which explain the high number of notifications. During this quarter an amelioration of AFP reports were noticed where 2 cases were reported. When compared with the average notifications in the preceding five years; Mumps showed very high increase; URTI showed more than 2 folds increase; Bacterial Meningitis, Non-specific Meningitis and Hepatitis A showed more than 1.6 fold increase and Diarrheal diseases showed 1.2 fold increase. Meningococcal diseases, Hepatitis B and C showed decrease compared with the five years average. During this period, none of the following infections were recorded: acute poliomyelitis, diphtheria, measles, tetanus, Cholera, brucellosis and malaria.

## Immediately reported diseases during the fourth quarter, 2013

### Meningococcal Diseases:

There was a decrease of reporting cases of meningococcal diseases during the fourth quarter 2013 where a total of 18 cases were reported given a decrease trend compared to the previous two quarters. Comparing to the five years average, a decrease of reported number was noticed where a total of 28 cases were reported. During the previous quarter a total of 19 cases were reported making a decreasing trend. During the same quarter 2012, only 16 cases of meningococcal diseases were reported. The majority of reported cases (10) were diagnosed as meningococemia constituting about 56% from all cases. Among these cases one female child from Khan-Younes governorate with meningococemia was died with a case fatality rate of 5.5%. The majority of cases

## Distribution of Meningococcal diseases in Gaza strip, years 2012-2013

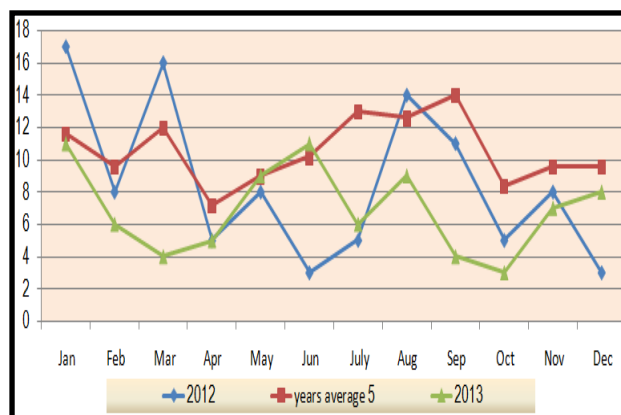


were reported in Khan-Younes (6 cases) and North (5 cases) governorates.

### Other bacterial Meningitis cases

Despite the increase of reported cases since the beginning of this quarter, there was a decrease trend of reporting cases of other bacterial meningitis during the fourth quarter 2013 where a total of 92 cases were reported comparing with the previous quarter 2013 where a total of 103 cases were reported. Comparing to the five years

## Distribution of other bacterial Meningitis cases in Gaza strip, years 2012-2013



average, an increase of reported number was noticed where a total of 55 cases were reported. During the same quarter 2012, a total of 60 cases were reported. The majority of reported cases during this quarter were reported in Gaza governorate (a total of 48 cases were reported constitute about 52%) while only one case was reported in Rafah governorate.

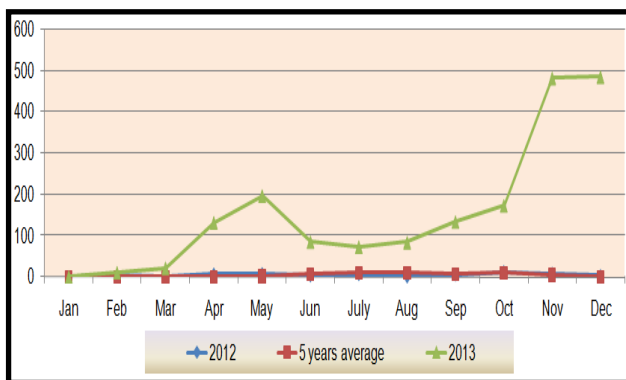
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## Weekly Reported Diseases during the fourth quarter, 2013

### Mumps:

Epidemiology department continues investigate mumps outbreak that began since the end of April, 2013 in Khan-Younes governorate and mainly Ma'en area. The reported number of cases still increasing and there is an expansion of geographical area where the disease is reported.

### Distribution of Mumps cases in Gaza strip, 2012-2013



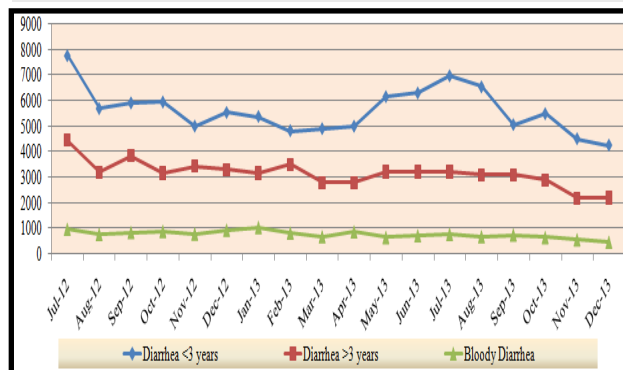
During the fourth quarter 2013, a total of 1143 cases of clinically diagnosed mumps were reported in all Gaza governorates (anti mumps IgM was detecting from some cases). Comparing with the previous quarter where a total of 294 cases were reported, there were about four fold increase. During the same quarter 2012, only 25 cases were reported and during the five years average, only 15 cases were reported. The majority of Mumps cases were from Mid-Zone (a total of 486 cases were reported constituting about 42.5%) and Khan-Younes governorate (a total of 468 cases were reported constituting about 41%). In spite of that, the most affected age group was from 6-15 years, there were some cases from the older age groups.

## Monthly Reported Diseases during the fourth quarter, 2013

### Diarrheal diseases:

During the fourth quarter 2013, the diarrheal disease situation reported a decrease comparing with the previous quarter. A total of 23.155 cases of diarrheal diseases were reported during this

## Distribution of all types of diarrheal diseases in Gaza strip, 2012-2013

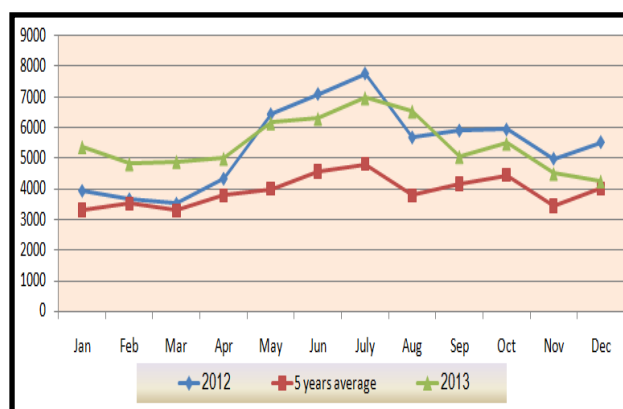


period, representing about 23% decrease comparing with the previous quarter 2013. Comparing to the same quarter 2012, a decrease trend was reported where a total of 28.915 cases were reported representing about 20% decrease. This decrease was mainly among age group more the three years and the majority of reported cases were reported in North (7237 cases) and Khan-Younes (7069 cases) governorates. On the other hand there was an increase in reported number of cases comparing with the five years average where a total of 19.743 cases (about 15% increase) were reported.

### Diarrhea < 3 years:

There was a decrease of reported cases during the fourth quarter 2013, where a total of 14.209 cases were reported while a total of 18.572 cases were reported during the previous quarter (about 23% decrease). On the other hand during the same quarter 2012, a total of 16.463 cases were reported (about 13% decrease). The majority of cases were

### Distribution of diarrhea among children less than 3 years in Gaza strip, 2012-2013



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### Case definition for Hepatitis:

#### Suspected case:

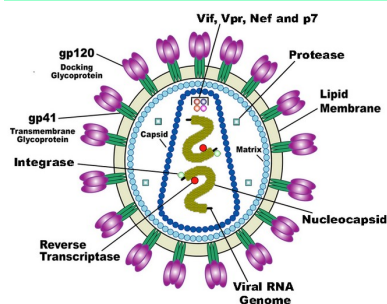
Any case complaining of fever, general weakness, loss of appetite, abdominal pain, nausea, vomiting and jaundice.

#### Probable case:

A case that meets the suspected case definition and occurs in a person who has an epidemiological link with a person with laboratory confirmed hepatitis A during the 15-50 days before onset of symptoms with highly elevated liver enzymes.

**Confirmed case:** HAV IgM positive.

**Preventive measures:** Isolation of patient from school or work for one week after onset of jaundice, general and personal hygiene and health education are indicated. Specific vaccine is available in privet sector but it is not recommended because of high endemicity of our area.



The virus can survive outside the body for months (up to three months) in freshwater or sea water. It is completely inactivated by heat at 75°C for 20 minutes or 85°C for 1 minute, but partly inactivated at 60°C for 4 hours. Boiling water (less than 15 minutes) is not enough to inactivate HAV completely, particularly if the instruments have not been mechanically cleaned with due care prior to heating.

Hepatitis A is an important public health problem caused by hepatitis A virus (HAV). The HAV is a non-enveloped positive stranded RNA picornavirus. The infection is self-limiting and usually self-healing, contracting by people lacking virus A antibodies-hence its preference for children. The infection is transmitted by the fecal-oral route. The main danger, therefore, is poor hygiene, as is occasionally found in communal houses or flats, children's homes, prisons, shelters for homeless and homes for the mentally handicapped as well as among injecting drug users. In developed countries person-to-person spread is the most common route of transmission, while in countries with poor sanitation feces-contaminated food and water are frequent sources of infection. Hepatitis A infection can also be spread during sexual intercourse (rare) and through injecting drug abuse.

The average incubation period is 28 days (range: 15–50 days). Cases are most infectious from the latter half of the incubation period until a few days after the onset of jaundice, corresponding to a peak in transaminase levels in cases without jaundice. Most cases are not infectious after the first week of jaundice.

The course of hepatitis A infection is extremely variable. In children under 5 years of age, the majority of infections (80–95%) are asymptomatic while symptoms are more common among older children and adults (70–95% of infections result in clinical illness). Infection is followed by lifelong immunity. Severity of symptoms increases

with age. Fulminant hepatitis occurs rarely (<1% overall), but rates are higher with increasing age and in those with underlying chronic liver disease, including those with chronic hepatitis B or C infection.

In high-income countries, the seroprevalence of antibodies is very low, and less than 50% are immune by the age of 30.

The incidence of Hepatitis A is strongly correlated with socioeconomic indicators. thus, with increasing incomes and access to clean water and adequate sanitation, the incidence of HAV infection decreases. The overall mortality among reported cases of hepatitis A is approximately 0.3%–0.6%; however, among adults older than 50 years of age, mortality is 1.8%.

***Always Be  
prepared to face a  
sudden increase in  
number of cases***

Clinically, Hepatitis A is indistinguishable from other types of hepatitis and there is no chronic carrier state. Illness is characterized by an abrupt onset of fever, malaise, anorexia, nausea, abdominal discomfort followed by dark urine, and jaundice after 3-5 days. Maximum infectivity occurs during the latter half of incubation and continues for a few days after onset of jaundice. Jaundice (yellowish discoloration of the skin and

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## Diarrheal Diseases

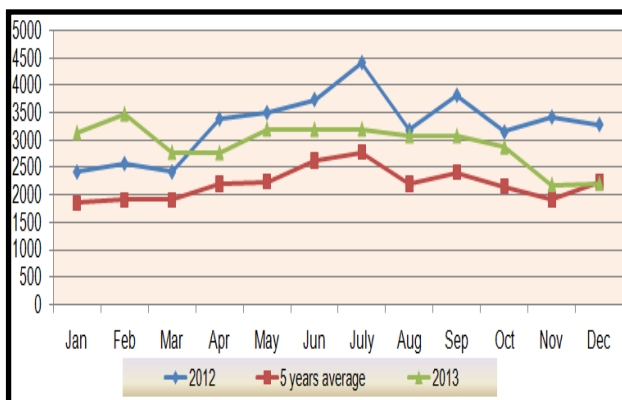
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reported mainly in Khan-Younes (4980 cases) and North (4415 cases) governorates.

### Diarrhea > 3 years:

There was a decrease of reported cases during the fourth quarter 2013 where a total of 7.289 cases were reported while a total of 9.383 cases were reported during the previous quarter (about 22% decrease). On the other hand during the same quarter 2012, a total of 9.874 cases were reported (about 26% decrease). Comparing with the five years average, an increase of about 13% of reported cases were reported (6304 cases). The majority of reported cases were reported mainly in North governorate (2452 cases).

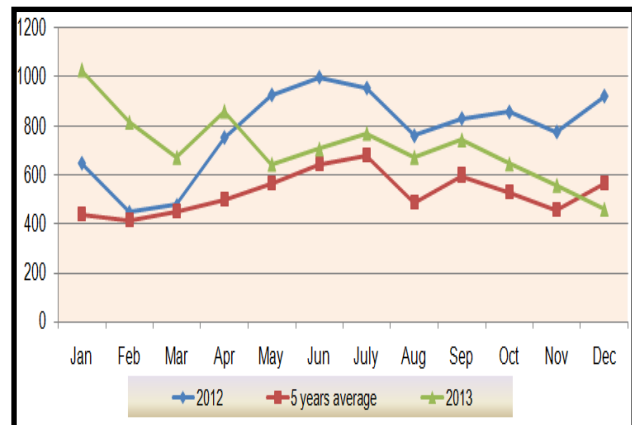
### Distribution of diarrhea more than 3 years in Gaza strip, 2012-2013



### Bloody Diarrhea:

There was a decrease of reported cases during the fourth quarter 2013 comparing to the third quarter 2013. During the fourth quarter 2013, a total of 1.657 cases were reported while a total of 2.180 cases were reported during the previous quarter constituting about 24% decrease. Comparing with the five years average, a slightly increase of about 6% of reported cases were reported (1553 cases). The majority of cases were reported mainly in Mid-Zone (621 cases), Khan-Younes (420 cases) and North (370 cases) governorates. Continuous monitoring and evaluation of activities are essential to assure the progress and effectiveness of national diarrheal disease control programs.

## Distribution of bloody diarrhea in Gaza strip, 2012-2013



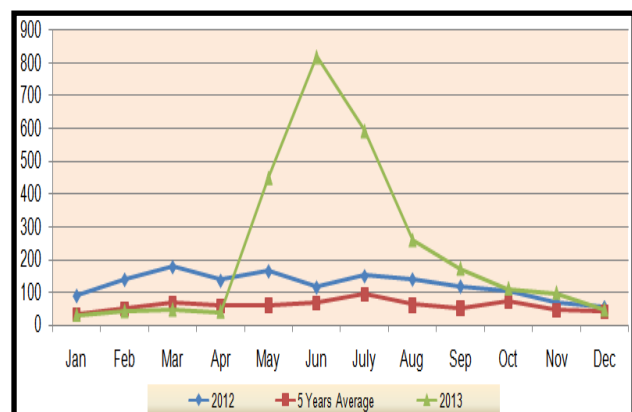
## Immediately reported diseases

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### Non Specific Meningitis cases:

There was a continuous decreasing trend of reported cases of non specific meningitis during the fourth quarter 2013 comparing with the previous quarters. During this quarter, a total of 255 cases of NSM were reported while a total of 1024 cases were reported during the previous (third) quarter 2013. Comparing with the same quarter of the previous year 2012, nearly the same number of cases was reported (223 cases). Comparing with the five year average (154 cases), there is an increase of the reported number of cases. The majority of reported cases were reported mainly in Gaza governorate where a total of 120 (47%) cases were reported.

### Distribution of non-specific Meningitis cases in Gaza strip, years 2012-2013



## The situation of Poliomyelitis

*Continued from page 1*

vaccination coverage during this round reached about 99.2%.

It is crucial to the global eradication effort to control the outbreak in Syria, Iraq and other countries to prevent polio spreading to neighboring polio-free countries.

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## Hepatitis A in Palestine

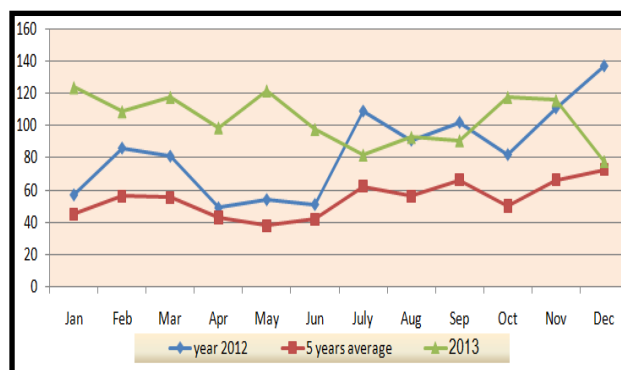
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sclera), dark urine and light clay-colored stool may follow a few days later.

Laboratory diagnosis is based on elevation of liver enzymes (ALT and AST) and the presence of IgM antibodies against hepatitis A virus (HAV IgM) which confirms recent infection. These antibodies are present for two to four months after infection. IgG antibodies alone are evidence of past infection. A therapy for acute hepatitis A with antiretroviral agents is not yet possible. Bed rest is usually kept in line with the situation of the patient. With inadequate oral intake, the substitution of fluid, calories (glucose infusions), electrolytes, trace elements and (water-soluble) vitamins is advisable. Good hygiene practices and health education are the cornerstone of the prevention of hepatitis A infection.

The index case should be excluded from work, school or nursery until 7 days after onset of jaundice, or 7 days after symptom onset if there is no history of jaundice. The index case and his or her family should receive guidance on the importance of hand washing after using the toilet and before preparing food. It is important that enhanced hygiene is practiced by all family members as some may already have acquired hepatitis A infection and be excreting hepatitis A virus. Individuals whose personal hygiene is likely to be inadequate (e.g. young children or those with severe learning disabilities) should be

## Distribution of Hepatitis A cases in Gaza strip, years 2012-2013



supervised to ensure that they wash their hands properly after defecation.

In Palestine, HAV is endemic with about 90% of the adult population having positive anti-HAV. In Gaza Strip during the fourth quarter 2013, there was an increase of reported cases of hepatitis A comparing with the previous quarter, the same quarter 2012 and the 5 years average. A total of 312 cases were reported during this quarter comparing to 226 cases were reported during the previous (third) quarter 2013. Comparing with the five years average, a total of 190 cases were reported while during the same quarter 2012 a total of 330 cases were reported. This increase was reported mainly from North (where a total of 100 cases were reported) and Khan-Younes (where a total of 78 cases were reported) governorates. No cases of deaths were registered during this period. Strengthening of community health education regarding mode of transmission and prevention of this disease was conducted during the last period focussing on personal hygiene through hand washing especially after going to toilet and before eating and restriction of movement of patients for the whole symptomatic period.

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