



### Highlights

*Epidemiological week no. 21  
(19 to 25 May 2013)*

- **Measles:** This week a total of 94 alerts investigated. 534 measles cases were reporting from 26 districts. Vitamin-A drops provided to all the suspected cases and district health teams took action to improve vaccination in affected areas.
- **72 districts** and 2094 health facilities have reported to DEWS this week 21, compared with 69 districts with 1906 health facilities shared weekly data in week 20, 2013 to the Disease Early Warning System (DEWS).
- **827,852** patients' consultations were reported in week 21, 2013 compared to **789,669** consultations reported in week 20, 2013.
- Altogether **126** alerts were investigated and response were provided to **4** outbreaks.

Figure-1: 72 districts reported to DEWS in week 21, 2013



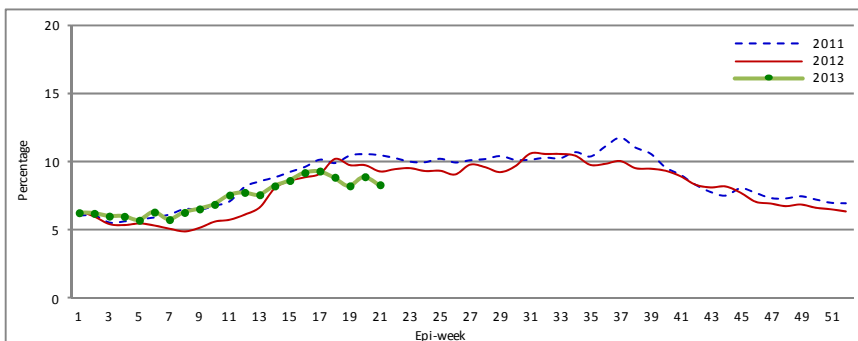
#### Priority diseases under surveillance in DEWS

- 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 21, 2013 (29 Dec 2012 to 25 May 2013)

Disease	# of Cases	Percentage
ARI	4,003,734	24%
Bloody diarrhoea	45,628	<0.5%
Acute diarrhoea	1,235,391	7%
S. Malaria	768,772	5%
Skin Diseases	632,223	4%
Unexplained fever	544,884	3%
<b>Total (All consultations)</b>	<b>16,950,373</b>	

Figure-2: Weekly trend of Acute Diarrhoea in Pakistan; Week-1, 2011 to week-20, 2013.



Major health events reported during the Epi-week - 21 (19 - 25 May 2013)

Disease	# of Cases	Percentage
ARI	127,678	15%
Bloody diarrhoea	2,022	<0.5%
Acute diarrhoea	69,011	8%
S. Malaria	32,986	4%
Skin Diseases	29,058	4%
Unexplained fever	22,312	3%
<b>Total (All consultations)</b>	<b>827,852</b>	

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

Outbreaks (Wk-21/2013):

Date	Disease	Province	District	Area	<5M	>5M	<5F	>5F	Action Taken
22-May	Measles	AJK	Bagh	Village Kotli UC Chamyati	3	4	1	6	Alert for suspected measles was reported from chinar Medical complex in village Kotli Dhirkot. Upon investigation 14 cases were found in the village some recovered and some were active. Situation was discussed with EPI coordinator and DHO and outreach vaccination was arranged in the village. Vit-A was given to active case and contacts <5 of age. 264 children < 5 yrs were vaccinated. Health education session conducted.
24-May	Pertussis	Balochistan	Chagai	Killi Nooli Yakmach, UC Chilgazi	0	3	2	4	Alert for 9 Probable Pertussis cases were found in the UC Chilgazi. Cases were provided Erythromycin and symptomatic treatment. Health education sessions on importance of vaccination and hygiene were conducted in the community.
23-May	Leishmaniasis	Punjab	Jhelum	BHU Phulrey Syedan, Tehsil Sohawa	2	1	1	2	Alert for Cutaneous Leishmaniasis reported from Tehsil Sohawa, District Jhelum, WHO provided 50 injections Glucantime to DoH Jhelum. Leishmaniasis treatment center established. Entomologist and CDCO carried out vector surveillance activity in the area. Health department was requested to share updated line list of patients. Information shared with EDO(H) Jhelum.
19-May	Measles	Punjab	Lahore	Allama Iqbal Town	11	6	9	7	In continuation of Measles outbreak in Allama Iqbal Town, Lahore, 33 new suspected cases were reported from different hospitals. A total of 516 cases have been reported so far. All the suspected cases were given 1st dose of Vitamin-A, while vaccinators and LHWs were requested to ensure 2nd dose on next day. A total of 100 children were checked for routine EPI coverage. Mass vaccination campaign arranged in the nearest Health facility and a total of 105 children were vaccinated. 3 blood samples and Throat swabs were taken and sent to NIH. Health education session conducted in the community with the help of LHWs, religious and community leaders. Information shared with EDO(H) and Focal person EPI.
20-May	Measles	Punjab	Lahore	Ravi Town	12	4	13	6	In continuation of Measles outbreak in Ravi Town, Lahore, 35 suspected cases were reported from different hospitals in Ravi town. A total of 576 suspected Measles cases have been reported so far. All the suspected cases have been given 1st dose of Vitamin-A, while vaccinators and LHWs were requested to ensure 2nd dose on next day. Mass Vaccination campaign was arranged in the nearest Health facility and 135 children were vaccinated. 2 blood samples and Throat swabs were taken and sent to NIH. Health education session conducted in the community with the help of LHWs, religious and Community leaders. EDO(H) and Focal Person EPI were informed.
21-May	Measles	Punjab	Lahore	Nishter Town	10	2	12	1	In continuation of Measles alert in Nishter Town, Lahore, 25 new suspected Measles cases were reported from different hospitals in Nishter town. A total of 351 cases have been reported so far. All the suspected cases have been given 1st dose of Vitamin-A, while vaccinators and LHWs were requested to ensure 2nd dose on next day. Mass vaccination campaign was arranged in the nearest health facility and 77 children were vaccinated. 2 blood samples and Throat swabs were taken and sent to NIH. Health education session conducted in the community with the help of LHWs, Religious and community Leaders. Information shared with EDO(H) and Focal Person EPI.
23-May	Measles	Punjab	Lahore	Gulberg Town	14	2	22	9	Continued outbreak in Gulberg Town, Lahore, 47 new suspected cases were reported. A total of 285 cases have been reported so far. All the suspected Measles cases have been given 1st dose of Vitamin-A, while vaccinators and LHWs were requested to ensure 2nd dose on next day. 132 children were vaccinated. 2 blood samples were and Throat swabs were taken and sent to NIH. Health education session conducted in the community with the help of LHWs, religious and community Leaders. Information shared with EDO(H) and Focal person EPI.
24-May	Measles	Punjab	Lahore	Wahga Town	8	1	6	0	In continuation of Measles outbreak in Wahga Town, Lahore, 11 new suspected cases were reported. A total of 83 cases have been reported so far. All the suspected Measles cases have been given 1st dose of Vitamin-A, while vaccinators and LHWs were requested to ensure 2nd dose on next day. Vaccination was arranged in the nearest Health facility and 44 children were vaccinated. 1 blood sample was and Throat swab was taken and sent to NIH. Health education session conducted in the community with the help of LHWs. Focal person EPI was informed.
23-May	Measles	Sindh	Mirpur khas	Asghar colony, Jhudo, taluka Digri	2	2	1	2	One Death due to Measles was reported in local media. During field investigation 6 suspected Measles cases were found. 5 blood samples were taken and sent to NIH. Vitamin-A doses were given to all the suspected cases. Health education session regarding importance of vaccination was conducted in the community. Information shared with DHO office and requested for mop-up activity in the area.
20-May	Measles	Sindh	Umer Kot	Village Sadhar Pali, UC Dhoro Naro, taluka Pithoro	2	0	1	1	Alert for 4 suspected Measles cases with 1 death were reported from DHQ hospital, district Umerkot. 2 Blood samples were collected and send to NIH. Vitamin-A doses were given to all the suspected cases. Health education session conducted in the community. Information shared with DHO.

Figure-3: Number of alerts received and responded, week 18 - 21, 2013

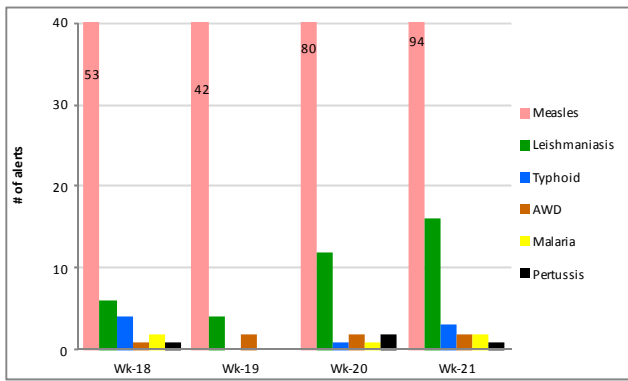
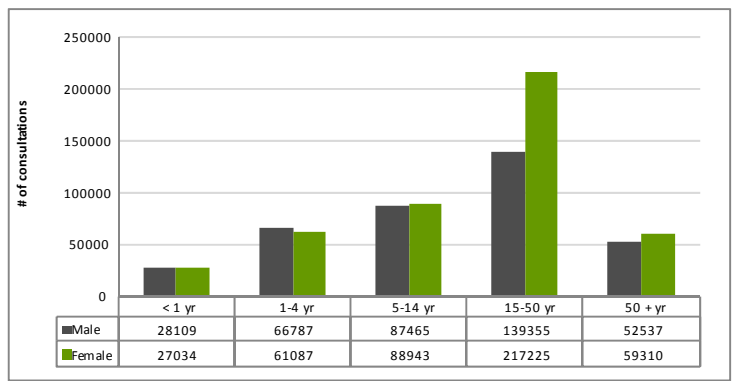


Figure-4: Number of consultations by age and gender, week 21, 2013



### Province Khyber Pakhtunkhwa:

278 health facilities from 11 districts of Khyber Pakhtunkhwa sent reports to DEWS with a total of 86,048 patients consultations reported in week 21, 2013. 41 alerts for Measles were received and appropriate measures were taken. The weekly trend of Acute diarrhoea is constantly and rapidly rising in KP. This needs serious attention. ARI trend showing decrease as compared with last week.

Figure-5: Weekly trend of Acute diarrhoea, province Khyber Pakhtunkhwa

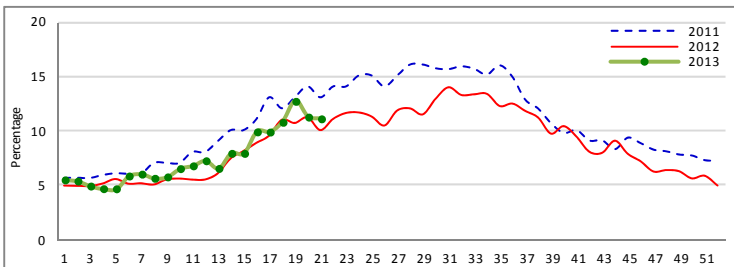
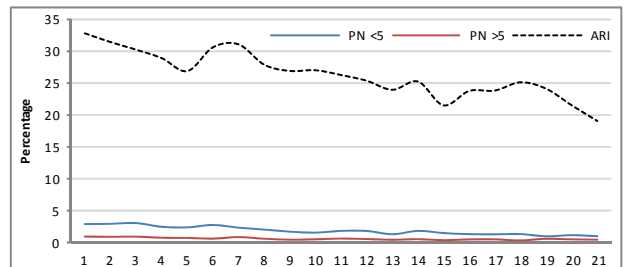


Figure-6: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 21, 2013



### Province Sindh:

867 health facilities from 23 districts in Sindh province reported to DEWS with a total of 324,495 patient consultations in week 21, 2013. 7 alerts, 3 were for NNT; 2 for Leishmaniasis; while 1 each for AWD and DF were received and appropriate measures were taken. The weekly proportion of consultation for AD in Sindh showing a high and steady trend. The overall proportion of AD for the province is high as compared to the previous years during the same period. In the recent 2 AWD outbreaks identified and responded, the situation need continuous attention. ARI trend showing decrease as compared with last week.

Figure-7: Weekly trend of Acute diarrhoea, province Sindh

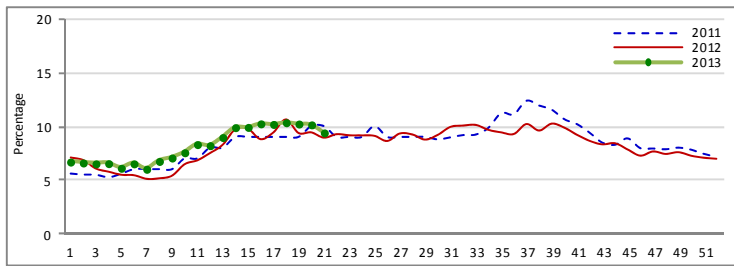
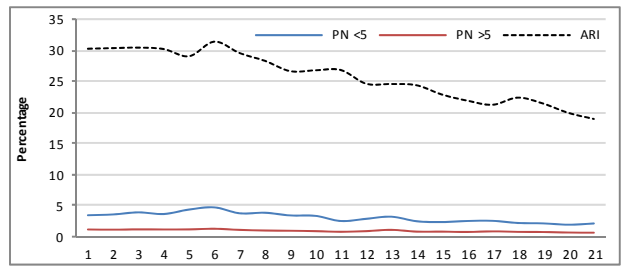


Figure-8: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 21, 2013



### Province Punjab:

533 health facilities from 10 districts in province Punjab reported to DEWS with a total of 348,247 patients consultations in week 21, 2013. Total 40 alerts were received and appropriate measures were taken. Altogether 33 alerts were for Measles; 3 for Leishmaniasis; 2 for Typhoid; while 1 each for AJS and HIV-AIDS. The weekly trend of AD in Punjab showing consist decline during the last few weeks after the seasonal increase during previous some weeks. ARI trend showing decrease as compared with last week.

Figure-9: Trend of ARI, province Punjab

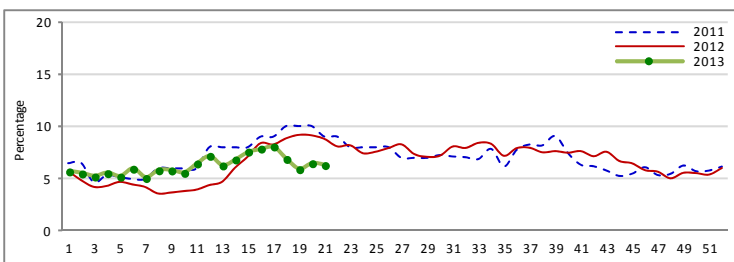
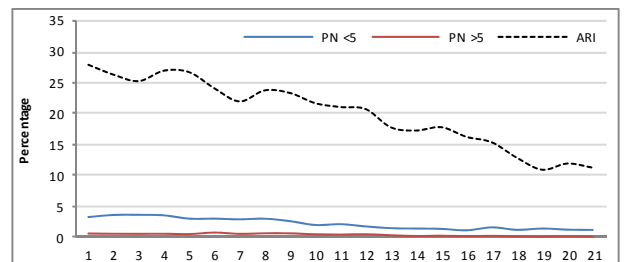


Figure-10: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 21, 2013



**Province Balochistan:**

258 health facilities from 13 districts in province Balochistan reported to DEWS with a total of 33,532 patients consultations in week 21, 2013. Total 15 alerts reported and appropriate measures were taken in week 21, 2013. Altogether 7 alerts for Leishmaniasis; 4 for Measles; 2 for Malaria; while 1 each for Pertussis and Typhoid. The weekly proportion of AD consistently showing an upward trend. Vigilant monitoring of the situation is required. ARI trend showing decrease as compared with last week.

Figure-11: Weekly trend of Acute diarrhoea, province Balochistan

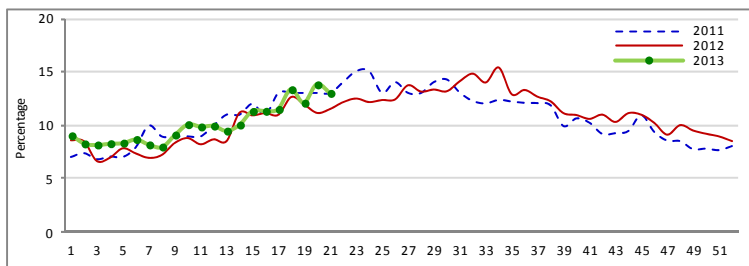
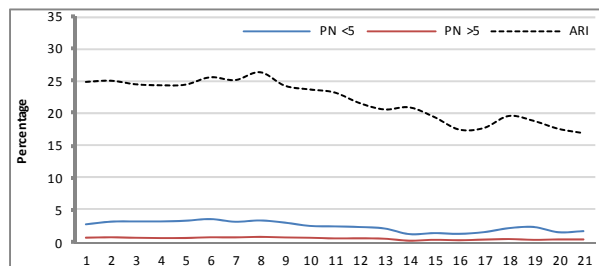


Figure-12: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 21, 2013



**Province Gilgit Baltistan:**

28 health facilities from 4 districts in Gilgit Baltistan reported to DEWS with a total of 3,836 patients consultations in week 21, 2013. No alerts for any disease was reported in week 21, 2013. The weekly AD trend is fluctuating and upward. ARI also showing fluctuating and upward trend.

Figure-13: Weekly trend of Acute diarrhoea, province Gilgit Baltistan

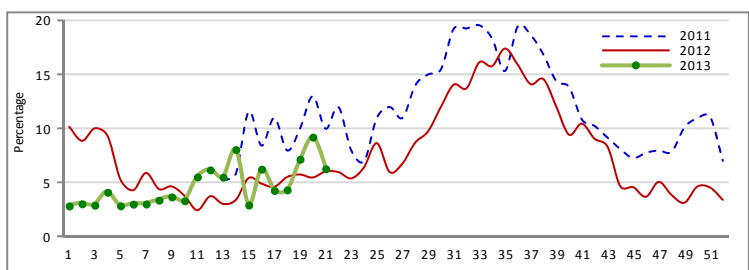
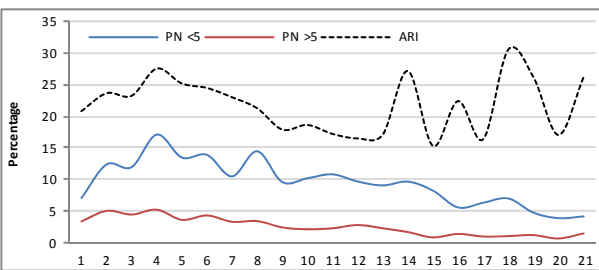


Figure-14: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 21, 2013



**FATA:**

19 health facilities from 2 agencies in FATA reported to DEWS with a total of 4,511 patients consultations in week 21, 2013. 6 alerts, 4 for Leishmaniasis; while 1 each for Measles and NNT were reported in week 21, 2013 and appropriate measures were taken. Fluctuating and upward weekly trend of AD. ARI showing decrease as compared with last week.

Figure-15: Weekly trend of Acute diarrhoea, FATA

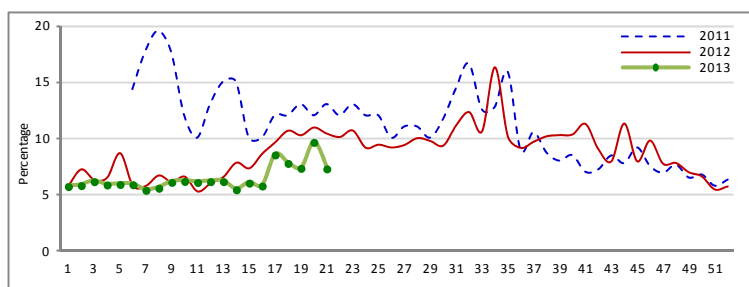
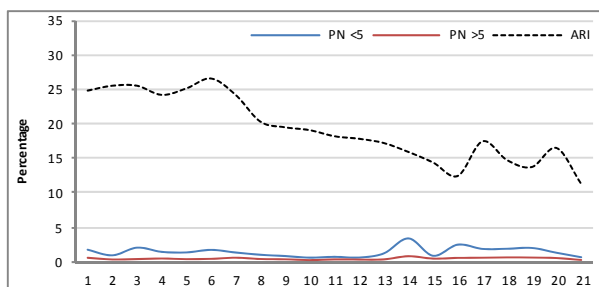


Figure-16: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 21, 2013



**State of Azad Jammu and Kashmir:**

100 health facilities from 8 districts in AJ&K reported to DEWS with a total of 23,897 patients consultations in week 21, 2013. 15 alerts for Measles were received in week 21, 2013 and appropriate measures were taken. Weekly trend of AD showing increase, while ARI trend showing decreasing trend.

Figure-17: Weekly trend of Acute diarrhoea, AJ&K

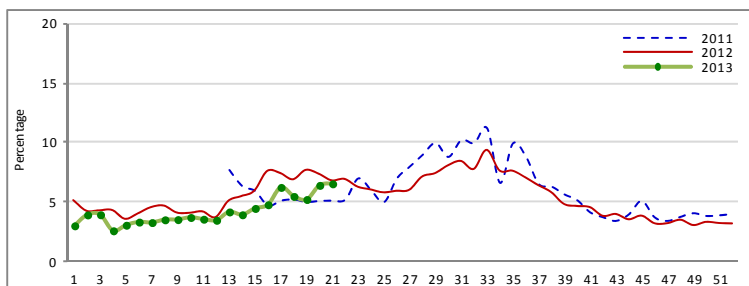


Figure-18: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 21, 2013

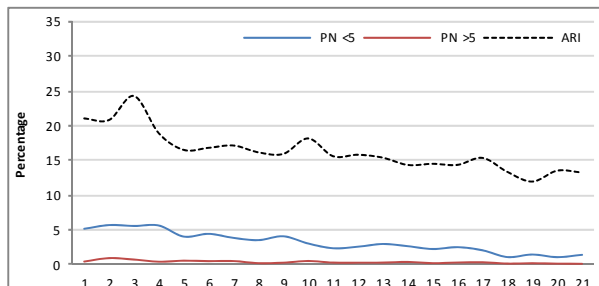
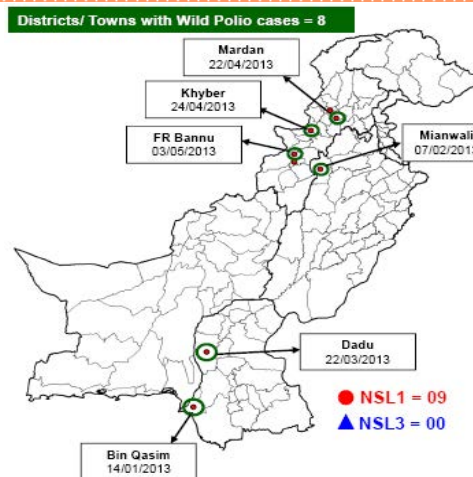


Table-1: Number of alerts and outbreaks reported and investigated with appropriate response

Disease	2012		Current week 21, 2013		2013 (Total up till week - 21)	
	A	O	A	O	A	O
Acute watery diarrhoea	635	171	2	0	19	4
Acute jaundice syndrome	113	22	1	0	10	3
Bloody diarrhoea	146	11	0	0	11	1
CCHF	68	41	1	1	11	4
Dengue fever	175	29	1	0	3	0
Diphtheria	60	16	0	0	15	1
Measles	5922	812	94	1	1792	219
Pertussis	366	147	1	1	26	5
NNT + tetanus	560	0	4	0	118	0
Malaria	136	68	2	0	11	2
Cutaneous Leishmaniasis	900	78	16	1	335	39
Others	1529	58	4	0	358	3
<b>Total</b>	<b>10610</b>	<b>1453</b>	<b>126</b>	<b>4</b>	<b>2709</b>	<b>281</b>

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

- In week 20, 2013, one new type-1 wild polio case was reported from Federally Administered Tribal Areas (F.R Bannu), bringing the total number of polio cases in 2013 to 9 (compared to 22 during the same time period last year) from 8 districts/towns/tribal agencies (compared to 13 during the same time period last year).

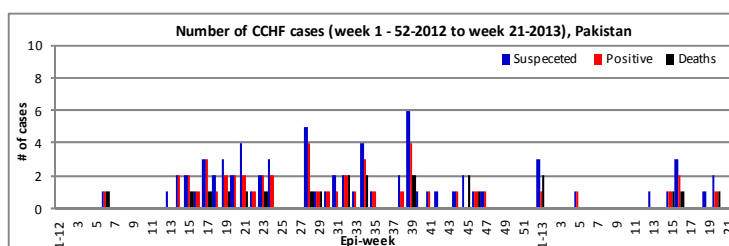


Province	2012			2013		
	P1	P3	P1+P3	P1	P3	P1+P3
Punjab	2	-	-	1	-	-
Sindh	4	-	-	2	-	-
Khyber Pakhtunkhwa	27	-	-	4	-	-
FATA	17	2	1	2	-	-
Balochistan	4	-	-	-	-	-
AJ&K	-	-	-	-	-	-
Gilgit-Baltistan	1	-	-	-	-	-
Islamabad	-	-	-	-	-	-
<b>Total</b>	<b>55</b>	<b>2</b>	<b>1</b>	<b>9</b>	<b>-</b>	<b>-</b>

**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. 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 21, 2013, No new suspected CCHF case was reported from any area in the country. The last two cases were reported in week 20, 2013, two suspected CCHF cases reported 1 from district Quetta, Balochistan (Lab result awaited). The suspected case is 18 years old male found no contact history with animals, admitted at Fatima Jinnah Chest Hospital, Quetta. Platelets count was 22000 at the time of admitting in the hospital and now improving. While the 2nd case (positive) reported from Karachi, Province Sindh, a 38 year old male resident of district Pishin, Balochistan running a hotel in Karachi, found clear contact history with animals, taking care in home, Platelets count was 14000 at the time of admitting in the hospital but could not survive and expired on 13 May, 2013. The total 13 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: Acute Watery Diarrhoea/Cholera**

Acute Watery diarrhoea/Cholera is an acute enteric infection caused by the ingestion of bacterium *Vibrio cholera* present in faecally contaminated water or food. Primarily linked to insufficient access to safe water and proper sanitation, its impact can be even more dramatic in areas where basic environmental infrastructures are disrupted or have been destroyed. Countries facing complex emergencies are particularly vulnerable to cholera outbreaks. Massive displacement of IDPs or refugees to overcrowded settings, where the provision of potable water and sanitation is challenging, constitutes also a risk factor. Every year, there are an estimated 3–5 million cholera cases and 100,000–120,000 deaths due to cholera worldwide.

Acute Watery Diarrhoea/Cholera is characterized in its most severe form by a sudden onset of acute watery diarrhea that can lead to death by severe dehydration. The extremely short incubation period - two hours to five days - enhances the potentially explosive pattern of outbreaks, as the number of cases can rise very quickly. About 75% of people infected with cholera do not develop any symptoms. However, the pathogens stay in their feces for 7 to 14 days and are shed back into the environment, possibly infecting other individuals. Cholera is an extremely virulent disease that affects both children and adults. Individuals with lower immunity, such as malnourished children are at greater risk of death if infected by cholera.

**Risk factors for Acute Watery Diarrhoea/Cholera:**

Lack of safe water, inadequate quantity and quality of water, poor personal hygiene, poor washing facilities, insufficient soap for washing hands, Poor sanitation, inadequate cooking facilities, Overcrowding, population movement/displacement.

**Key steps for prevention and control:**

Ensuring adequate safe drinking water supply and proper sanitation are the most important means of protection against severe diarrhoeal diseases including cholera epidemics.

**Safe drinking water:**

In areas where the infrastructure for provision of safe drinking water does not exist simple inexpensive measures can be used to make water safe for drinking at household level as follows.

**Boiling:**

Bringing water to a vigorous, rolling boil and keep it boiling for one minute will kill *Vibrio cholera* O1 and most other organisms that cause diarrhoea.

**Chlorination at household:**

First prepare stock solution by mixing 33 gm of bleaching powder in one litre of water and store it in a brown glass bottle. Then put 3 drops (0.6 ml) of stock solution in one litre of water or 30 drops (6 ml) in 10 litres of water or 60 ml in 100 litres. Do not cover the container for first 30 minutes after adding stock solution in it and wait 30 minutes before drinking or using the water. Alternatively, water disinfection tablets (eg. Aquatabs) can be added to the water according to package instructions.

**Solar water disinfection:**

Another small-scale and cost-effective immediate technique is solar water disinfection (SODIS) by which transparent plastic bottles filled with water are placed horizontally on a flat surface and exposed to solar light for about 5 hours in order to let the ultraviolet light in solar irradiation kill the pathogens. The effect of solar irradiation can be enhanced by painting the bottom half of the bottle black or placing them on a black background.

(Note: In case of Cholera outbreak Chlorination is the only option to make the water safe for consumption)

**Hand-washing**

Studies of diarrhoea show that washing hands with soap and water (where soap is not available one may use ash) reduces the incidence of diarrhoea by up to 35%. Hands must be washed: After defecation; After any direct or indirect contact with stools; Before preparing and distributing food; Before eating; Before feeding children.

**Sanitation**

Improvements in water supply and environmental sanitation will reduce the incidence of diarrhoeal diseases in the long run. Even where sanitation is poor, simple measures help ensure the safe disposal of stools and must be followed – particularly in the case of outbreaks of diarrhoeal diseases:

No defecation on the open ground – cover stool with soil (or use trench latrines that are regularly covered); No defecation near a water supply/source; Disposal of children's stools in toilets or latrines or buried in the ground; Washing hands with soap (or ash) after any contact with stools; Build and use latrines – a pit latrine 2 metres deep with an opening of 1 metre by 1 metre can be used by a family of 5 persons for a period of 2 to 4 years. Latrines must be sited downhill and away from sources of drinking-water (at least 30 metres), wash daily and regularly disinfected with cresol or bleaching powder.

**Key messages:**

Cholera is transmitted through contaminated water or food.  
Prevention and preparedness of cholera require a coordinated multidisciplinary approach  
Cholera can rapidly lead to severe dehydration and death if left untreated  
Once *Vibrio cholera* is confirmed, the WHO clinical case definition is sufficient to diagnosis and management of cases. Laboratory testing is required only for antimicrobial sensitivity testing and for confirming the end of an outbreak.  
Provision of safe water, proper sanitation, and food safety are critical for preventing occurrence of cholera  
Health education aims at communities adopting preventive behavior for averting contamination  
ORS can successfully treat 80% of cholera cases  
Appropriate antibiotics can reduce the duration of *Vibrio Cholera* bacterium in the patient stool

Alerts and outbreaks, week 21, 2013

