



Weekly Epidemiological Bulletin

Disease early warning system and response in Pakistan

Volume 5, Issue 9, Wednesday 5 March 2014

Highlights

Epidemiological week no. 9
(23 Feb to 1 Mar 2014)

- **Dengue fever:** During this week, 5 Dengue fever lab confirmed cases have been reported from Sindh province.
- In this week, **78** districts and 2,500 health facilities have reported to Disease Early Warning System (DEWS), compared to 80 districts with 2,519 health facilities shared weekly data in week 8, 2014 to the DEWS.
- Total **933,313** patients consultations reported in week 9, 2014 compare to **1,008,938** consultations in week 8, 2014.
- In this week, a total of 84 alerts identified and timely responded. Altogether 30 alerts were for Measles; 20 for Leishmaniasis; 9 Typhoid fever; 8 for NNT; 6 each for H1N1 and ARI; 2 each for Bloody diarrhoea and Pertussis; while 1 for Scabies.

Figure-1: 78 districts reported to DEWS in week 9, 2014



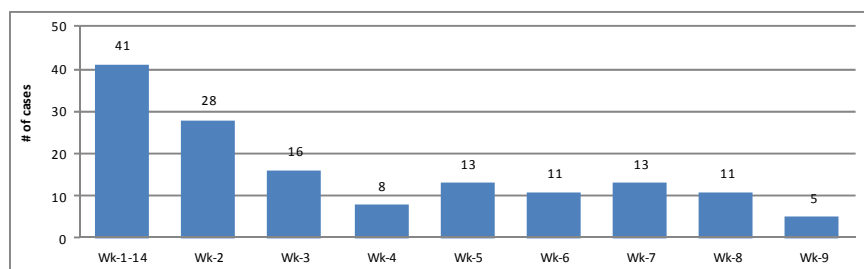
Priority diseases under surveillance in DEWS

- Pneumonia
- Acute Watery Diarrhoea
- Bloody diarrhoea
- Acute Diarrhoea
- Suspected Enteric/Typhoid Fever
- Suspected Malaria
- Suspected Meningitis
- Suspected Dengue fever
- Suspected Viral Hemorrhagic Fever
- Suspected Measles
- Suspected Diphtheria
- Suspected Pertussis
- Suspected Acute Viral Hepatitis
- Neonatal Tetanus
- Acute Flaccid Paralysis
- Scabies
- Cutaneous Leishmaniasis

Cumulative number of selected health events reported in Epi-week 1 to 9, 2014 (29 Dec 2013 to 1 Mar 2014)

Disease	# of Cases	Percentage
ARI	1,793,843	23.35%
Bloody diarrhoea	7,160	<1.00%
Acute diarrhoea	332,984	4.33%
S. Malaria	204,716	2.66%
Skin Diseases	230,819	3.00%
Unexplained fever	210,363	2.74%
Total (All consultations)	7,683,242	

Figure-2: Number of Dengue fever positive cases in Pakistan, Week 1 to week 9-2014

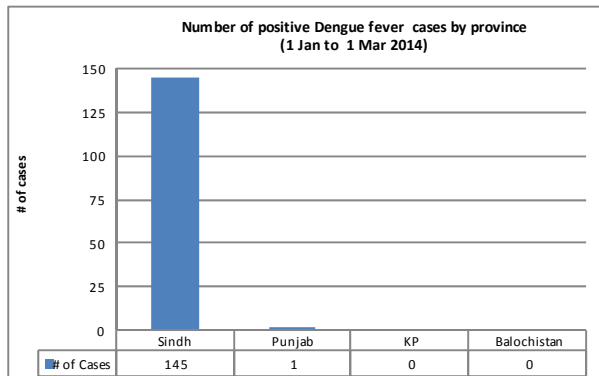


Major health events reported during the Epi-week - 9 (23 Feb to 1 Mar 2014)

Disease	# of Cases	Percentage
ARI	216,377	23.18%
Bloody diarrhoea	789	<1.00%
Acute diarrhoea	41,019	4.39%
S. Malaria	25,714	2.76%
Skin Diseases	27,417	2.94%
Unexplained fever	25,469	2.73%
Total (All consultations)	933,313	

From 1st January to 1st March 2014, a total of 146 lab confirmed Dengue fever cases were reported, out of them 145 positive cases from Sindh province; while 1 positive case was reported from Punjab province.

In year 2013 Dengue fever cases were reported from many less endemic areas. A huge outbreak was confronted in district Swat and increasing number of Dengue fever cases were reported from adjacent district also and cases were also reported from Gawadar and Kech districts in Balochistan province and Karachi in Sindh province.



Number of Outbreaks (Wk-9/2013):

Date	Disease	Province	District	Area	<5M	>5M	<5F	>5F	Action Taken
1-Mar	Leishmaniasis	Balochistan	Lasbela	(Civil Hospital) Bela, Tehsil Bela	3	1	0	2	6 cases reported. Investigation was done. Cases were already diagnosed as Leishmaniasis. Cases had lesion on P1 Lt forearm, P2 abdomen, P3 Lt cheek, P 4 chin, P5 Lt hand and P6 Rt hand. Treatment was provided and advised to continue till further improvement. Information shared with DHO.
28-Feb	Measles	Balochistan	Chagai	Faisal colony, UC Sadder	1	3	1	5	10 cases reported during active surveillance. Investigation was done. Cases were presenting with typical symptoms of rashes, fever and red eyes. Vitamin A was given and patients made isolated. House hold survey was done. 49 children were checked of which 16 were vaccinated. Parents were sensitized for routine immunization. 2 blood samples were taken and sent to NIH lab.
26-Feb	H1N1	Punjab	Multan	Makwal Kalan, Tehsil Taunsa DG Khan	0	5	0	2	A 32 year old female was reported from Nishter Hospital ICU on ventilator with ARDS. She suddenly developed cough, rhinorrhea and fever on 14 February, 14 and was put on levofloxacin by a local doctor at Taunsa. On further deterioration of condition she consulted a medical specialist in DG Khan who diagnosed bronchial pneumonia and referred the case to City hospital Multan where she remained for 3 days and then referred to Nishter hospital with a suspicion of ARDS. Her throat swab was collected and sent to NIH for confirmation which was found positive for H1N1. Nasopharyngeal swabs of the 04 attendants with symptoms of sudden ILI were collected and sent to Nishter Pathology Department for confirmation. In addition, 02 family members with ILI was identified by SO DG Khan during field investigations which were sent to NIH for confirmation. Health Education sessions were conducted with Hospital staff, attendants, Family and community on hand washing and prevention from airborne infections. The patient is still admitted in HDU in Nishter Hospital. Cap Tamiflu, PPEs, IEC Material, H1N1 guidelines, treatment algorithms and Hand Sanitizers were also provided to Nishter Hospital ICU and HDU staff. The case is still admitted in HDU.
27-Feb	H1N1	Punjab	Multan	Jamalpur Colony, Outside Doulat gate Multan	0	5	0	4	A 40 year old female case with h/o cough, flu and fever for 6 days was referred to Nishter Hospital in unconscious state and was shifted to ICU ward on ventilator. She developed flu like illness on 22nd Feb 14 and taken to private hospital where she was admitted for 02 days with provisional diagnosis of ARDS. When her condition further deteriorated, she was referred to Nishter Hospital. Her throat swab was collected and sent to Nishter Hospital Pathology Department where she was diagnosed with H1N1. Oseltamivir provided by WHO was started the same day but she expired later at night. Contacts were traced and on active case finding 8 more suspected cases were identified including her attendants and close relatives and their throat swabs were also collected. Her 59 year old sister who also shared a bed with the case was also found positive for H1. The results of rest of the cases is still awaited. Oseltamivir treatment is started for 03 cases and they are kept under observation at Nishter Hospital. Health education sessions were conducted with attendants, community and hospital staff on H1N1 and its treatment, airborne infections and hand washing. PPEs, IEC Material, H1N1 guidelines, treatment algorithms and Hand Sanitizers were also provided to Nishter Hospital ICU and HDU staff.
25-Feb	Measles	Sindh	Karachi	Faqeera village , near kabeer chowk , gadap town	4	3	3	0	DEWS team was informed about 3 cases of Measles reported at Children's hospital north nazimabad .The cases were reported from a security compromised area in Gadap called as faqeer village. On area visit 7 more cases of Measles were found .The vaccination status of the children in the area was poor. Vitamin-A supplementation was done and people in the area briefed about the importance of vaccination for the children. The Town health officer informed about the cases and asked to carry out the mop up in the area soon. Follow up of the area planned to ensure no new cases.

Table-1: Number of alerts and outbreaks reported and investigated with appropriate response

Disease	2013		Current week 9, 2014		2014	
	A	O	A	O	A	O
Acute watery diarrhoea	142	40	0	0	13	1
Acute jaundice syndrome	49	6	0	0	1	0
Bloody diarrhoea	45	3	2	0	8	0
CCHF	90	47	0	0	2	0
Dengue fever	300	66	0	0	1	0
Diphtheria	84	19	0	0	18	3
Measles	3357	281	30	2	309	10
Pertussis	46	10	2	0	10	1
NNT + tetanus	349	0	8	0	81	0
Malaria	25	6	0	0	0	0
Cutaneous Leishmaniasis	621	51	20	1	129	3
Others	520	5	22	2	105	2
Total	5628	534	84	5	677	20

Figure-3: Number of alerts received and responded, week 6 to 9 2014

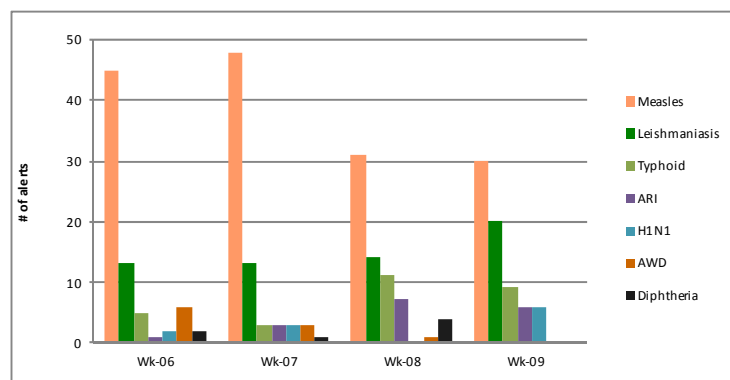
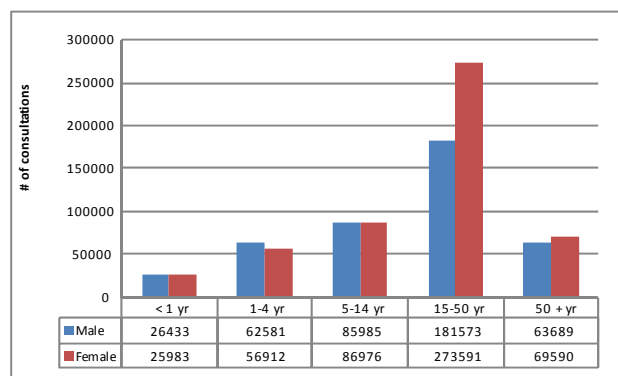
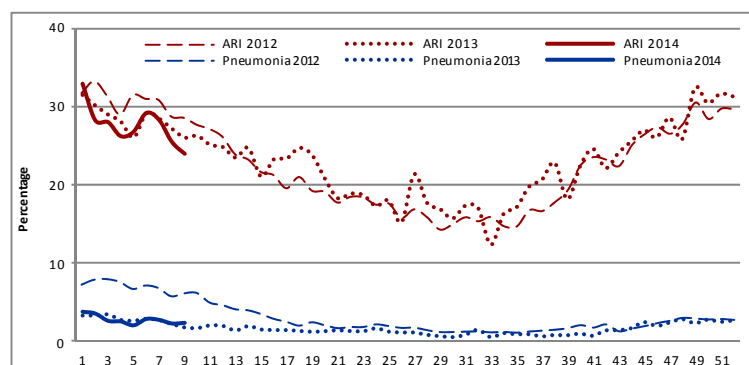


Figure-4: Number of consultations by age and gender, week 9, 2014



Province Khyber Pakhtunkhwa:

Figure-5: Weekly trend of ARI and Pneumonia, province Khyber Pakhtunkhwa



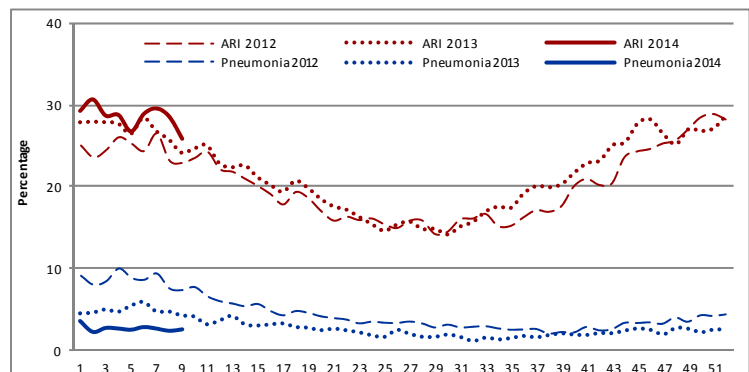
175 health facilities from 10 districts of Khyber Pakhtunkhwa sent reports to DEWS with a total of 48,018 patients consultations reported in week 9, 2014.

A total of 13 alerts were reported and appropriate measures were taken. Altogether 11 alerts were for Measles; while 2 Leishmaniasis.

Figure-5 shows the weekly trend of ARI (showing decrease) and Pneumonia (showing minor increase) as compare with last week.

Province Sindh:

Figure-6: Weekly trend of ARI and Pneumonia, province Sindh



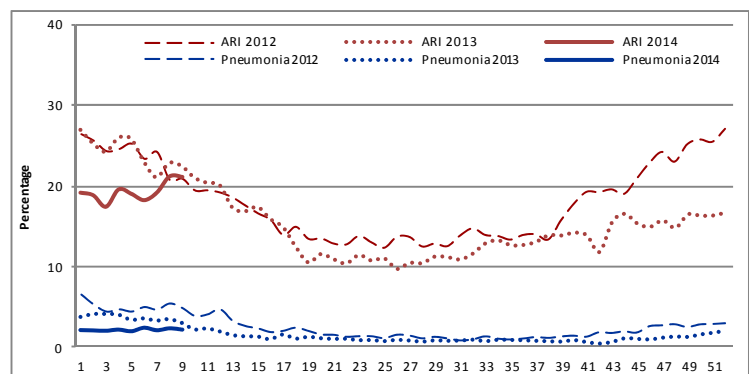
798 health facilities from 23 districts in Sindh province reported to DEWS with a total of 254,365 patient consultations in week 9, 2014.

A total of 19 alerts were received and appropriate measures were taken. Altogether 11 alerts were for Measles; 5 for Leishmaniasis; while 3 for NNT.

The proportion of ARI for the province is showing decrease as compared with last week, but higher from the same time period last year; while Pneumonia shows minor increase as compare with last week and low from the same time period last year.

Province Punjab:

Figure-7: Trend of ARI and Pneumonia, province Punjab



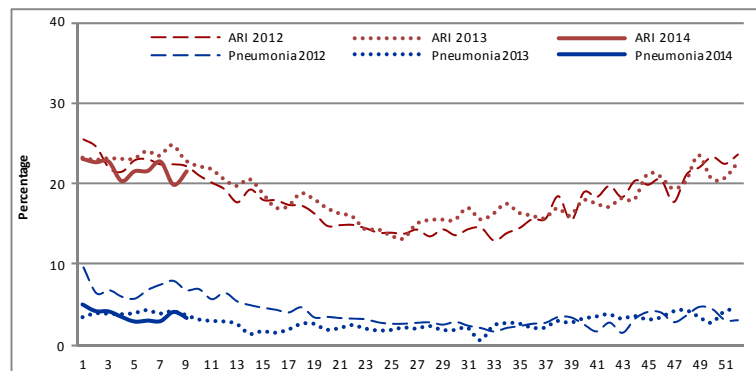
1,176 health facilities from 23 districts in Punjab province reported to DEWS with a total of 573,886 patients consultations in week 9, 2014.

Total 27 alerts were received and appropriate measures were taken. Altogether 8 alerts were for Typhoid; 6 each for H1N1 and ARI; 2 each for Bloody diarrhoea, Leishmaniasis and NNT; while 1 Scabies were responded in Punjab province.

The weekly trend of ARI in Punjab showing increase as compared with last week; while Pneumonia trend showing minor decrease as compared with last week.

Province Balochistan:

Figure-8: Weekly trend of ARI and Pneumonia, province Balochistan



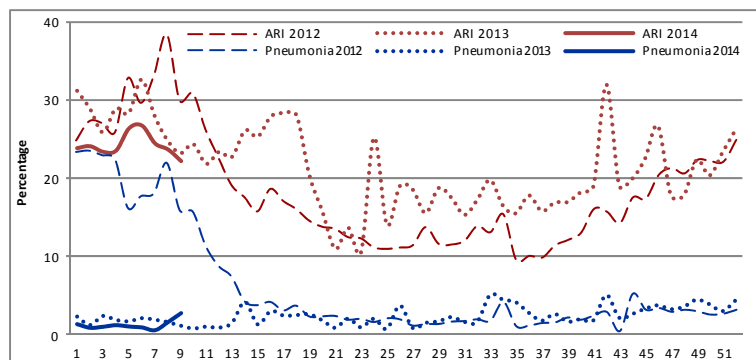
246 health facilities from 11 districts in Balochistan province reported to DEWS with a total of 37,908 patients consultations in week 9, 2014.

15 alerts were reported and appropriate measures were taken. Altogether 8 alerts were for Leishmaniasis; 4 for Measles; 2 for Pertussis; while 1 for Typhoid fever.

In this week the weekly proportion of ARI showing increase as compared with last week; while Pneumonia showing some decrease as compared with last week.

FATA:

Figure-9: Weekly trend of ARI and Pneumonia, FATA



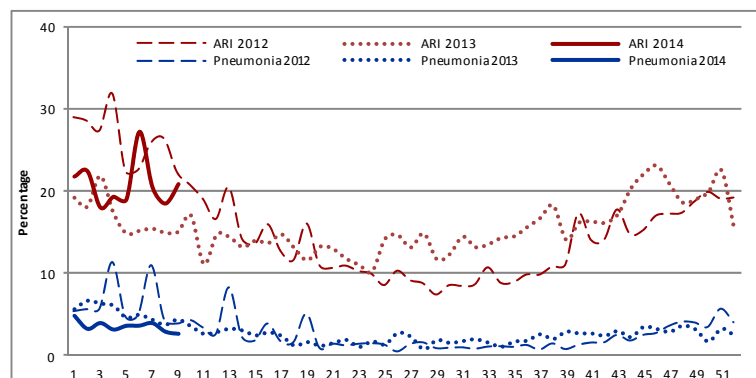
24 health facilities from 2 agencies in FATA reported to DEWS with a total of 5,672 patients consultations in week 9, 2014.

8 alerts were received and responded in FATA in week 8, 2014. Altogether 3 each alerts were for Leishmaniasis and NNT; while 2 for Measles.

The proportion of ARI showing decrease, while Pneumonia shows increase as compared with last week and high from same time period last year in FATA.

State of Azad Jammu and Kashmir:

Figure-10: Weekly trend of ARI and Pneumonia, AJ&K



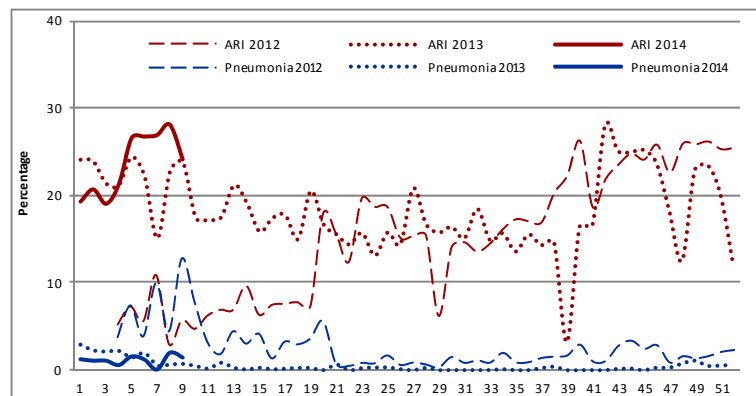
77 health facilities from 8 districts in AJ&K reported to DEWS with a total of 13,069 patients consultations in week 9, 2013.

2 alerts for Measles were reported from AJ&K in week 9, 2014 and appropriate measures were taken.

Weekly trend of ARI showing increase as compared with last week; while Pneumonia showing decrease as compare with last week; but vigilant monitoring of the situation is required.

Islamabad:

Figure-11: Weekly trend of ARI and Pneumonia, Islamabad



4 health facilities reported to DEWS on time with a total of 395 patients consultations in week 9, 2014.

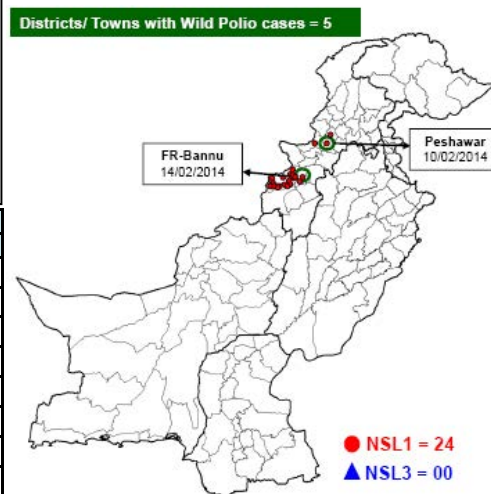
No alert for any disease reported from any area in Islamabad in week 9, 2014.

Weekly trend of ARI and Pneumonia showing decrease as compared with last week; but vigilant monitoring of the situation is required.

Distribution of Wild Polio Virus cases in Pakistan 2013 and 2014

In this week 9 (23 Feb to 1 Mar 2014), three new wild type-1 polio cases were reported from the Federally Administered Tribal Areas (two from North Waziristan agency and one from FR Bannu). This brings the total number of polio cases in 2014 to 24 (compared to 5 in 2013 till this time) from 5 districts/tribal agencies (compared to 5 in 2013 till this time).

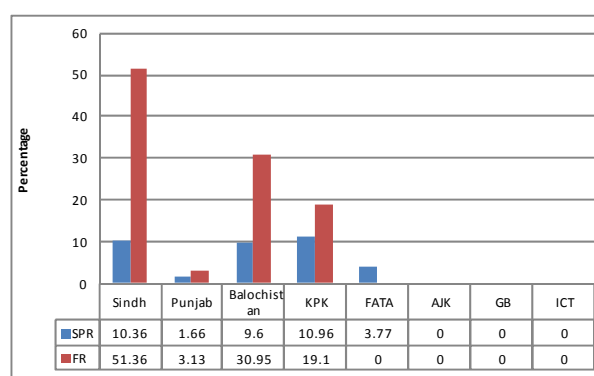
Province	2013			2014		
	P1	P3	P1+P3	P1	P3	P1+P3
Punjab	7	-	-	-	-	-
Sindh	10	-	-	-	-	-
Khyber Pakhtunkhwa	11	-	-	3	-	-
FATA	65	-	-	21	-	-
Balochistan	-	-	-	-	-	-
AJ&K	-	-	-	-	-	-
Gilgit-Baltistan	-	-	-	-	-	-
Islamabad	-	-	-	-	-	-
Total	93	-	-	24	-	-



Malaria:

The chart at below shows the Malaria slide positivity and Falciparum ratio in week 9, 2014. Total number of Malaria cases tested in this week is 6,772 out of which 513 were found positive; 324 for P. Vivax; 73 for P. Falciparum; while 116 for Mixed (SPR = 7.58%; F.R = 36.84%).

Malaria tests \ Province	Sindh	Punjab	Balochistan	KPK	FATA	AJK	GB	ICT
P. Vivax	125	31	87	72	9	0	0	0
P. Falciparum	19	0	37	17	0	0	0	0
Mixed	113	1	2	0	0	0	0	0
# tested	2480	1929	1312	812	239	0	0	0
SPR	10.36	1.66	9.6	10.96	3.77	0	0	0
FR	51.36	3.13	30.95	19.1	0	0	0	0



Focus on: Influenza A (H1N1)

H1N1 influenza virus is the subtype of influenza A virus that was the most common cause of human influenza in 2009. When the unexpected number of cases with the Novel Influenza virus (H1N1) reported from many countries simultaneously, WHO declared the H1N1 Influenza A Pandemic 2009. Since the virus was detected in swine therefore the name swine flu was given initially however later on it was named to Influenza Pandemic H1N1 (2009). In August 2010 WHO declared the end of Pandemic (H1N1) 2009. The pandemic A(H1N1)2009 virus is now considered as a seasonal virus and endemic, continuing to circulate with other seasonal viruses with new nomenclature A(H1N1)pdm09 is currently used now.

H1N1 is contagious virus, and it spreads in the same way as the seasonal Influenza. Typical influenza symptoms include fever with abrupt onset, chills, sore throat, non-productive cough and, often accompanied by headache, coryza, myalgia and prostration. H1N1 influenza virus can lead to more serious complications, including pneumonia and respiratory failure.

H1N1 may also lead to fatal consequences during 3rd trimester in pregnant women, adults and children who have chronic lung, liver, blood, nervous system, neuromuscular, or metabolic problems, diabetes or asthma, or people who have suppressed immune systems (including those who take medications to suppress their immune systems or who have HIV). Throat or nasal swab would be required for the lab confirmation of the H1N1.

Current situation of H1N1 in Pakistan:

A comparative analysis of H1N1 cases reported through DEWS have been done for the years 2013 and 2014. In 2013 total 9 cases of H1N1 have been reported, (3 cases from Punjab and 6 cases from Khyber Pakhtunkhwa). However, in 2014 an increase in the number of Influenza cases have been noted in some parts of Punjab province in Pakistan in a month period.

Contd. : Influenza A (H1N1):

There are reports of critical illness and deaths in young and middle aged adults. So far, 20 suspected cases have been reported from Punjab where majority (10) of the cases reported from Multan whereas 4 cases from Khanewal and 3 from DG Khan. Out of these 20 cases, 10 cases were laboratory positive for H1N1, 4 cases reported as SARI, 2 for Hemophilus influenza and 1 for HIB. Results of three cases with ILI are still awaited. 5 out of all the cases were died due to the severity of the disease CFR= 25%.

From Khyber Pakhtunkhwa province this year 4 suspected cases have been reported and 2 of these are found positive for H1N1 and 1 each positive for HIA and HIB respectively. So far no other case reported from other provinces of Pakistan.

Despite challenges, there is much that the public, patients, clinicians, and public health community can do now to reduce the influenza impact.

Precautionary measures:

Some general measures that would be prudent and helpful to prevent the acquisition of any respiratory illness are:

- Persons are more contagious during the first 3 to 4 days of illness, and infectiousness declines with fever resolution. Avoid close contact, when possible, with anyone who shows symptoms of illness (coughing and sneezing)
- Cover mouth and nose while coughs and sneezes; do not spit)
- Maintain good hand hygiene (Wash your hands with soap and water thoroughly and often).
- Practice good health habits including adequate sleep, eating nutritious food, and keeping physically active
- Keep windows and doors open and allow ventilation of the room as much as possible
- Hospitalized patients with influenza should be isolated or, if necessary, grouped together in the same room (cohorted) and standard & droplet precautions should be implemented.

Treatment:

Home Care:

- Influenza patients staying at home away from contacts; take plenty of fluids, covering coughs and sneezes (do not spit) and washing hands frequently may help to reduce the spread. If soap and water are not available, use an alcohol-based hand sensitizer.
- Inform family and friends about your illness and try to avoid contact with people.
- Contact your doctor or healthcare provider and report your symptoms.
- Cover your nose and mouth during travel.

Hospital Care:

WHO's guidelines for use of antiviral medicines, which refer to both seasonal and pandemic influenza, should continue to be followed.

- Treatment with antivirals should be started within 48 hours after onset of illness for better clinical results.
- For hospitalized patients with suspected influenza H1N1, empirical antiviral treatment with oral or enteric Oseltamivir should be started as soon as possible with waiting lab results.
- For outpatients who are at higher risk for complications from influenza, neuraminidase inhibitor as soon as possible is also recommended.
- Patients who have severe or deteriorating influenza and patient who are at higher risk of severe or complicated influenza should be treated as soon as possible with Oseltamivir.

