



Weekly Epidemiological Bulletin

Disease early warning system and response in Pakistan

Volume 5, Issue 11, Wednesday 19 March 2014

Highlights

*Epidemiological week no. 11
(9 to 15 Mar 2014)*

- **Dengue fever:** During this week, 8 Dengue fever lab confirmed cases have been reported from Sindh province.
- In this week, **82** districts and 2,577 health facilities have reported to Disease Early Warning System (DEWS), compared to 80 districts with 2,554 health facilities shared weekly data in week 10, 2014 to the DEWS.
- Total **1,050,731** patients consultations reported in week 11, 2014 compare to **958,422** consultations in week 10, 2014.
- In this week, a total of 68 alerts identified and timely responded. Altogether 27 alerts were for Measles; 14 for Leishmaniasis; 6 for H1N1; 5 for NNT; 3 each for ARI, Typhoid and Scabies; 2 for Pertussis; while 1 each for Bloody diarrhoea, CCHF, Dengue fever and Diphtheria.

Figure-1: 82 districts reported to DEWS in week 11, 2014



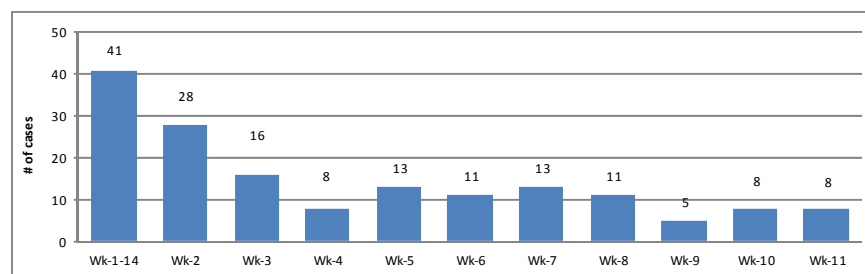
Priority diseases under surveillance in DEWS

- 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 11, 2014 (29 Dec 2013 to 15 Mar 2014)

| Disease | # of Cases | Percentage |
|----------------------------------|------------------|------------|
| ARI | 2,282,412 | 23.50% |
| Bloody diarrhoea | 8,975 | <1.00% |
| Acute diarrhoea | 430,785 | 4.44% |
| S. Malaria | 269,057 | 2.77% |
| Skin Diseases | 290,149 | 2.99% |
| Unexplained fever | 261,981 | 2.70% |
| Total (All consultations) | 9,712,472 | |

Figure-2: Number of Dengue fever positive cases in Pakistan, Week 1 to week 11-2014

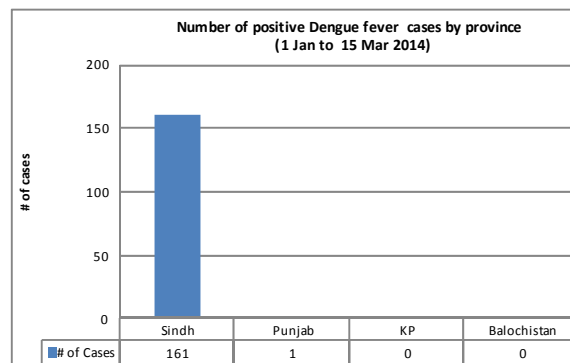


Major health events reported during the Epi-week - 11 (9 to 15 Mar 2014)

| Disease | # of Cases | Percentage |
|----------------------------------|------------------|------------|
| ARI | 250,587 | 23.85% |
| Bloody diarrhoea | 947 | <1.00% |
| Acute diarrhoea | 51,267 | 4.88% |
| S. Malaria | 34,967 | 3.33% |
| Skin Diseases | 30,385 | 2.89% |
| Unexplained fever | 26,005 | 2.47% |
| Total (All consultations) | 1,050,731 | |

From 1st January to 15th March 2014, a total of 162 lab confirmed Dengue fever cases were reported, out of them 161 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-10 and 11/2014):

| Date | Disease | Province | District | Area | <5M | >5M | <5F | >5F | Action Taken |
|--------|---------|--------------------|---------------------|--|-----|-----|-----|-----|---|
| 4-Mar | H1N1 | Punjab | Multan | Kotla Mohammad Zareef Khan, Tehsil Shorkot, District Jhang | 0 | 3 | 0 | 2 | A 36 year old male was brought to Nishter Hospital from CMH Shorkot who developed Fever, Headache, Cough, SOB. His oxygen concentration dropped to 45% without Oxygen. The case was admitted to HDU and nasopharyngeal swab was collected for H1N1 which was found positive for H1N1. 04 contacts of the case including a sister, brother and 2 cousins who were attending to him also developed fever and upper ARI. Their nasopharyngeal samples were also obtained and sent to Nishter Hospital for confirmation. Cap-Oseltamivir were provided for the case by WHO. It was found during investigations that the case was a hunter but did not on a hunting trip in last 2 months. The case died on 14 March, 2014. Health Education sessions were conducted with Hospital staff, attendants, family and community on hand washing and prevention from infections. PPEs were distributed to Nishter Hospital as well. Nasopharyngeal Swabs were also collected from ICU staff with ILI including doctors, nurses, and support staff which were found negative for H1N1. |
| 5-Mar | H1N1 | Punjab | Multan | Basti Dena Wala, Umaid Garh, Khanewal City | 0 | 3 | 0 | 4 | 4 cases with Upper respiratory symptoms reported from Khanewal. Nasopharyngeal Swabs were collected from the suspected cases and sent Nishter Pathology Department for confirmation. A 65 year old female was found positive for H1N1. Nasopharyngeal samples were also obtained from 02 contacts of the positive case and sent for Lab confirmation. Another suspected case was brought to Nishter hospital from Umeed Garh. The case had SOB along with other upper respiratory symptoms like cough, rhino rhea and fever. The case was admitted to isolation ward and given oxygen. His nasopharyngeal swabs were collected and sent for Lab confirmation. Cap. Oseltamivir were provided for the positive case by WHO. Health Education sessions were conducted with Hospital staff, attendants, family and community on hand washing and prevention from airborne infections. PPEs were distributed to Nishter Hospital as well. Nasopharyngeal Swabs were also collected from ICU staff with ILI including doctors, nurses, and support staff of isolation ward. Results are awaited. |
| 3-Mar | Measles | Sindh | Tando Muhammad Khan | Memon Mohallah, Near hik Minar, UC 3, Taluka Tando Muhammad Khan | 3 | 1 | 1 | 2 | 5 suspected cases of Measles were reported from DHO office. On field investigation two more suspected Measles cases were found. Vitamin-A were given to the cases. Hygiene awareness sessions was conducted in the community. Information shared with DHO. Follow-up planned. |
| 3-Mar | Measles | Sindh | Tando Muhammad Khan | Village Mohammad Khan Lashari, Tando Mohammad Khan. | 3 | 1 | 5 | 2 | An outbreak of Measles with 11 cases were reported from Tando Muhammad Khan district. Cases were investigated and provided with Vit-A drops. No other case was found in the area during field investigation. Hygiene awareness session was conducted in the community. Information shared with DHO. Follow-up planned. |
| 15-Mar | Measles | Khyber Pakhtunkhwa | Haripur | Village Kelog UC Kholian Bala | 2 | 2 | 1 | 0 | Three Suspected measles cases were reported from Women and Children Hospital Haripur. All the suspected cases were belongs to Kelog, Vitamin-A drops were provided to all the suspected cases. During active surveillance in the area two more suspected cases were found. Outreach vaccination started in the area and 150 children were vaccinated for measles. Information shared with DHO. |

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

| Disease | 2013 | | Current week 11, 2014 | | 2014 | |
|-------------------------|------|-----|-----------------------|---|------|----|
| | A | O | A | O | A | O |
| Acute watery diarrhoea | 142 | 40 | 0 | 0 | 14 | 1 |
| Acute jaundice syndrome | 49 | 6 | 1 | 0 | 2 | 0 |
| Bloody diarrhoea | 45 | 3 | 1 | 0 | 11 | 0 |
| CCHF | 90 | 47 | 1 | 0 | 4 | 0 |
| Dengue fever | 300 | 66 | 1 | 0 | 2 | 0 |
| Diphtheria | 84 | 19 | 1 | 0 | 19 | 3 |
| Measles | 3357 | 281 | 27 | 1 | 367 | 13 |
| Pertussis | 46 | 10 | 2 | 0 | 12 | 1 |
| NNT + tetanus | 349 | 0 | 5 | 0 | 95 | 0 |
| Malaria | 25 | 6 | 0 | 0 | 0 | 0 |
| Cutaneous Leishmaniasis | 621 | 51 | 14 | 0 | 153 | 4 |
| Others | 520 | 5 | 15 | 0 | 134 | 5 |
| Total | 5628 | 534 | 68 | 1 | 813 | 27 |

Figure-3: Number of alerts received and responded, week 8 to 11 2014

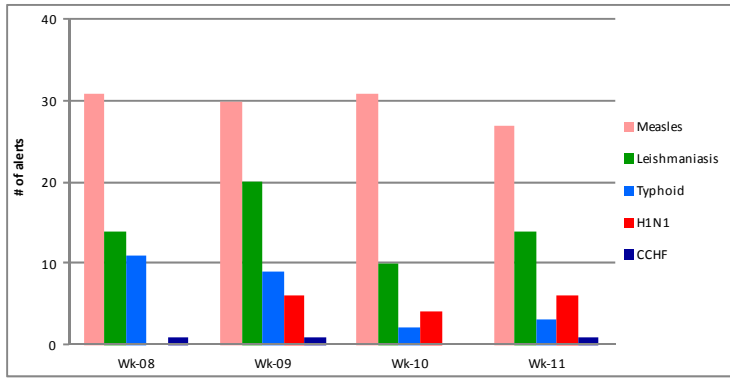
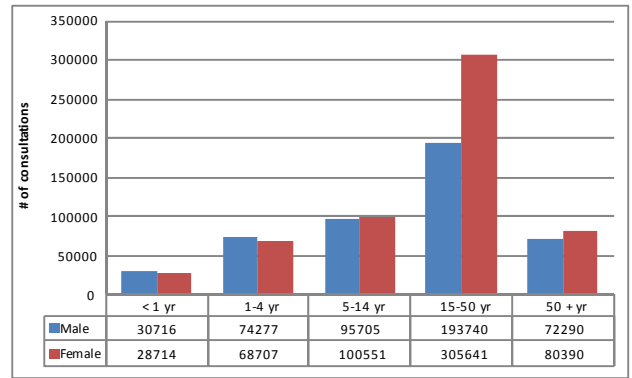
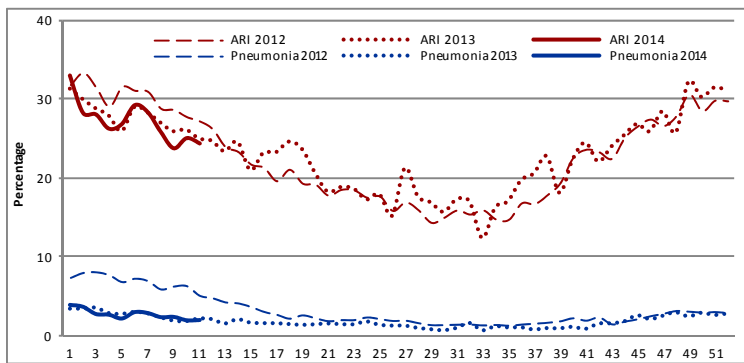


Figure-4: Number of consultations by age and gender, week 11, 2014



Province Khyber Pakhtunkhwa:

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



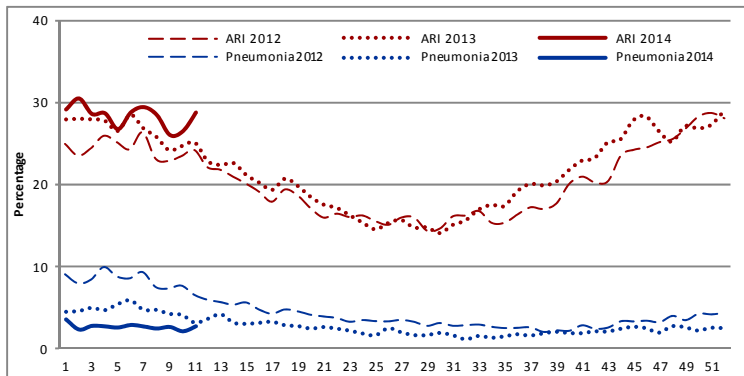
199 health facilities from 11 districts of Khyber Pakhtunkhwa sent reports to DEWS with a total of 49,783 patients consultations reported in week 11, 2014.

A total of 18 alerts were reported and appropriate measures were taken. Altogether 13 alerts were for Measles; 2 for H1N1; while 1 each for H1N1, Diphtheria and NNT.

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



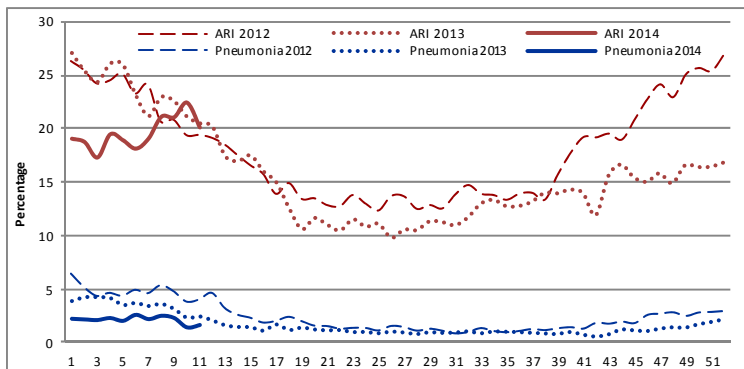
771 health facilities from 23 districts in Sindh province reported to DEWS with a total of 344,204 patient consultations in week 11, 2014.

A total of 16 alerts were received and appropriate measures were taken. Altogether 8 alerts were for Measles; 4 for Leishmaniasis; while 2 each for Pertussis and NNT.

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

Province Punjab:

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



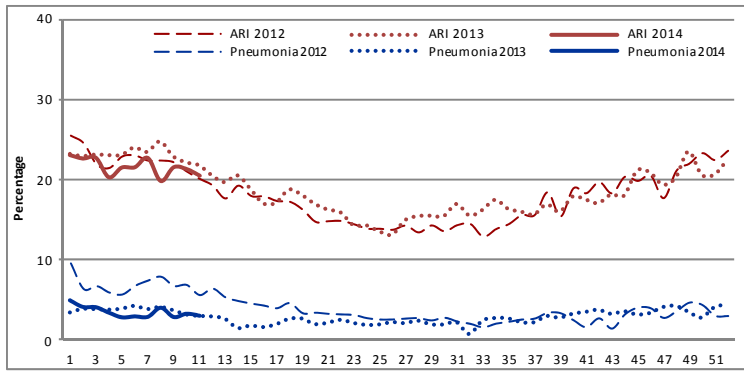
1,219 health facilities from 24 districts in Punjab province reported to DEWS with a total of 591,209 patients consultations in week 11, 2014.

Total 16 alerts were received and appropriate measures were taken. Altogether 4 alerts were for H1N1; 3 each for ARI and Typhoid fever; 2 for Scabies; while 1 each for CCHF, Bloody diarrhoea, AJS and Leishmaniasis were responded in Punjab province.

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

Province Balochistan:

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



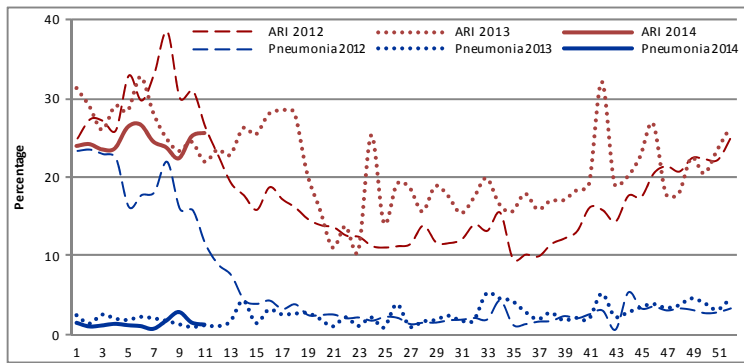
285 health facilities from 13 districts in Balochistan province reported to DEWS with a total of 44,155 patients consultations in week 11, 2014.

6 alerts were reported and appropriate measures were taken. Altogether 3 alerts were for Leishmaniasis; 2 for Measles; while 1 for Scabies.

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

FATA:

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



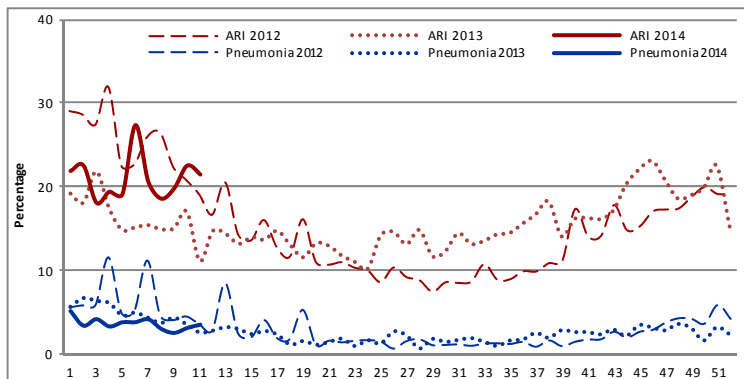
38 health facilities from 3 agencies in FATA reported to DEWS with a total of 11,431 patients consultations in week 11, 2014.

9 alerts were received and responded in FATA in week 10, 2014. Altogether 5 alerts were for Leishmaniasis; while 2 each for Measles and NNT.

The proportion of ARI showing increase, while Pneumonia shows decrease 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



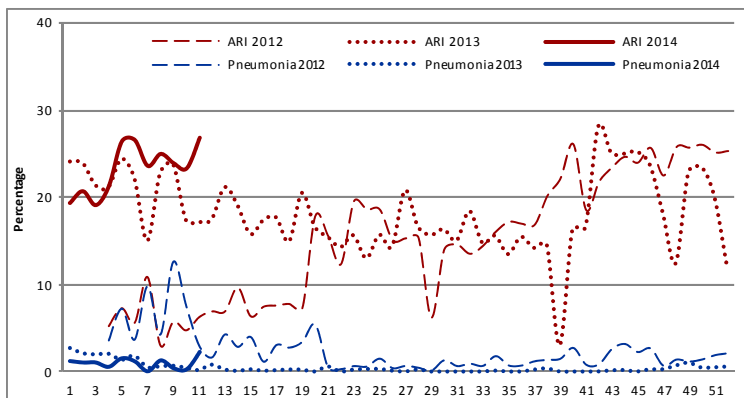
61 health facilities from 7 districts in AJ&K reported to DEWS with a total of 9,128 patients consultations in week 11, 2013.

2 alerts 1 each for Measles and Leishmaniasis were reported from AJ&K in week 11, 2014 and appropriate measures were taken.

Weekly trend of ARI showing decrease as compared with last week; while Pneumonia showing increase as compare with last week; and 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 821 patients consultations in week 11, 2014.

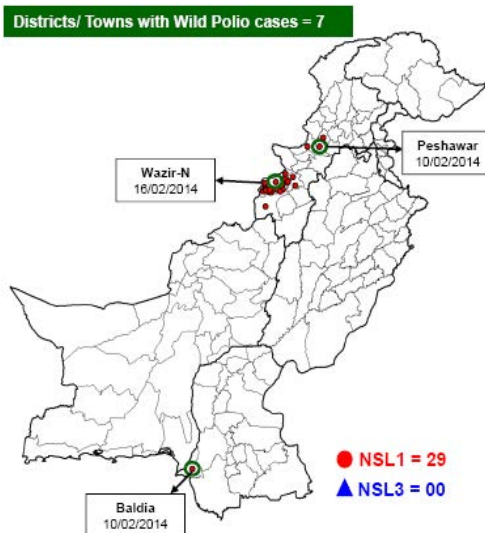
1 alert for Measles reported from Islamabad in week 11, 2014 and appropriate measures were taken.

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

Distribution of Wild Polio Virus cases in Pakistan 2013 and 2014

In this week 11 (9 to 15 Mar 2014), two new wild type-1 polio cases were reported, one each from Sindh (Baldia Town Karachi) and Federally Administered Tribal Areas (North Waziristan Agency). This brings the total number of polio cases in 2014 to 29 (compared to 5 in 2013 till this time) from 7 districts/tribal agencies (compared to 5 in 2013 till this time).

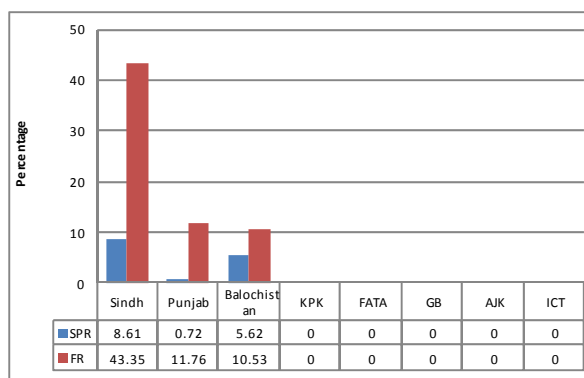
| Province | 2013 | | | 2014 | | |
|--------------------|-----------|----------|----------|-----------|----------|----------|
| | P1 | P3 | P1+P3 | P1 | P3 | P1+P3 |
| Punjab | 7 | - | - | - | - | - |
| Sindh | 10 | - | - | 1 | - | - |
| Khyber Pakhtunkhwa | 11 | - | - | 3 | - | - |
| FATA | 65 | - | - | 25 | - | - |
| Balochistan | - | - | - | - | - | - |
| AJ&K | - | - | - | - | - | - |
| Gilgit-Baltistan | - | - | - | - | - | - |
| Islamabad | - | - | - | - | - | - |
| Total | 93 | - | - | 29 | - | - |



Malaria:

The Table and chart at below shows the Malaria slide positivity and Falciparum ratio in week 11, 2014. Total number of Malaria cases tested in this week is 7,422 out of which 442 were found positive; 262 for P. Vivax; 31 for P. Falciparum; while 149 for Mixed (SPR = 5.96%; F.R = 40.72%).

| Malaria tests \ Province | Sindh | Punjab | Balochistan | KPK | FATA | AJK | GB | ICT |
|--------------------------|-------|--------|-------------|-----|------|-----|----|-----|
| P. Vivax | 230 | 15 | 17 | 0 | 0 | 0 | 0 | 0 |
| P. Falciparum | 29 | 0 | 2 | 0 | 0 | 0 | 0 | 0 |
| Mixed | 147 | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| # tested | 4718 | 2366 | 338 | 0 | 0 | 0 | 0 | 0 |
| SPR | 8.61 | 0.72 | 5.62 | 0 | 0 | 0 | 0 | 0 |
| FR | 43.35 | 11.76 | 10.53 | 0 | 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:

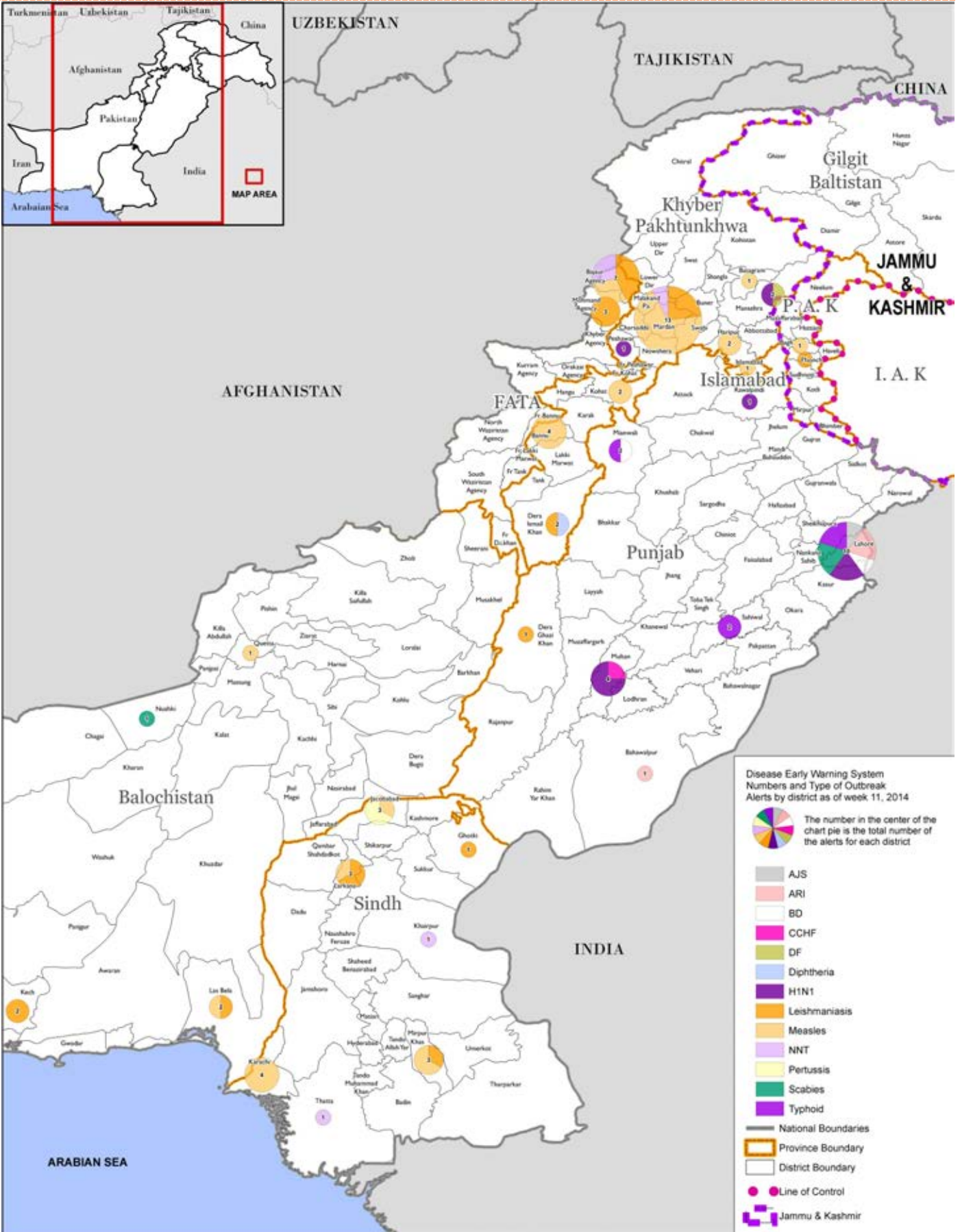
- Influenza patients staying at home away from contacts; take plenty of fluids, covering coughs and sneezes (do not spit) and washing hands frequently may help to reduce the spread. If soap and water are not available, use an alcohol-based hand sensitizer.
- Inform family and friends about your illness 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.

Alerts and outbreaks, week 11, 2014



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