



Quarterly Epidemiological Report-Gaza

Epidemiological Bulletin

From 1 October to 31 December 2014

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 constituting about 1.35% from the historical Palestine. 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 mid-year population of 1.644.289 people (PCBS, 2012).
- * Male/Female ratio in general population is 103.100 (PHIC, 2012).
- * Population density is 4583 inhabitants per sq km.
- * Population growth rate is very high of over 3.5%.
- * Population under the age of 15 is 45.7%.
- * Infant Mortality Rate is 17.8 per 1000 live births.
- * Crude Birth Rate is 34.4/1000.
- * Crude Death Rate is 3.3/1000.
- * Average life expectancy is 70.7 years for males and 73.5 years for females.
- * Fertility rate is 6.3%.
- * Family size Average is 6.1.
- * Median age (years) is 17.6

The situation of influenza A (H1N1) in Palestine

The influenza viruses are classified into types A, B and C on the basis of their core proteins. Only types A and B cause human disease of any concern. The subtypes of influenza A viruses are determined by envelope glycoproteins possessing either haemagglutinin (HA) or neuraminidase (NA) activity. High mutation rates and frequent genetic reassortments of these viruses contribute to great variability of the HA and NA antigens.



In 2009, a new Influenza A (H1N1) virus emerged and spread rapidly around the world. It is a new reassortment that has never before circulated among humans. In June 2009, WHO declared a pandemic and a total of 74 countries and territories had reported laboratory confirmed infections. To date, most countries in the world have confirmed infections from the new virus. The new virus has also led to patterns of death and illness not normally seen in influenza infections. Most of the deaths caused by the pandemic influenza have occurred among younger people, including those who were otherwise healthy. Pregnant women, younger children and

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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 (AFP), Acute Poliomyelitis, HIV/AIDS, Cholera, Diphtheria, Food poisoning, Measles, Rubella, Meningococcal diseases, Hemophilus Influenza B Meningitis (HiB), 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.

Reported notifiable diseases by governorates: October, November and December 2014.

Disease	North	Gaza	Mid-Zone	Khan-Younes	Rafah	Total Q4, 2014	Total 2014	5 Years Average, Q4
Group A diseases								
AFP	0	0	0	0	0	0	7	1.2
AIDS/HIV	0	0	0	0	0	0	1	0.4
Cholera	0	0	0	0	0	0	0	0
Diphtheria	0	0	0	0	0	0	0	0
Measles	0	0	0	0	0	0	0	0
Meningococcal Disease	3	5	0	1	0	9	68	26
HiB Meningitis	0	0	0	0	0	0	0	0.2
Bacterial Meningitis	16	92	1	56	2	167	997	70.8
Non Specific Meningitis	73	95	69	43	1	281	4345	205
Vaccine Adverse Events	0	2	0	5	0	7	17	2.2
Food Poisoning	3	0	0	0	0	3	17	29
Rabies	0	0	0	0	0	0	0	0
Tetanus	0	0	0	0	0	0	0	0

Reported notifiable diseases by governorates: April, May and June 2014.

Disease	North	Gaza	Mid-Zone	Khan-Younes	Rafah	Total Q2, 2014	Total 2014	5 Years Average, Q2
Group B diseases								
Brucellosis	0	1	1	0	0	2	21	2.4
Hepatitis A	39	87	36	28	9	199	860	204
Hepatitis B	15	20	0	6	6	47	257	86
Hepatitis C	5	2	0	0	0	7	54	14.4
Lishmaniasis	0	0	0	0	0	0	0	0
Influenza A H1N1	0	9	0	0	0	9	13	46
Malaria	0	0	1	0	0	1	1	0
Mumps	363	197	34	25	44	663	18535	368
Whooping Cough	0	0	0	0	0	0	0	0
STD	0	0	0	0	0	0	0	0
Shigellosis	0	3	0	0	0	3	6	1.2
TB Pulmonary	0	0	2	0	1	3	24	2.4
TB Extrapulmonary	0	1	0	1	0	2	5	1.8
Salmonellosis	0	0	0	0	0	0	0	
Typhoid Fever	2	0	0	2	0	4	61	33
Typhus fever (OX19)	1	0	0	21	0	22	109	40
Group C diseases								
Animal Bites	13	14	6	6	2	41	158	65
Chicken Pox	52	32	148	288	3	523	3640	660
Diarrhea <3 years	5679	2051	2372	4846	1567	16515	67243	13132
Diarrhea >3 years	3002	896	1727	1519	905	8049	35095	6993
Bloody Diarrhea	459	122	493	350	70	1494	7112	1645
Upper respiratory infection	11279	4208	5098	4921	1354	26860	109115	17773
Scabies	65	115	108	110	154	552	3124	13
Ascariasis	8	1	0	0	1	10	80	47
Amebiasis	265	740	94	196	166	1461	6877	1588
Giardiasis	89	155	32	84	126	486	2021	629
Enterobiasis	0	2	0	0	2	4	44	8
Hymenolepiasis	2	0	0	0	0	2	39	13

Epidemiological situation of reported communicable diseases during the fourth quarter, 2014

During the fourth quarter 2014 a total of 62.034 cases of notifiable diseases were reported to the epidemiology department which constitute about 5.7% increase comparing with the previous quarter (58.477 cases). During this period, none of the following infections were recorded: acute poliomyelitis, AIDS/HIV, HiB meningitis, diphtheria, measles, tetanus, rabies, cholera, whooping cough and Lishmaniasis.

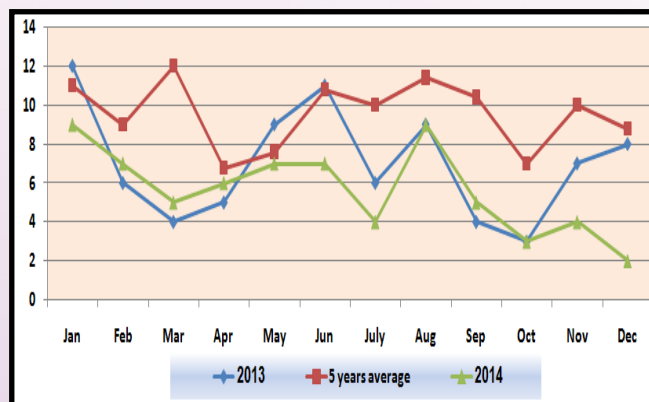
The top three diseases on the reporting form were upper respiratory tract infection (URTI), diarrhea and mumps. These diseases are constituting a total of more than 86% of all notifications. The five years average (during the fourth quarter) for URTI was low because only influenza cases were reported. Recently, URTI was added to the notification list which explain the high number of notifications. When compared with the average notifications in the preceding five years: diarrhea, mumps, scabies, bacterial meningitis and non-specific meningitis showed increase of reported number. Hepatitis B and C, AFP, Meningococcal diseases, typhoid fever, typhus fever and animal bites showed decrease compared with the five years average. One case of malaria was reported in Mid-Zone governorate in an individual returning from a tropical country. No changes of reported cases of chicken pox, pulmonary and extra-pulmonary TB were noticed.

Immediately reported diseases during the fourth quarter, 2014

Meningococcal Diseases:

During the fourth quarter 2014, an obvious decreasing trend of reported cases of meningococcal diseases was noticed where a total of 9 cases were reported compared to the previous quarter (20 cases were reported). Comparing to the five years average and the same quarter 2013, also a decrease of reported number was noticed where a total of 26 and 18 cases respectively were reported. The majority of reported cases (7) were female with a male:female ratio of 28.6:100. The majority of reported cases (5) were diagnosed as meningococcal meningitis constituting about 55.6% from all cases. For meningococcal meningitis, 3 cases were diagnosed by CSF culture, one case was diagnosed by blood culture and one case was diagnosed by CSF gram stain. For meningococemia cases, all 3 cases were diagnosed by skin smear. Only one male child with meningococemia was died with a case fatality

Distribution of Meningococcal diseases cases in Gaza strip, years 2013-2014

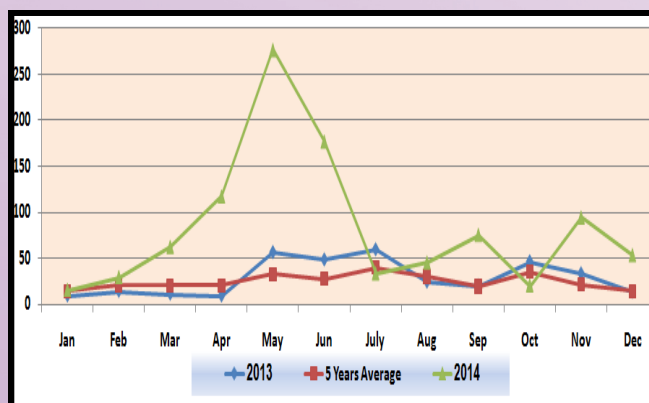


rate of 11%. The majority of cases were reported in Gaza governorate (4 cases) governorate. All contacts were traced and given prophylactic treatment.

Other bacterial Meningitis cases

There was a fluctuating trend of reporting cases of other bacterial meningitis during this quarters 2014 where a total of 167 cases were reported comparing with the previous quarter 2014 where a total of 153

Distribution of other bacterial Meningitis cases in Gaza strip, years 2013-2014



cases were reported. Comparing to the five years average, an increase of reported number was noticed where a total of 71 cases were reported. During the same quarter 2013, a total of 92 cases were reported. The majority of reported cases during this quarter were reported in Gaza governorates (a total of 92 cases were reported) constituted about 55%. In Khan-Younes and North governorates, a total of 56 and 16 cases were reported respectively.

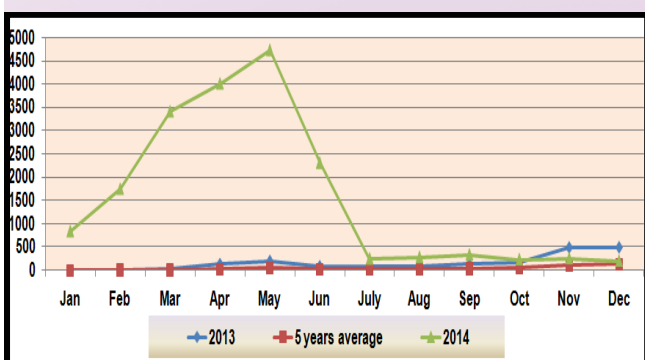
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Weekly Reported Diseases during the fourth quarter, 2014

Mumps:

Epidemiology department continues investigation of mumps outbreak that began since the end of April, 2013 in Khan-Younes governorate (Ma'en area). During the fourth quarter 2014, a total of 633 cases of clinically diagnosed mumps were reported in all Gaza governorates. Comparing with the previous quarter where a total of 835 cases were reported con-

Distribution of Mumps cases in Gaza strip, years 2013-2014



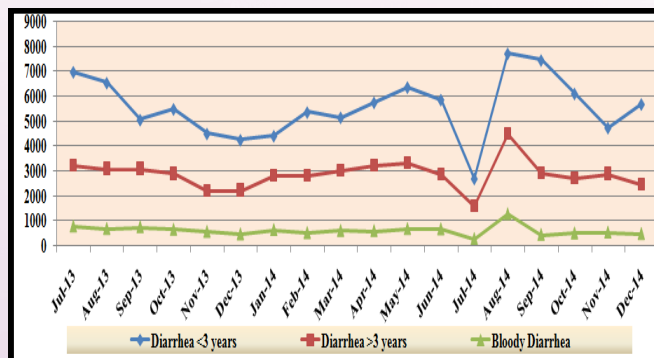
stituting a continuous decrease of reporting cases. During the same quarter 2013, only 1143 cases were reported and during the five years average, only 268 cases were reported. During this quarter, the mumps cases were reported from North (363 cases), Gaza (197 cases), Rafah (44 cases), Mid-Zone (34 cases) and Khan-Younes (25 cases) governorates.

Monthly Reported Diseases during the fourth quarter, 2014

Diarrheal diseases:

The reported increasing trend of diarrheal diseases reported directly after the war on Gaza 2014 was decreased during this quarter. A total of 26,058 cases of diarrheal diseases were reported during this period, representing about 9% decrease comparing with the previous quarter (28,808 cases). The majority of reported cases were reported in North (9,140 cases) and Khan-Younes (6,715 cases) governorates while Rafah governorate showed the lowest reported number. Comparing to the same quarter 2013, an increase trend was reported where a total of 23,155 cases were reported.

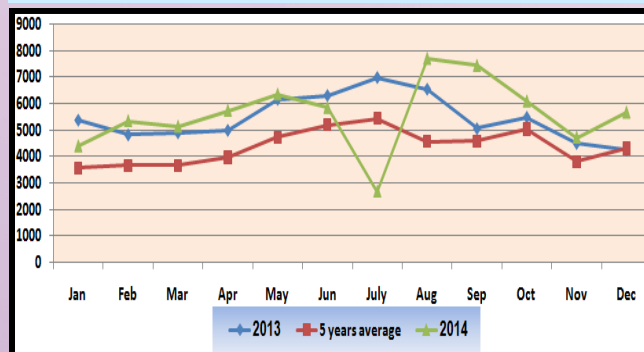
Distribution of all types of diarrheal diseases cases in Gaza strip, years 2013-2014



Diarrhea < 3 years:

There was a mild decrease of reported cases during the fourth quarter 2014, where a total of 16,515 cases were reported compared with the previous quarter (third quarter) where a total of 17,856 cases were reported (about 7% decrease). On the other hand during the same quarter 2013, a total of 14,209 cases were reported. Comparing with the five years average, an increase of about 20% of reported cases were reported (13,132 cases). The majority of cases (63%) were re-

Distribution of diarrhea among children less than 3 years in Gaza strip, years 2013-2014



ported mainly in North (5,679 cases) and Khan-Younes (4,846 cases) governorates.

Diarrhea > 3 years:

There was a mild decrease of reported cases during the fourth quarter 2014 where a total of 8,049 cases were reported compared with the previous quarter where a total of 8,983 cases were reported (about 10% decrease). On the other hand during the same quarter 2013, a total of 7,289 cases were reported (about 10% increase). Comparing with the five years

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The situation of influenza A (H1N1) in Palestine

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people of any age with certain chronic lung or other medical conditions appear to be at higher risk of more complicated or severe illness. Many of the severe cases have been due to viral pneumonia associated with seasonal influenza, which is harder to treat than bacterial pneumonias. Many of these patients have required intensive care.

On 10 August 2010, WHO Director declared that the H1N1 pandemic that started in the spring of 2009 is now officially over and we are now moving into the post-pandemic period. WHO Director attributed the end of the pandemic to several factors: that the virus did not mutate to a more lethal form, the H1N1 flu vaccine proved to be a good match and widespread resistance to the antiviral drug (Tamiflu) did not develop. Based on knowledge about past pandemics, the H1N1 (2009) virus is expected to continue to circulate as a seasonal virus for some years to come. Most experts expect the virus will continue circulating as an annual strain, along with another influenza A strain called H3N2 and with influenza B. So all three strains are included in the upcoming seasonal flu vaccine. The available trivalent vaccines are used to immunize persons at risk of severe disease from H1N1 influenza infection. The fact that these vaccines are not 100% effective against infection and are not effective immediately after administration (at least 2 weeks must pass for the vaccine to take effect), a history of vaccination does not rule out influenza.



Recently published studies indicate that 20–40% of populations in some areas have been infected by the H1N1 virus and thus have some level of protective immunity. WHO recommends that surveillance during the post-pandemic period include monitoring for unusual events of severe respiratory illness or death; maintaining routine surveillance, including for influenza-like illness and cases of severe acute respiratory infections (SARI) in order to detect any changes in the severity or other epidemiological or clinical char-

acteristics of the H1N1 (2009) virus including any unexpected increases in numbers of cases; and lastly monitoring the H1N1 (2009) virus for important genetic, antigenic or functional changes.

Treatment with antiviral drugs reduces the duration of illness, the magnitude of viral shedding and also reduce infectiousness. So treatment is recommended for patients with confirmed or suspected H1N1 (2009) influenza who have severe, complicated, or progressive illness or who are hospitalized. And when indicated, treatment should begin as soon as possible after the onset of typical influenza-like symptoms.

In Palestine, there are the necessary testing kits and equipment to deal efficiently with the spread of the virus. So each year random samples are collected from cases with SARI for monitoring and routine surveillance. During this year, a total of 45 samples were received by central laboratory in Gaza for analysis. Only 12 samples were positive for type A H1N1 virus, 10 samples were positive for type B virus and one sample was unspecified type A virus. That means a mix of influenza viruses are circulating in Gaza Strip which is typically seen during this season. The 2014 influenza seasonal vaccine used in Palestine contains H1N1 (2009) – like virus strain, H3N2 – like virus strains and type B – like virus strains (was consistent with the circulating virus). The number of confirmed reported cases does not reflect the real situation of H1N1 in Gaza which is so much higher and this report is severely underestimate the situation. No single case was died among these recorded confirmed cases. So, the Ministry of Health in Gaza announced that the reported cases of H1N1 does not pose a threat to public health. So the recommendations by the ministry of health were to treat all patients with suspected H1N1 based on clinical signs only and focused laboratory testing only for specific population groups.

The surveillance system in Gaza reports all upper respiratory tract infection cases including influenza like illnesses. During the year 2014, the total number of reported cases (109115 cases) was lower than the reported number during the year 2013 (123661 cases). However, symptomatic individuals who are receiving treatment should be advised that they remain potentially infectious to others while on treatment. Despite treatment with antiviral agents, patients may continue to shed influenza virus for up to four or more days after beginning therapy. Therefore, patients should maintain good cough etiquette and respiratory hygiene (maintain distance, cover coughs and sneezes with disposable tissues or clothing, wash hands) and frequent hand-washing practices during the entire period on therapy to prevent the transmission of virus to close contacts. And whenever possible, people must avoid crowded enclosed spaces and close contact with people suffering from acute respiratory infections.

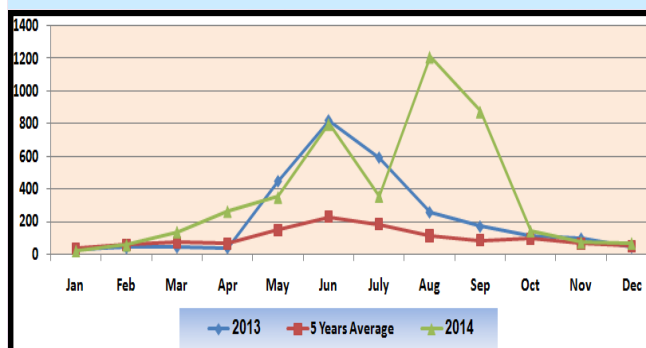
Immediately reported diseases

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Non Specific Meningitis cases:

There was an obvious decrease of reported cases of non-specific meningitis during the fourth quarter 2014. During this quarter, a total of 281 cases of NSM were reported while a total of 2441 cases were

Distribution of non-specific Meningitis cases in Gaza strip, years 2013-2014



reported during the previous (third) quarter 2014. Comparing with the same quarter 2013, a total of 255 cases were reported. Comparing with the five year average (205 cases), the same trend as this quarter was reported. The majority of reported cases were reported mainly in Gaza, North and Mid-Zone governorates where a total of 95, 73 and 69 cases were reported respectively. The case fatality rate was zero%.

Monthly Reported Diseases

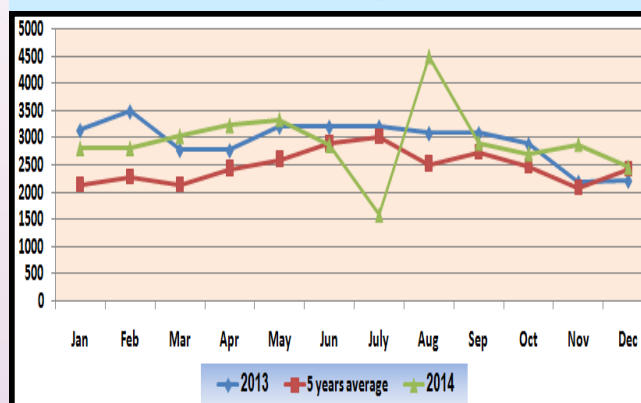
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average, an increase of about 15% of reported cases was reported (6.993 cases). The majority of reported cases were reported mainly in North, Mid-Zone and Khan-Younes governorates where a total of 3002, 1727 and 1519 cases were reported respectively (constituting about 77% of all reported cases).

Bloody Diarrhea:

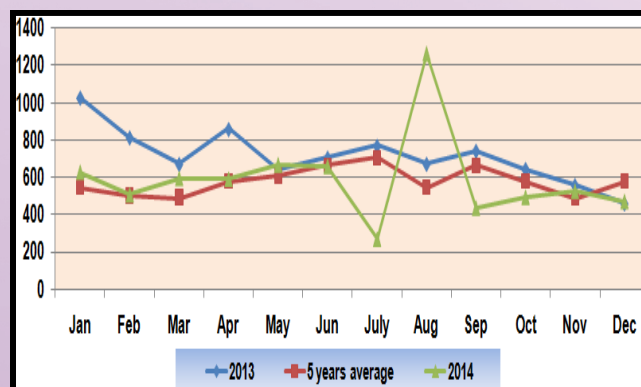
There was a decrease of reported cases during the fourth quarter 2014 comparing to the previous quarter. During this quarter, a total of 1.494 cases were reported while a total of 1.969 cases were reported during the previous quarter

Distribution of diarrhea among children more than 3 years in Gaza strip, years 2013-2014



constituting about 24% decrease. Comparing with the five years average, a decrease of about 9% of reported cases were reported (1645 cases). The majority of cases (57%) were reported mainly in Mid-Zone, North and Khan-Younes governorates where a total of 493, 459 and 350 cases were reported respectively (constituting about 87% of all reported cases).

Distribution of bloody diarrhea in Gaza strip, years 2013-2014



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