



Highlights

*Epidemiological week no. 16
(14 to 20 Apr, 2013)*

- **Measles:** This week a total of 29 alerts investigated, responding and monitoring 4 outbreaks. 131 measles cases were reporting from 17 districts. Vitamin-A drops provided to all the suspects and district health teams took action to improve vaccination in affected areas.
- **68 districts** and 1909 health facilities have reported to DEWS this week 16, compared with 67 districts with 1933 health facilities shared weekly data in week 15, 2013 to the Disease Early Warning System (DEWS).
- **660,250** patients' consultations were reported in week 16, 2013 compared to **741,952** consultations reported in week 15, 2013.
- Altogether **58** alerts were investigated and response were provided to **6** outbreaks.

Figure-1: 68 districts reported to DEWS in week 16, 2013



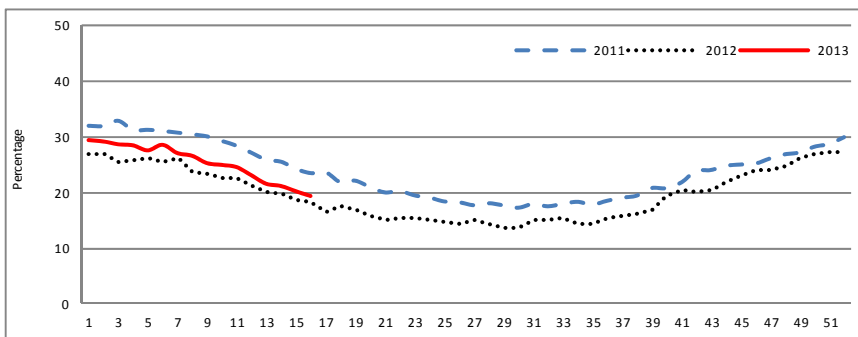
Priority diseases under surveillance in DEWS

- 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 16, 2013 (29 Dec 2012 to 20 Apr 2013)

| Disease | # of Cases | Percentage |
|----------------------------------|-------------------|------------|
| ARI | 3,386,621 | 25% |
| Bloody diarrhoea | 36,046 | <0.5% |
| Acute diarrhoea | 917,898 | 7% |
| S. Malaria | 618,481 | 5% |
| Skin Diseases | 499,815 | 4% |
| Unexplained fever | 437,174 | 3% |
| Total (All consultations) | 13,327,365 | |

Figure-2: Weekly trend of Acute Respiratory Infection (ARI) in Pakistan; Week-1, 2011 to week-16, 2013.



Major health events reported during the Epi-week - 16 (14 to 20 Apr 2013)

| Disease | # of Cases | Percentage |
|----------------------------------|----------------|------------|
| ARI | 128,088 | 19% |
| Bloody diarrhoea | 1,604 | <0.5% |
| Acute diarrhoea | 60,742 | 9% |
| S. Malaria | 29,513 | 4% |
| Skin Diseases | 25,772 | 4% |
| Unexplained fever | 19,818 | 3% |
| Total (All consultations) | 660,250 | |

- 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.

Outbreaks (Wk-16/2013):

| Date | Disease | Province | District | Area | <5M | >5M | <5F | >5F | Action Taken |
|--------|---------|-------------|----------|--|-----|-----|-----|-----|--|
| 17-Apr | CCHF | Balochistan | Quetta | BMCH, Quetta (Village Nissai, Muslim Bagh, Killasaifullah) | 0 | 1 | 0 | 0 | Alert for suspected CCHF case was reported from BMC hospital. Case belonged to district Killasaifullah and is a driver by profession. Few days ago he had delivered some cattle and later on developed high grade fever, body ache with gum bleeding. Platelets count at the time of admission was 8000; Blood sample resulted positive for CCHF. Case was referred to isolation unit at Fatima Jinnah hospital but could not survive. Attendants were sensitized and guided about precaution. None of the family member has developed such signs and symptoms. |
| 17-Apr | Measles | Balochistan | Washuk | Village Ladgasht, Tehsil Mashkail | 0 | 0 | 0 | 0 | A cluster of 6 suspected Measles cases was detected responded and investigated during outreach Medical Camp in the Earthquake affected area. Symptomatic treatment were provided to all the suspected cases. All the suspected cases were found immunized in recent immunization campaign. During active surveillance no more cases were found in the area and surrounding. Families were sensitized about vaccination and its importance. Information shared with DoH. |
| 17-Apr | Measles | Punjab | Lahore | Cantonment W1, C2, C1 | 8 | 2 | 4 | 3 | Alert for 12 suspected cases of Measles were reported from different hospitals in Lahore. The suspected cases have been given 1st dose of vitamin-A, while vaccinator and LHW were requested to give 2nd dose on next day. During active surveillance 5 more suspected Measles cases were found. A total of 100 children were checked for routine EPI coverage where 27 children were found to have missed second dose of Measles. Mass Vaccination campaign was arranged in the nearest Health facility of the affected areas and almost 172 children were vaccinated. Health education sessions were conducted with the help of LHWs, religious and community leaders. Information shared with EDO(H) and Director EPI. |
| 15-Apr | Measles | Punjab | Lahore | Ravi Town UC 7, UC 8, UC 1, UC 10, UC12, UC 28, UC 29 | 14 | 0 | 11 | 6 | Alert for 10 suspected Measles cases admitted in different hospitals from different union councils in Lahore. The suspected cases were given 1st dose of Vitamin-A, while vaccinator and LHWs were requested to give 2nd dose on next day. During active surveillance 3 more suspected Measles cases were found. 100 children were checked for routine EPI coverage where 29 children were found to have missed second dose of Measles. Mass vaccination campaign was arranged in the nearest health facility and 133 children were vaccinated. 4 blood samples and throat swabs were taken and sent to NIH for confirmation. Health education sessions in community were conducted with the help of LHWs, religious and community Leaders. Information shared with EDO(H) and Director EPI. |
| 15-Apr | Typhoid | Punjab | Lahore | Children Hospital | 3 | 8 | 3 | 7 | Alert for 21 suspected Typhoid cases were reported from Children Hospital, Lahore. All cases were diagnosed on clinical signs and symptoms, while Widal test for 10 cases came out positive. Antibiotics were given along with multi Vitamin and Tab PC. Out of 21 cases 11 were from Different UC of Nishtar town and 10 from different UC of Gulberg Town. There was no epidemiological linkage found. Health education sessions were conducted in community by Town response team Environment inspector, SI, CDC Supervisor and DDOH of Town. Aqua tabs, jerry cans, life straws and health and hygiene kits were distributed. Information shared with EDO (H). |
| 19-Apr | Measles | Punjab | Bhakkar | UC Gadola, Tehsil Bhakkar. | 2 | 1 | 3 | 2 | In continuation of Measles outbreak in UC Gadola, Tehsil Bhakkar. 8 new suspected cases of measles were reported from 2 different locations in week 16-2013. Out of 8 suspected cases 1 case was found unvaccinated. On active surveillance no more Measles cases were found. All the suspected cases were given single dose of Vitamin-A and second dose ensured after 24 hours. Health education session conducted in the community, highlighting importance of vaccination of children against all the EPI diseases. Information shared with EDO(H). |

Figure-3: Number of alerts received and responded, week 13 - 16, 2013

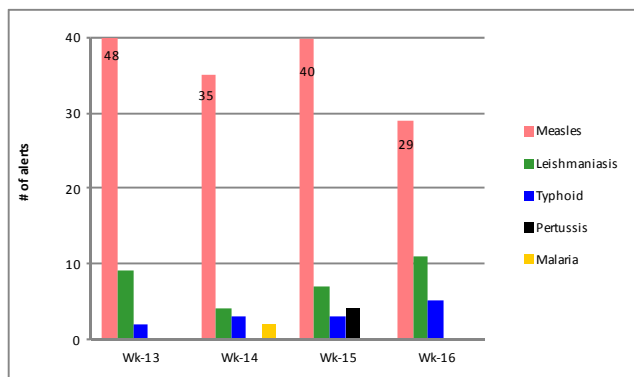
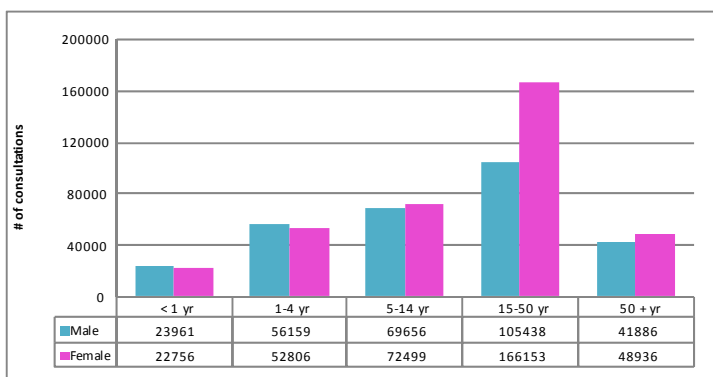


Figure-4: Number of consultations by age and gender, week 16, 2013



Province Khyber Pakhtunkhwa:

185 health facilities from 7 districts of Khyber Pakhtunkhwa sent reports to DEWS with a total of 55,514 patients consultations reported in week 16, 2013. 7 alerts, 5 were for Measles, while 1 each for Acute diarrhoea and Typhoid were received and appropriate measures were taken. ARI trend showing increase as compared with last week.

Figure-5: Trend of ARI, province Khyber Pakhtunkhwa

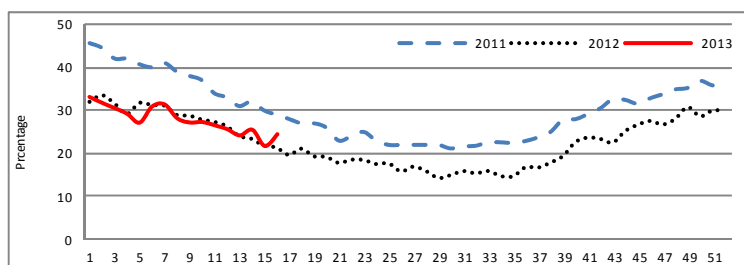
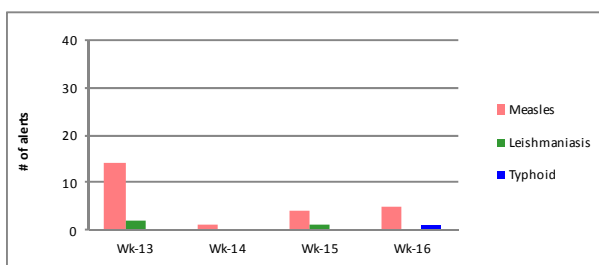


Figure-6: Number of alerts received and responded week 13 to 16, 2013



Province Sindh:

821 health facilities from 23 districts in Sindh province reported to DEWS with a total of 286,796 patient consultations in week 16, 2013. 4 alerts were received and appropriate measures were taken. Altogether 3 alerts were for Leishmaniasis; while 1 for NNT. ARI trend showing decrease as compared with last week.

Figure-7: Trend of ARI, province Sindh

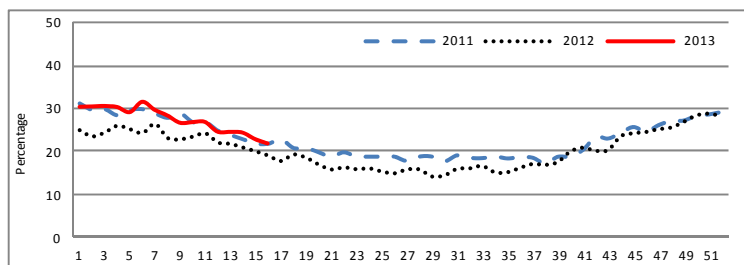
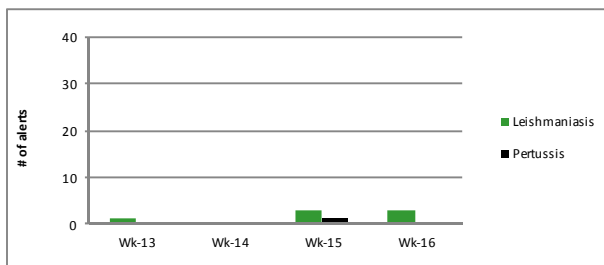


Figure-8: Number of alerts received and responded, week 13 to 16, 2013



Province Punjab:

489 health facilities from 9 districts in province Punjab reported to DEWS with a total of 242,840 patients consultations in week 16, 2013. Total 30 alerts were received and appropriate measures were taken. Altogether 19 alerts were for Measles; 2 each for Acute diarrhoea, NNT, Scabies and Typhoid; while 1 each for ARI, Bloody diarrhoea and Leishmaniasis. ARI trend showing decrease as compared with last week.

Figure-9: Trend of ARI, province Punjab

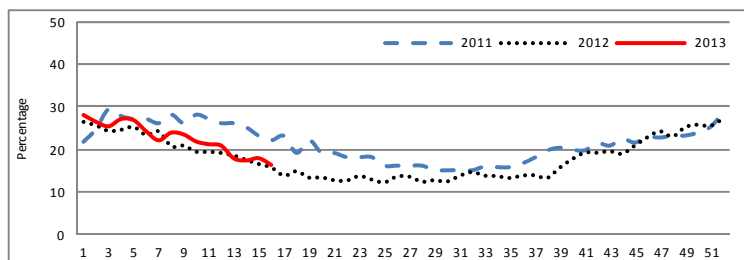
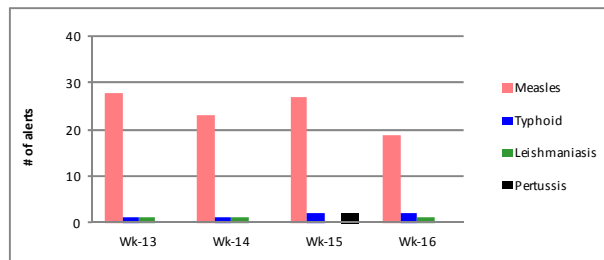


Figure-10: Number of alerts received and responded, week 13 to 16, 2013



Province Balochistan:

241 health facilities from 13 districts in province Balochistan reported to DEWS with a total of 38,958 patients consultations in week 16, 2013. Total 14 alerts reported and appropriate measures were taken in week 16, 2013. Altogether 7 alerts for Leishmaniasis; 2 each for Measles, CCHF and Typhoid; while 1 for NNT. ARI trend showing decrease as compared with last week.

Figure-11: Trend of ARI, province Balochistan

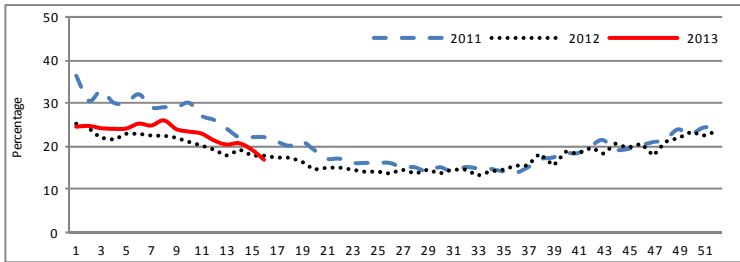
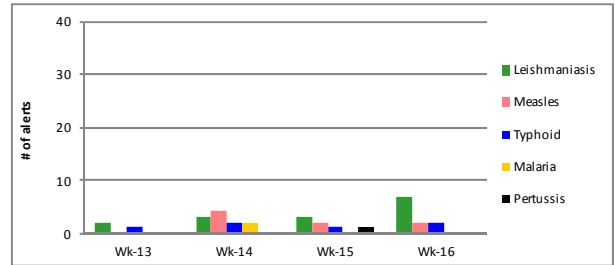


Figure-12: Number of alerts received and responded, week 13 to 16, 2013



Province Gilgit Baltistan:

35 health facilities from 5 districts in Gilgit Baltistan reported to DEWS with a total of 5,316 patients consultations in week 16, 2013. No alerts for any disease was reported in last 7 weeks (Wk 10 to 16), 2012. ARI showing a decrease as compared with last week.

Figure-13: Trend of ARI, province Gilgit Baltistan

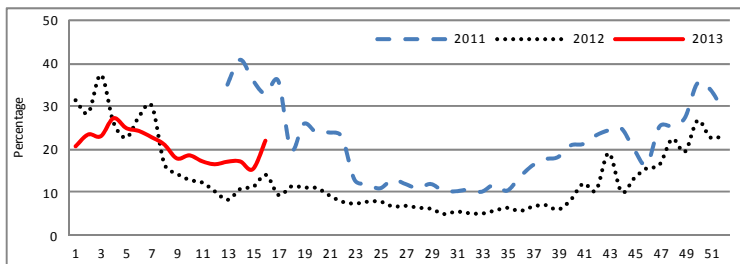
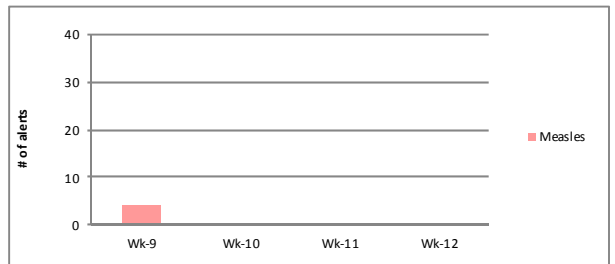


Figure-14: Number of alerts received and responded, week 13 to 16, 2013



FATA:

20 health facilities from 1 agency in FATA reported to DEWS with a total of 4,911 patients consultations in week 16, 2013. No alerts for any disease were reported in week 16, 2013. ARI showing decrease as compared with last week.

Figure-15: Trend of ARI, FATA

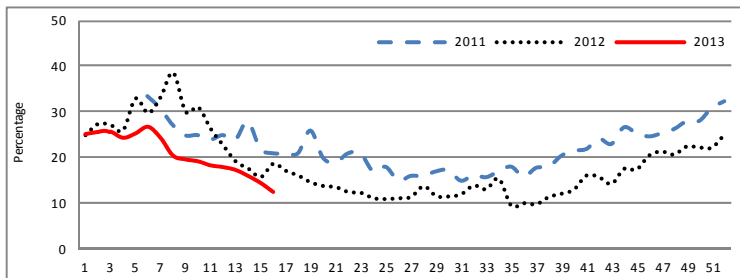
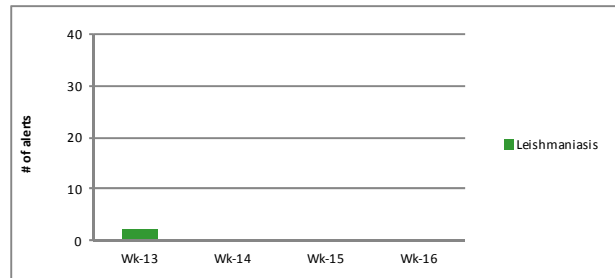


Figure-16: Number of alerts received and responded, week 13 to 16, 2013



State of Azad Jammu and Kashmir:

105 health facilities from 9 districts in AJ&K reported to DEWS with a total of 22,093 patients consultations in week 16, 2013. No alerts for any disease was reported from any are of AJ&K in week 16, 2013. ARI trend showing stability in last three weeks.

Figure-17: Trend of ARI, AJ&K

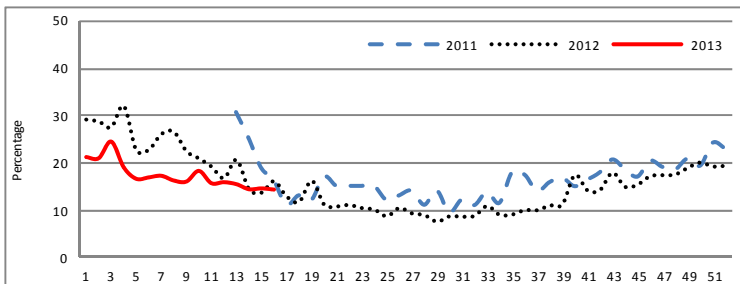


Figure-18: Number of alerts received and responded, week 13 to 16, 2013

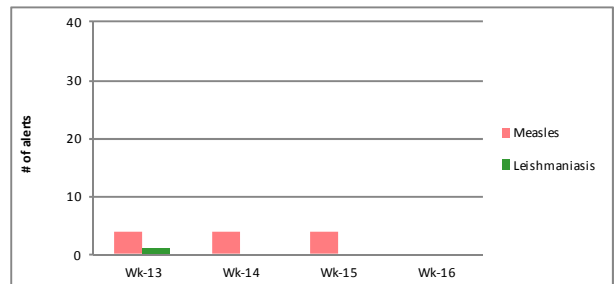


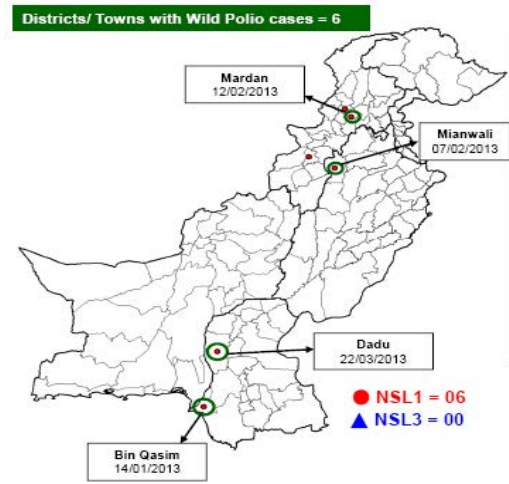
Table-1: Number of alerts and outbreaks reported and investigated with appropriate response

| Disease | 2012 | | Current week 16, 2013 | | 2013 (Total up till week - 16) | |
|-------------------------|--------------|-------------|-----------------------|----------|--------------------------------|------------|
| | A | O | A | O | A | O |
| Acute watery diarrhoea | 635 | 171 | 0 | 0 | 10 | 1 |
| Acute jaundice syndrome | 113 | 22 | 0 | 0 | 9 | 3 |
| Bloody diarrhoea | 146 | 11 | 1 | 0 | 7 | 1 |
| CCHF | 68 | 41 | 2 | 1 | 7 | 3 |
| Dengue fever | 175 | 29 | 0 | 0 | 1 | 0 |
| Diphtheria | 60 | 16 | 0 | 0 | 14 | 1 |
| Measles | 5922 | 812 | 29 | 2 | 1637 | 208 |
| Pertussis | 366 | 147 | 0 | 0 | 22 | 4 |
| NNT + tetanus | 560 | 0 | 4 | 0 | 105 | 0 |
| Malaria | 136 | 68 | 0 | 0 | 6 | 2 |
| Leishmaniasis | 900 | 78 | 11 | 0 | 287 | 37 |
| Others | 1529 | 58 | 11 | 0 | 154 | 3 |
| Total | 10610 | 1453 | 58 | 3 | 2259 | 263 |

Distribution of Wild Polio Virus cases Pakistan 2012 and 2013

- In week 16, 2013, no new polio case reported from any district. The total number of polio cases as well as the infected districts/towns in the country for the year 2013 remain 6 (compared to 16 cases from the 10 districts/towns/agencies during the same time period last year).

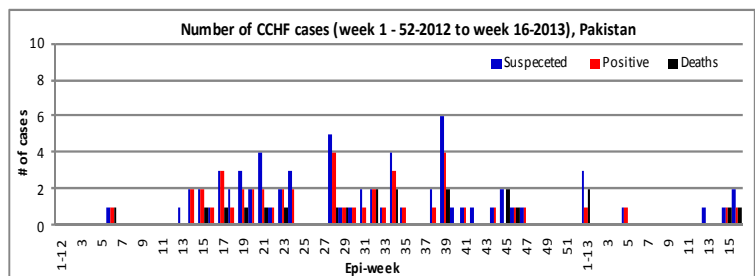
| Province | 2012 | | | 2013 | | |
|--------------------|-----------|----------|----------|----------|----------|----------|
| | P1 | P3 | P1+P3 | P1 | P3 | P1+P3 |
| Punjab | 2 | - | - | 1 | - | - |
| Sindh | 4 | - | - | 2 | - | - |
| Khyber Pakhtunkhwa | 27 | - | - | 3 | - | - |
| FATA | 17 | 2 | 1 | - | - | - |
| Balochistan | 4 | - | - | - | - | - |
| AJ&K | - | - | - | - | - | - |
| Gilgit-Baltistan | 1 | - | - | - | - | - |
| Islamabad | - | - | - | - | - | - |
| Total | 55 | 2 | 1 | 6 | - | - |



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. 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.

In week 16, 2013, 2 new suspected CCHF cases were reported; 1 from district Killasaifullah, Balochistan (Lab confirmed positive, case was expired), and 2nd case belongs to Afghanistan Lab reported negative for CCHF. The expired case was 35 years old male and is a driver by profession found clear contact history with animals, taking care in home and as well as transporting animal in his vehicle from market to different places. A few days ago he delivered some cattle and later on developed high grade fever, body ache with gum bleeding. Platelets count was 8000 only and could not survive. Health session in the community conducted. The total 8 CCHF cases have been reported in year 2013.



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 situation of CCHF cases in 2012-13.

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. There is ongoing trade of animals and animal skins with movement intra Pakistan and between neighboring countries (Afghanistan and Iran).

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 reduces 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 16 (20 April 2013).

| Province | 2012 (Week 1 - 52) | | | | 2013 (Up till week 16) | | | |
|--------------------|--------------------|----------------|------------|-------------|------------------------|----------------|------------|-------------|
| | # of Alerts | # of Outbreaks | # of Cases | # of Deaths | # of Alerts | # of Outbreaks | # of Cases | # of Deaths |
| AJ&K | 165 | 6 | 268 | 0 | 117 | 6 | 242 | 1 |
| Balochistan | 447 | 119 | 1816 | 31 | 269 | 46 | 1108 | 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 | 27 | 2 | 95 | 1 |
| Khyber Pakhtunkhwa | 1989 | 108 | 3542 | 38 | 467 | 66 | 1158 | 19 |
| Punjab | 809 | 40 | 1329 | 16 | 581 | 52 | 3682 | 34 |
| Sindh | 2234 | 505 | 7353 | 212 | 111 | 24 | 3042 | 140 |
| Total | 5922 | 812 | 14984 | 310 | 1637 | 208 | 9522 | 243 |

Alerts and outbreaks, week 16, 2013

