



### Highlights

*Epidemiological week no. 12  
(17 to 23 March, 2013)*

- **Measles:** This week a total of 56 alerts investigated, responding and monitoring to 4 outbreaks. 462 measles cases from 35 districts, while 7 deaths reported from 6 districts. Vitamin-A drops provided to all the suspects and district health teams took action to improve vaccination in affected areas.
- **75 districts** and 2289 health facilities have reported to DEWS this week 12, compared with 81 districts with 2449 health facilities shared weekly data in week 11, 2013 to the Disease Early Warning System (DEWS).
- **816,360** patients' consultations were reported in week 12, 2013 compared to **907,704** consultations reported in week 11, 2013.
- Altogether **93** alerts were investigated and response were provided to **6** outbreaks.

Figure-1: 75 districts reported to DEWS in week 12, 2013



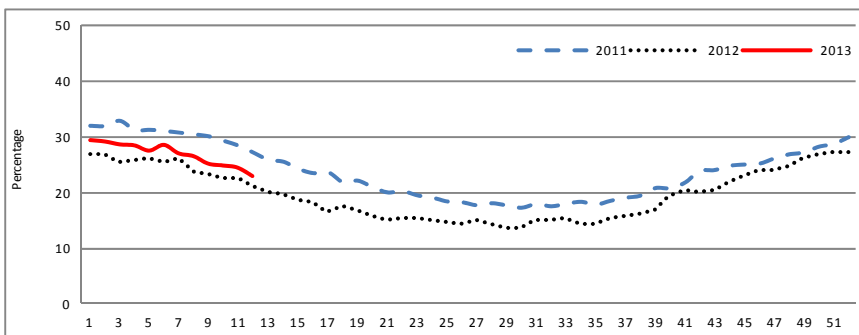
#### Priority diseases under surveillance in DEWS

- Pneumonia
- Acute Watery Diarrhoea
- Bloody diarrhoea
- Other 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 12, 2013 (29 Dec 2012 to 23 Mar 2013)

| Disease                          | # of Cases        | Percentage |
|----------------------------------|-------------------|------------|
| ARI                              | 2,771,792         | 27%        |
| Bloody diarrhoea                 | 28,968            | <0.5%      |
| Acute diarrhoea                  | 669,507           | 6%         |
| S. Malaria                       | 489,052           | 5%         |
| Skin Diseases                    | 390,638           | 4%         |
| Unexplained fever                | 340,307           | 3%         |
| <b>Total (All consultations)</b> | <b>10,354,215</b> |            |

Figure-2: Weekly trend of Acute Respiratory Infection (ARI) in Pakistan; Week-1, 2011 to week-12, 2013.



Major health events reported during the Epi-week - 12 (17 to 23 Mar 2013)

| Disease                          | # of Cases     | Percentage |
|----------------------------------|----------------|------------|
| ARI                              | 188,294        | 23%        |
| Bloody diarrhoea                 | 1,840          | <0.5%      |
| Acute diarrhoea                  | 63,810         | 8%         |
| S. Malaria                       | 40,608         | 5%         |
| Skin Diseases                    | 30,564         | 4%         |
| Unexplained fever                | 26,230         | 3%         |
| <b>Total (All consultations)</b> | <b>816,360</b> |            |

- The graph (Figure-2) shows the comparison of weekly trend of Acute respiratory infection (ARI) as proportional morbidity (percentage of cases out of total consultations) reported to DEWS each week in year 2011; 2012 and 2013.

## Current week's (12/2013) Outbreaks:

| Date   | Disease       | Province           | District      | Area   | <5M | >5M | <5F | >5F | Action Taken   |
|--------|---------------|--------------------|---------------|--|-----|-----|-----|-----|--|
| 19-Mar | Measles       | FATA               | Khyber Agency | Village Nala, UC Lowara Mina, Tehsil Mulagori                                | 2   | 2   | 1   | 2   | Alert for suspected measles cases were reported from CH Lowara Mina including 1 death. On active surveillance 6 more suspected measles cases were identified. Vitamin-A drops were given to all the suspects. 1 blood sample taken and sent to NIH. Health education session conducted in the community. Mass measles vaccination campaign planned and a total of 60 children were vaccinated. Information shared with Agency Surgeon and FSMO.  |
| 22-Mar | Leishmaniasis | Khyber Pakhtunkhwa | Mardan        | Village Alam Khan, Jaur, Sajan & Kalu Khan, UC Mian Essa, Takht Bhai, Mardan | 1   | 2   | 1   | 2   | Alert of Cutaneous Leishmaniasis reported from UC Mian-Essa. During active surveillance 5 more clinical cases were identified in the area and surrounding. Required doses of Inj-Glucantime were placed in nearby health facility for all the registered cases. FPHC Mardan, Relief Intl. and PPHI were requested for vector control interventions in the area and surrounding. On the job training of health staff was conducted for Intralesional administration of Inj-Glucantime. RBM focal person was informed and requested for vector control measures in the area. Information shared with EDO Health and focal person.  |
| 22-Mar | Measles       | Khyber Pakhtunkhwa | Haripur       | Village Halli, UC Muslimabad   | 3   | 1   | 2   | 1   | Alert for 7 suspected Measles cases were reported from Village Halli. Vitamin-A given to all the suspects. Field investigation found 14/36 children unvaccinated for measles-2 vaccine and 9 children missing measles-1 vaccine. On active surveillance no more cases were identified. All the missed children during vaccination campaign sent to nearest health facility for Measles vaccination. Health education session were conducted in the community. Information shared with EDO-Health.  |
| 21-Mar | H1N1          | Punjab             | Bhakkar       | Holy family (Gujjar Khan), Mohallah Railway Station, UC Bhakkar Urban III    | 0   | 4   | 0   | 5   | A death due to H1N1 infection reported from HFH, Rawalpindi. Deceased was a surgeon practicing in Tehsil Gujjar Khan, District Rawalpindi, resident of District Bhakkar. Treatment was started but he was not responding to any antibiotic. The patient was immediately shifted to ICU in HFH, Rawalpindi and put on ventilator but could not survive. NP Swab was taken which came out positive for H1N1 infection. During his admission in HFH some close family members attended him. Later one brother of deceased also developed ILI symptoms & his NP swab was taken which also came positive for H1N1 infection. SO DEWS visited the family in Bhakkar where NP Swabs for 7 close contacts were taken and immediately delivered to NIH for RT-PCR. Out of 7 samples of close contacts 1 more sample came out positive for H1N1 infection. The contacts of H1N1 case were made aware of the preventive measures (personal and food hygiene, frequent hands washing, proper ventilation of house, etc.) to avoid future disease propagation. In the locality 20 households were interviewed where no more similar cases were observed. LHWs and vaccinator in the area were requested to be vigilant and keep a follow-up on daily basis. Director CDC Punjab, EDO(H), DCNP, DDHO, Influenza focal point were informed. |
| 22-Mar | Measles       | Punjab             | Lahore        | Wahga Town   | 6   | 1   | 5   | 1   | Alert for 10 suspected Measles cases were reported from different Teaching Hospitals in Lahore. All the suspects were given 1st dose of Vitamin-A, while vaccinator and LHW were requested to ensure 2nd dose after 24 hour. During active surveillance 3 more suspected Measles cases were found in same area. A total of 100 children were checked for routine EPI coverage where 13 children were found to have missed second dose of Measles. Mass vaccination campaign arranged in the nearest health facility and 78 children were vaccinated. 4 blood samples and throat swabs were taken and sent to NIH. Health education in community was conducted with the help of LHWs, religious and community Leaders.  |
| 18-Mar | Measles       | Punjab             | Rajanpur      | Rashid Colony, UC Rajanpur Gharbi Tehsil Rajanpur                            | 3   | 3   | 6   | 0   | Alert for suspected Measles cases with 2 deaths due to Measles were reported in media. Upon investigation, 10 more suspected measles cases were found in the locality. Blood sample taken and sent to NIH. Vitamin A was given to all the suspects. Health education session carried out in the community about importance of routine immunization. Measles vaccination Mop-up campaign planned in the area and more than 200 children aged between 6 months to 10 years were vaccinated against measles. Information shared with EDOH.  |

Figure-3: Number of alerts received and responded, week 9 - 12, 2013

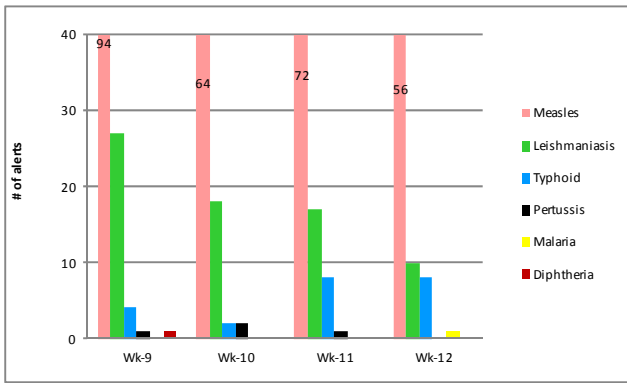
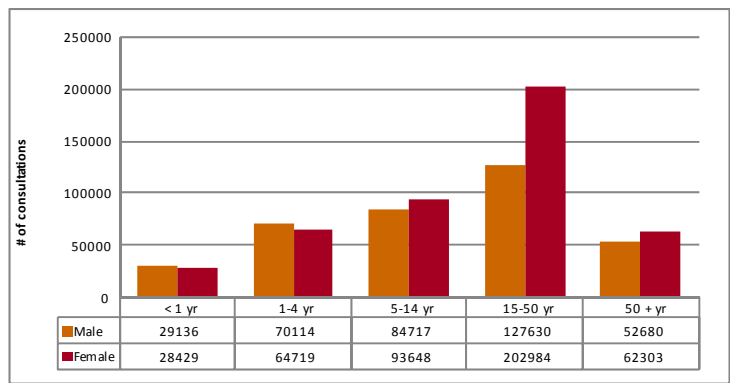


Figure-4: Number of consultations by age and gender, week 12, 2013



### Province Khyber Pakhtunkhwa:

348 health facilities from 10 districts of Khyber Pakhtunkhwa sent reports to DEWS with a total of 91,903 patients consultations reported in week 12, 2013. A total of 25 alerts were received and appropriate measures were taken. Altogether 21 alerts were for Measles; 2 for Leishmaniasis; while 1 each for ARI and Scabies. ARI trend showing decrease as compared with last week.

Figure-5: Trend of ARI, province Khyber Pakhtunkhwa

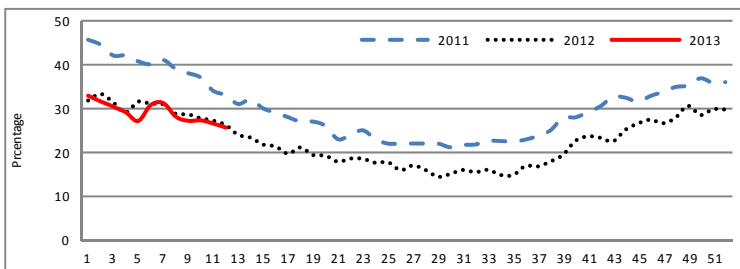
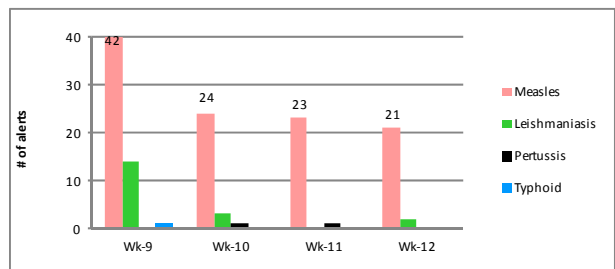


Figure-6: Number of alerts received and responded week 9 to 12, 2013



### Province Sindh:

967 health facilities from 23 districts in Sindh province reported to DEWS with a total of 412,315 patients consultations in week 12, 2013. Total 4 alerts were received and appropriate measures were taken. Altogether 2 alerts were for NNT; while 1 each for Leishmaniasis and AWD. ARI trend showing decrease as compared with last week.

Figure-7: Trend of ARI, province Sindh

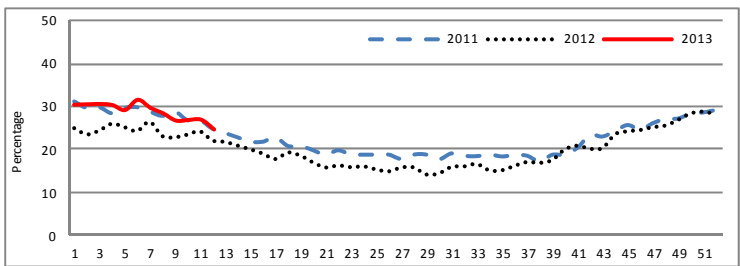
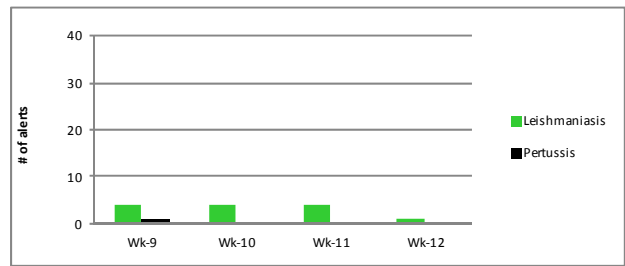


Figure-8: Number of alerts received and responded, week 9 to 12, 2013



### Province Punjab:

474 health facilities from 9 districts in province Punjab reported to DEWS with a total of 214,835 patients consultations in week 12, 2013. Total 35 alerts were received and appropriate measures were taken. Altogether 22 alerts were for Measles; 6 for Typhoid; 2 each for ARI and H1N1; while 1 each for Acute diarrhoea, NNT and Dengue fever. ARI trend showing decrease as compared with last week.

Figure-9: Trend of ARI, province Punjab

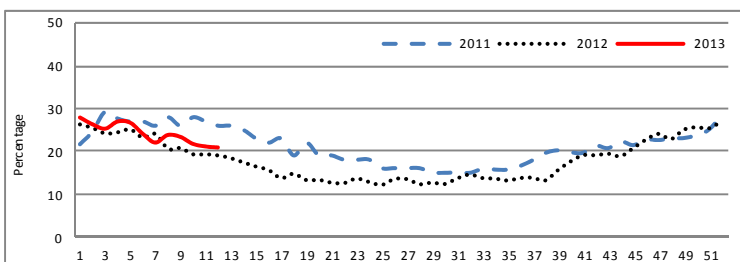
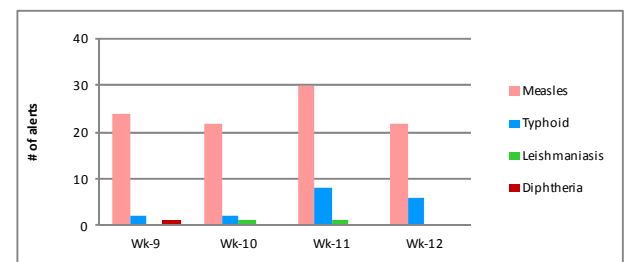


Figure-10: Number of alerts received and responded, week 9 to 12, 2013



**Province Balochistan:**

314 health facilities from 17 districts in province Balochistan reported to DEWS with a total of 47,727 patients consultations in week 12, 2013. Total 11 alerts reported and appropriate measures were taken in week 12, 2013. Altogether 4 alerts were for Leishmaniasis; 3 for Measles; 2 for Typhoid; while 1 for ARI and Malaria. ARI trend showing decrease as compared with last week.

Figure-11: Trend of ARI, province Balochistan

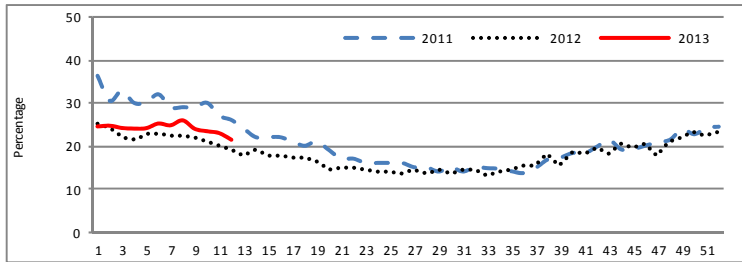
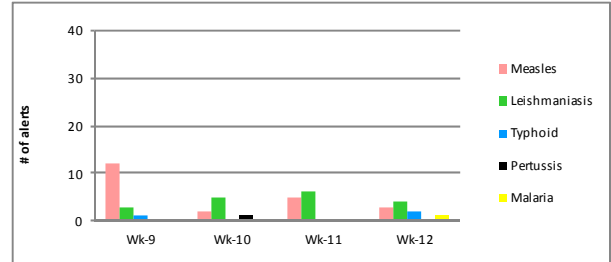


Figure-12: Number of alerts received and responded, week 9 to 12, 2013



**Province Gilgit Baltistan:**

43 health facilities from 5 districts in Gilgit Baltistan reported to DEWS with a total of 14,912 patients consultations in week 12, 2013. No alerts for any disease was reported in last 3 weeks (Wk 10 to 12), 2012. ARI showing decrease as compared with last week.

Figure-13: Trend of ARI, province Gilgit Baltistan

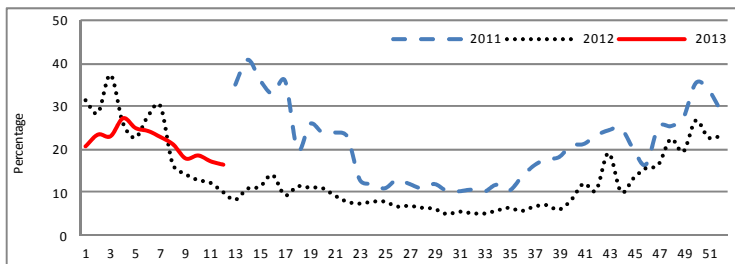
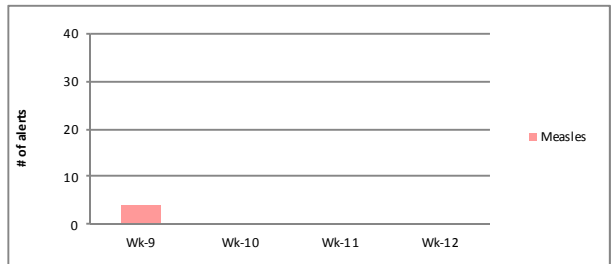


Figure-14: Number of alerts received and responded, week 9 to 12, 2013



**FATA:**

45 health facilities from 3 agencies in FATA reported to DEWS with a total of 11,660 patients consultations in week 12, 2013. 9 alerts, 5 for NNT; while 2 each for Measles and Leishmaniasis were reported in week 12, 2012 and appropriate measures were taken. ARI showing decrease as compared with last week.

Figure-15: Trend of ARI, FATA

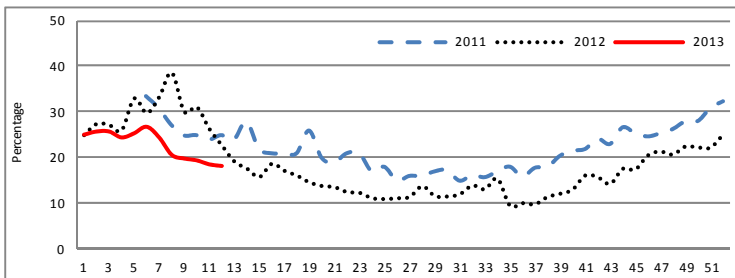
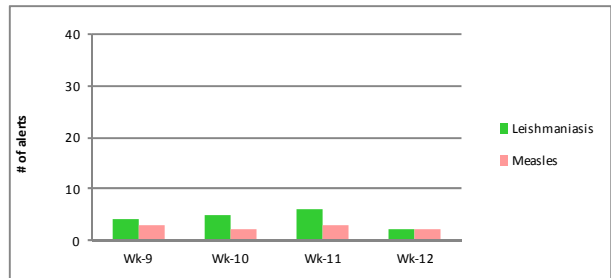


Figure-16: Number of alerts received and responded, week 9 to 12, 2013



**State of Azad Jammu and Kashmir:**

82 health facilities from 7 districts in AJ&K reported to DEWS with a total of 18,013 patients consultations in week 12, 2013. 8 alerts, 7 for Measles; while 1 for Leishmaniasis were reported in week 12, 2013. ARI trend showing minor increase as compared with last week.

Figure-17: Trend of ARI, AJ&K

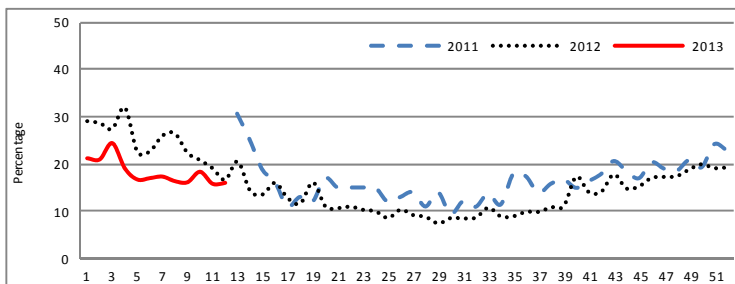


Figure-18: Number of alerts received and responded, week 9 to 12, 2013

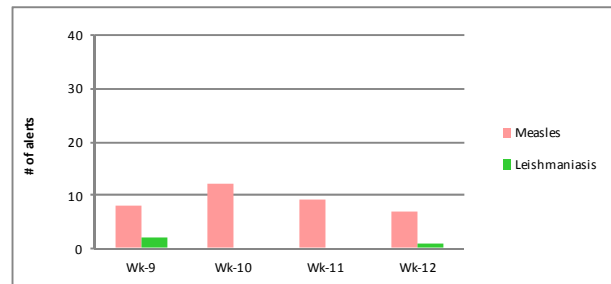


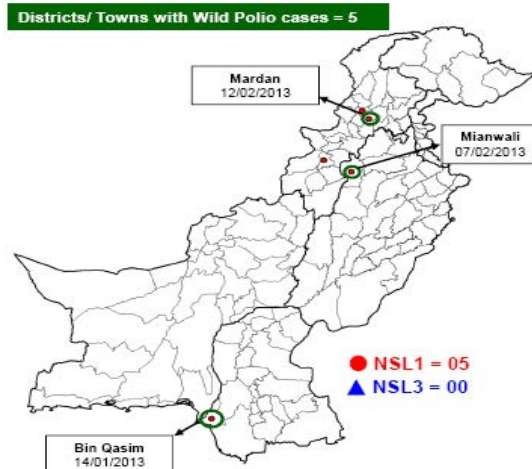
Table-1: Number of alerts and outbreaks reported and investigated with appropriate response

| Disease                 | 2012         |             | Current week 12, 2013 |          | 2013 (Total up till week - 12) |            |
|-------------------------|--------------|-------------|-----------------------|----------|--------------------------------|------------|
|                         | A            | O           | A                     | O        | A                              | O          |
| Acute watery diarrhoea  | 635          | 171         | 1                     | 0        | 8                              | 1          |
| Acute jaundice syndrome | 113          | 22          | 0                     | 0        | 9                              | 3          |
| Bloody diarrhoea        | 146          | 11          | 0                     | 0        | 6                              | 1          |
| CCHF                    | 68           | 41          | 0                     | 0        | 4                              | 1          |
| Dengue fever            | 175          | 29          | 1                     | 0        | 1                              | 0          |
| Diphtheria              | 60           | 16          | 0                     | 0        | 12                             | 1          |
| Measles                 | 5922         | 812         | 56                    | 4        | 1485                           | 201        |
| Pertussis               | 366          | 147         | 0                     | 0        | 18                             | 4          |
| NNT + tetanus           | 560          | 0           | 8                     | 0        | 88                             | 0          |
| Malaria                 | 136          | 68          | 1                     | 0        | 4                              | 2          |
| Leishmaniasis           | 900          | 78          | 10                    | 1        | 256                            | 35         |
| Others                  | 1529         | 58          | 16                    | 1        | 124                            | 3          |
| <b>Total</b>            | <b>10610</b> | <b>1453</b> | <b>93</b>             | <b>6</b> | <b>2015</b>                    | <b>252</b> |

**Distribution of Wild Polio Virus cases Pakistan 2012 and 2013**

- In week 12, 2013, no new polio case was reported in the country. An the total number of polio cases and infected districts in the country remain 5. The total number of wild polio cases country wide for the year 2012 remains 58 (55 type-1, 2 type-3 & 1 mixture type-1 & 3) from 28 districts/tribal agencies (compared to 60 in 2011).

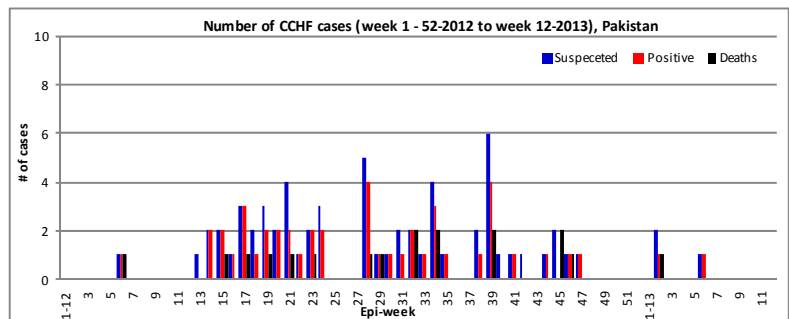
| Province           | 2012      |          |          | 2013     |          |          |
|--------------------|-----------|----------|----------|----------|----------|----------|
|                    | P1        | P3       | P1+P3    | P1       | P3       | P1+P3    |
| Punjab             | 2         | -        | -        | 1        | -        | -        |
| Sindh              | 4         | -        | -        | 1        | -        | -        |
| Khyber Pakhtunkhwa | 27        | -        | -        | 3        | -        | -        |
| FATA               | 17        | 2        | 1        | -        | -        | -        |
| Balochistan        | 4         | -        | -        | -        | -        | -        |
| AJ&K               | -         | -        | -        | -        | -        | -        |
| Gilgit-Baltistan   | 1         | -        | -        | -        | -        | -        |
| Islamabad          | -         | -        | -        | -        | -        | -        |
| <b>Total</b>       | <b>55</b> | <b>2</b> | <b>1</b> | <b>5</b> | <b>-</b> | <b>-</b> |



**Follow up of CCHF**

CCHF is a serious viral hemorrhagic fever with up to 50% case fatality rate, caused by an RNA virus of family Bunyaviridae, genus Nairovirus, carried by Hyalomma species of ticks. Human beings become infected by tick bites or crushing the ticks, which are usually found on sheep, cattle, goats or camels, and their slaughtered skins. They may also be exposed to the virus in blood or tissues of a viremic animal during its slaughter and butchering; or by contact with infected blood or secretions of acute human cases in home or hospital setting.

In week 12, 2013, no new CCHF case reported from any district. The total number of CCHF cases remains 3 for the year 2013. The last case reported in this year was in week 6, 2013, A 26 year old female patient admitted at the PIMS hospital in Islamabad as a suspected case of CCHF. Laboratory results confirmed the case positive for CCHF. The epidemiological investigation revealed history of Fever with rash later on developed gum bleeding and brought to PIMS hospital. Currently the patient is stable with all vital signs with in the normal range and discharged from hospital. The case have no epidemiological link.



In 2012, a total of 61 suspected cases have been reported throughout the country with 41 cases confirmed to date and in total 17 deaths; of which 13 deaths (CFR is 31.7%) are reported of the lab confirmed cases and 4 deaths are reported as suspected CCHF cases. 23 confirmed cases have been reported from Balochistan; 7 from Sindh; 6 from Khyber Pakhtunkhwa and 5 from Punjab. Chart at right illustrates current situation of CCHF cases in 2012.

Approximately all the cases had contact history with animal trading/handling, tick bite, contact with patient, tannery worker, butcher/animals slaughtering, a traditional practice of wearing fresh animal skin (posti) to treatment ailment. These animals and their skins had continuous movement Intra Pakistan and between neighboring countries (Afghanistan and Iran).

Any contact of a CCHF patient should monitor his/her temperature for 14 days and see a doctor if fever develops. The anti viral medicine Ribavirin has been effective in saving lives of patients who report early to the health facility.

**Focus on: Measles**

Measles is a highly contagious viral disease, which affects mostly children. It is transmitted via droplets from the nose, mouth or throat of infected persons. Initial symptoms, which usually appear 10–12 days after infection, include high fever, runny nose, bloodshot eyes, and tiny white spots on the inside of the mouth. Several days later, a rash develops, starting on the face and upper neck and gradually spreading downwards. There is no specific treatment for measles and most people recover within 2–3 weeks. However, particularly in mal-nourished children and people with reduced immunity, measles can cause serious complications, including blindness, encephalitis, severe diarrhoea, ear infection and pneumonia.

Measles is a killer childhood disease but preventable through immunization. One in 15 people have complications with measles, and one in 1,000 will die of it, but two doses of measles vaccine will protect people against the disease. WHO has set the target for measles elimination for 2015 which would require that more than 95% of the world children are covered by two doses of measles vaccine.

**Proper case management during outbreaks:**

It is imperative that during outbreak situations proper case management is ensured in order to minimize measles related deaths and measles related complications. The treatment of measles patients with Vitamin A will dramatically reduce their risk of deaths. Two doses of Vitamin A will be given to all identified cases (active and old) during house-to-house investigation, unless it was already received as part of the treatment in the health facility. One dose to be given by the health worker on the day of investigation and the 2nd dose provide to the parents advising to give on next day. The therapy will be given regardless of previous vitamin A prophylaxis. If the investigation team observes complications, the patient should be referred to the nearest health facility for specific treatment of these complications.

**Measles Prevention:**

Routine measles vaccination for children; combined with mass immunization campaigns in countries with high case and death rates, is key public health strategy to reduce global measles mortality rates. The measles vaccine has been in use for over 40 years. It is safe, effective and inexpensive. It costs less than one US dollar to immunize a child against measles. Measles vaccine is provided by the Pakistan EPI programme to children at 9 months and 15 months. Children who are vaccinated against measles before 9 months of age must receive a 2nd measles vaccination at 9 months age ensuring a gap of one month between both vaccinations. Moreover, any child who received measles vaccine should also receive OPV.

Priority should be placed to immunize children 6 months to 5 years old during outbreaks, regardless of vaccination status or history of disease. Auto destructible syringes and safety boxes are recommended and safe disposal of used sharps and safety of injection during immunization should be ensured. Let's remind all our neighbors, friends and colleagues to be sure that their children are immunized against measles.

Table at the bottom summarizes the situation of measles in year 2012; and illustrates the alerts and outbreaks in 2013 up till week 12 (23 March 2013).

| Province           | 2012 (Week 1 - 52) |                |            |             | 2013 (Up till week 12) |                |            |             |
|--------------------|--------------------|----------------|------------|-------------|------------------------|----------------|------------|-------------|
|                    | # of Alerts        | # of Outbreaks | # of Cases | # of Deaths | # of Alerts            | # of Outbreaks | # of Cases | # of Deaths |
| AJ&K               | 165                | 6              | 268        | 0           | 105                    | 6              | 215        | 1           |
| Balochistan        | 447                | 119            | 1816       | 31          | 261                    | 45             | 1084       | 45          |
| FATA               | 211                | 31             | 559        | 13          | 54                     | 12             | 173        | 3           |
| Gilgit Baltistan   | 40                 | 1              | 54         | 0           | 11                     | 0              | 22         | 0           |
| ICT                | 27                 | 2              | 63         | 0           | 16                     | 2              | 59         | 1           |
| Khyber Pakhtunkhwa | 1989               | 108            | 3542       | 38          | 443                    | 65             | 1113       | 19          |
| Punjab             | 809                | 40             | 1329       | 16          | 484                    | 47             | 2948       | 18          |
| Sindh              | 2234               | 505            | 7353       | 212         | 111                    | 24             | 2918       | 131         |
| Total              | 5922               | 812            | 14984      | 310         | 1485                   | 201            | 8532       | 218         |

Alerts and outbreaks, week 12, 2013

