

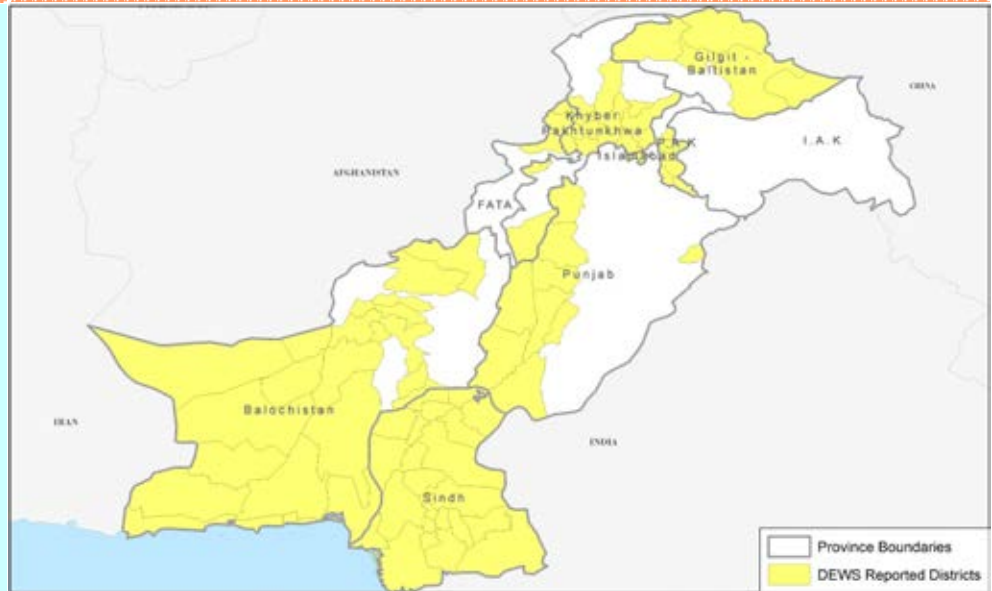


Highlights

*Epidemiological week no. 23
(2 to 8 June 2013)*

- Measles:** This week a total of 66 alerts investigated. 430 measles cases were reporting from 27 districts. Vitamin-A drops provided to all the suspected cases and district health teams took action to improve vaccination in affected areas.
- 73 districts** and 2105 health facilities have reported to DEWS this week 23, compared with 73 districts with 2099 health facilities shared weekly data in week 22, 2013 to the Disease Early Warning System (DEWS).
- 785,730** patients' consultations were reported in week 23, 2013 compared to **827,517** consultations reported in week 22, 2013.
- Altogether **104** alerts were investigated and response were provided to **5** outbreaks.

Figure-1: 73 districts reported to DEWS in week 23, 2013



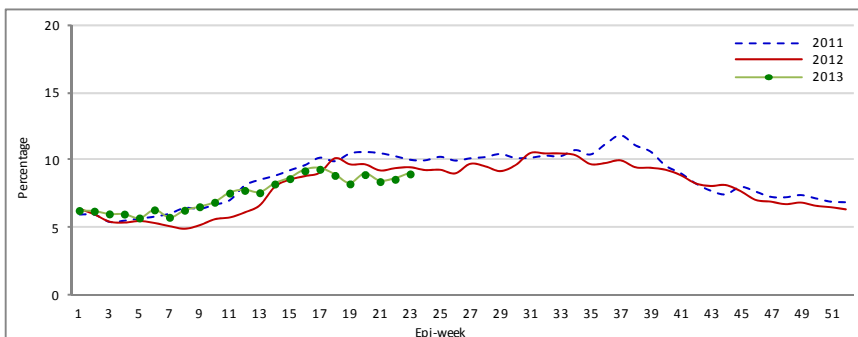
Priority diseases under surveillance in DEWS

- 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 23, 2013 (29 Dec 2012 to 8 June 2013)

Disease	# of Cases	Percentage
ARI	4,245,297	23%
Bloody diarrhoea	49,899	<0.5%
Acute diarrhoea	1,379,444	7%
S. Malaria	830,175	5%
Skin Diseases	688,417	4%
Unexplained fever	590,842	3%
Total (All consultations)	18,578,313	

Figure-2: Weekly trend of Acute Diarrhoea in Pakistan; Week-1, 2011 to week-23, 2013.



Major health events reported during the Epi-week - 22 (26 May - 1 June 2013)

Disease	# of Cases	Percentage
ARI	117,026	15%
Bloody diarrhoea	1,851	<0.5%
Acute diarrhoea	70,697	9%
S. Malaria	29,899	4%
Skin Diseases	27,454	3%
Unexplained fever	21,814	3%
Total (All consultations)	785,730	

- 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-23/2013):

Date	Disease	Province	District	Area	<5M	>5M	<5F	>5F	Action Taken
8-Jun	Measles	AJK	Bagh	Village & UC Rangla, Tehsil Dhirkot	4	2	2	1	Alert of 9 suspected measles cases was reported from DHQ Bagh, RHC Dhirkot and Chinar Medical Complex. All 9 cases were reported from same village (Rangla) during period of one week. Situation was discussed with DHO and EPI coordinator and mass vaccination was arranged and a total of 169 children <5 yrs were vaccinated against measles. 4 samples were collected and sent to NIH. Health education sessions were conducted in the village.
6-Jun	CCHF	ICT	Islamabad	Shifa Hospital (Killa Abdullah)	0	0	0	1	1 CCHF case was reported from Shifa Hospital, Islamabad with fever from last 10 days with history of bleeding from mouth, nose and other body orifices. Currently the patient is in ICU. Sample sent to NIH was found positive for CCHF. Patient belong to district Killa Abdullah, Balochistan province with history of animal contact. No family member had any symptom. Information shared with team in Balochistan.
3-Jun	Measles	Khyber Pakhtunkhwa	Mardan	Village Behram Khan, UC Ghala Dher, Tehsil Mardan	1	0	4	0	Alert for suspected Measles case reported from DHQ Hospital Mardan, the case was found unvaccinated. Vitamin-A was given to the case. During active surveillance 4 more clinical cases were identified in same family and neighbours. All children of less than 5 years were sent to near by HF for vaccination. EPI team was informed and requested for outreach immunization in the area. Health education session was conducted in the community with the help of LHW's working in the area. Information shared with EDO-H Focal person and EPI Coordinator.
4-Jun	Measles	Khyber Pakhtunkhwa	Mardan	Village Sarikhowaro cham, Shawa Adda, Kalu Khan, Swabi	2	0	2	1	Alert for suspected Measles case reported from DHQ Hospital Mardan, the case was found unvaccinated. Vitamin-A was given to the patient. During active surveillance 4 more clinical cases were found. All children of less than 5 years were sent to near by HF for vaccination. EPI team was informed and requested for outreach immunization in the area. Health education session conducted in the community. Information shared with EDO-H Focal person and EPI Coordinator.
5-Jun	DHF	Sindh	Karachi	Saifal Village, Gadap Town	0	3	0	3	One Death due to Dengue Haemorrhagic Fever was reported from Abbasi Shaheed Hospital. Patient's IgM for Dengue came positive. Two more cases from same house were admitted with Dengue fever and 3 cases from neighbours were also found. There was an open manhole and drainage pipes all over areas. Health awareness given regarding prevention of bitten from mosquitoes and use of bed nets and repellents. Information shared with THMT.

Figure-3: Number of alerts received and responded, week 20 - 23, 2013

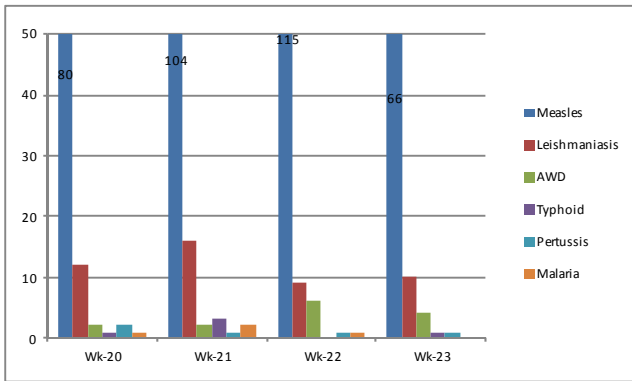
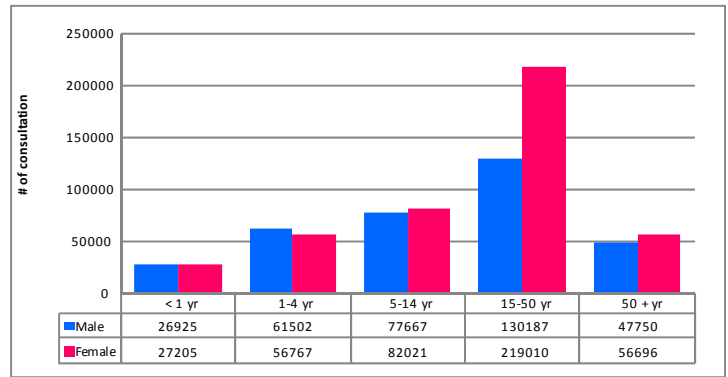


Figure-4: Number of consultations by age and gender, week 23, 2013



Province Khyber Pakhtunkhwa:

260 health facilities from 11 districts of Khyber Pakhtunkhwa sent reports to DEWS with a total of 80,423 patients consultations reported in week 23, 2013. 14 alerts were received and appropriate measures were taken. Altogether 13 alerts were for Measles; while 1 for AJS. The weekly trend of Acute diarrhoea is constantly and rapidly rising in KP. This needs serious attention. ARI trend showing minor increase as compared with last week.

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

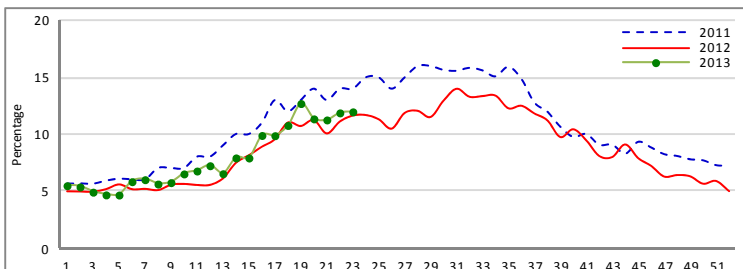
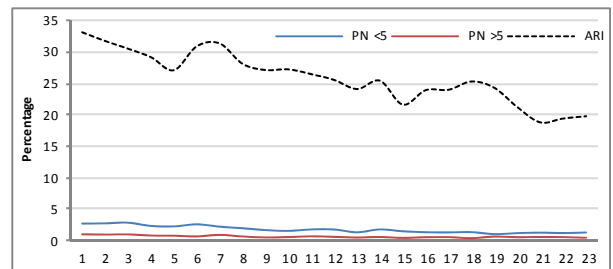


Figure-6: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 23, 2013



Province Sindh:

851 health facilities from 23 districts in Sindh province reported to DEWS with a total of 304,244 patient consultations in week 23, 2013. 7 alerts, 2 each were for AWD and Leishmaniasis; while 1 each for Acute diarrhoea, DF and Naegleria Meningitis 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 weeks 5 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

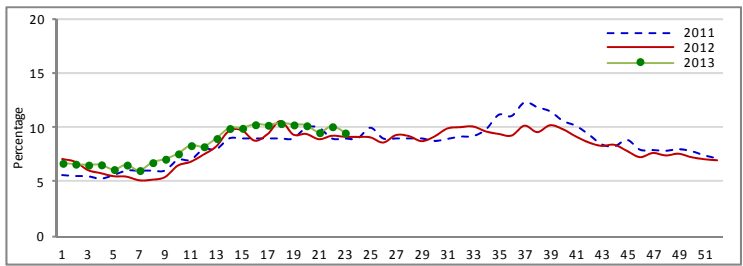
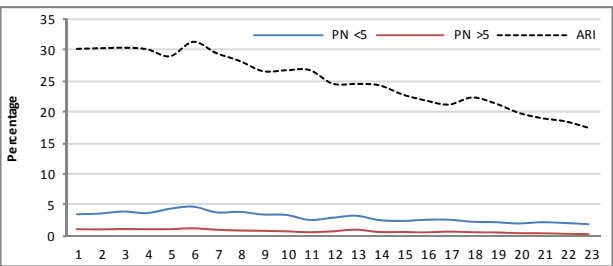


Figure-8: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 23, 2013



Province Punjab:

598 health facilities from 11 districts in province Punjab reported to DEWS with a total of 337,087 patients consultations in week 23, 2013. Total 53 alerts were received and appropriate measures were taken. Altogether 39 alerts were for Measles; 5 for Acute diarrhoea; 3 for Bloody diarrhoea; 2 for AWD; while 1 each for AJS, Diphtheria, Typhoid and Scabies. The weekly trend of AD in Punjab increased this week after a steady trend during previous few weeks. ARI trend showing minor increase as compared with last week.

Figure-9: Trend of ARI, province Punjab

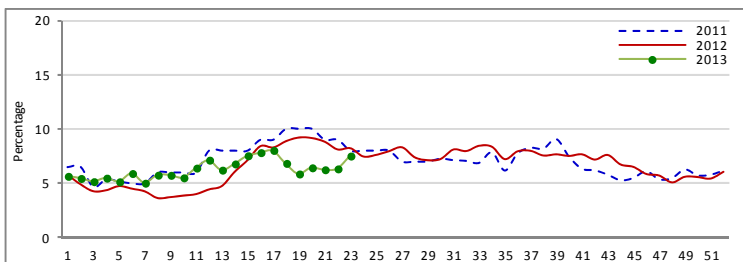
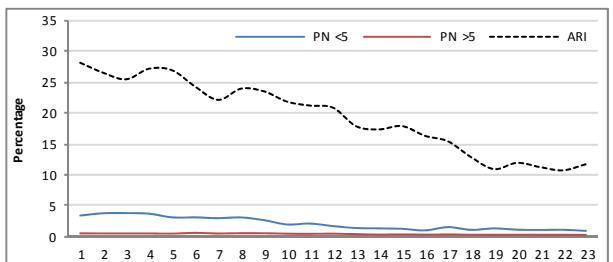


Figure-10: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 23, 2013



Province Balochistan:

269 health facilities from 13 districts in province Balochistan reported to DEWS with a total of 33,530 patients consultations in week 23, 2013. Total 8 alerts reported and appropriate measures were taken in week 23, 2013. Altogether 4 for CCHF; 2 for Leishmaniasis; while 1 each for AD and Measles. 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

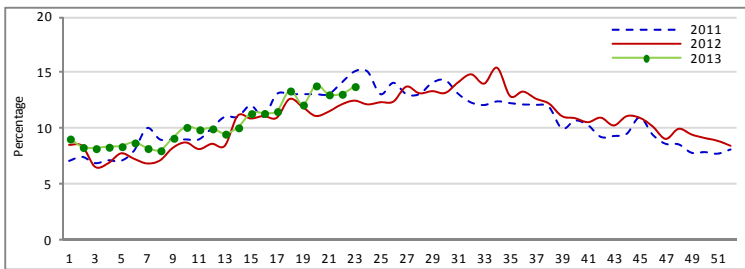
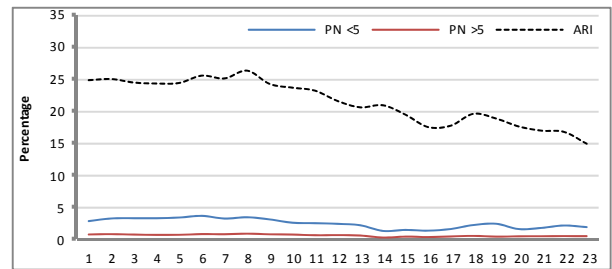


Figure-12: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 23, 2013



Province Gilgit Baltistan:

5 health facilities from 4 districts in Gilgit Baltistan reported to DEWS with a total of 916 patients consultations in week 23, 2013. No alerts for any disease was reported in week 23, 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

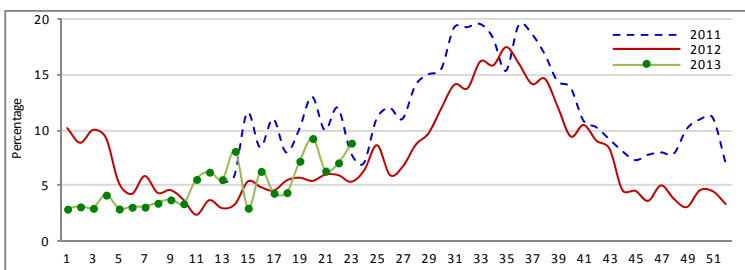
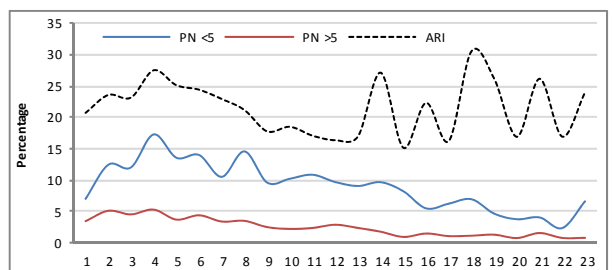


Figure-14: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 23, 2013



FATA:

26 health facilities from 2 agencies in FATA reported to DEWS with a total of 5,455 patients consultations in week 23, 2013. 10 alerts, 6 for Leishmaniasis; 2 for Measles; while 1 for NNT and Pertussis were reported in week 23, 2013 and appropriate measures were taken. Fluctuating and upward weekly trend of Acute diarrhoea with a sharp increase last week is noted in FATA, this require vigilant monitoring. ARI showing decrease as compared with last week.

Figure-15: Weekly trend of Acute diarrhoea, FATA

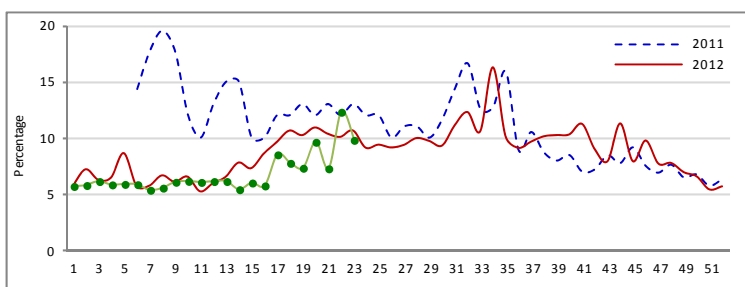
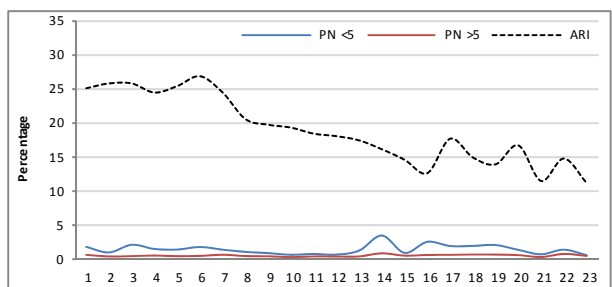


Figure-16: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 23, 2013



State of Azad Jammu and Kashmir:

86 health facilities from 8 districts in AJ&K reported to DEWS with a total of 21,059 patients consultations in week 23, 2013. 8 alerts for Measles were received in week 23, 2013 and appropriate measures were taken. Weekly trend of AD showing increase as compared with last week, while ARI trend showing a decreasing trend from last couple of weeks.

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

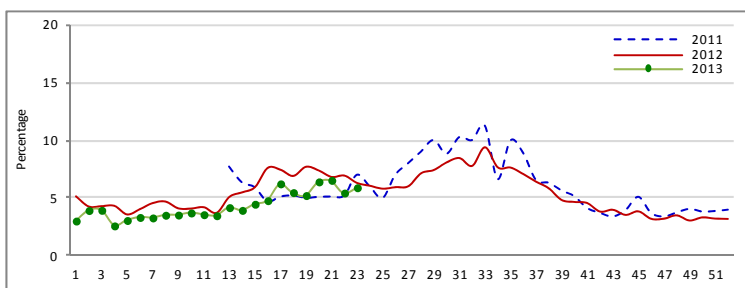


Figure-18: Weekly trend of ARI and Pneumonia <5 and >5 age group, week 1 to 23, 2013

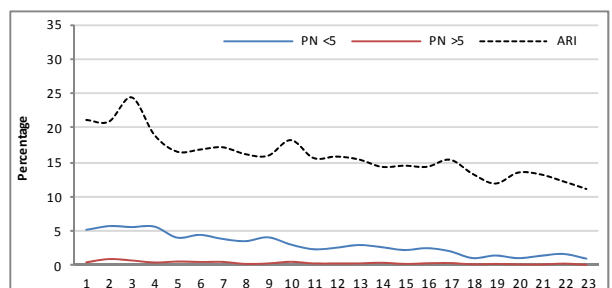
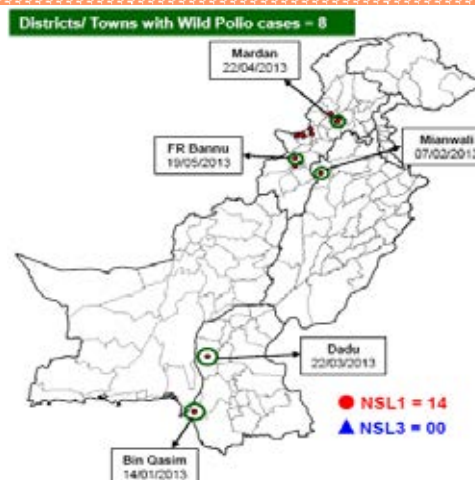


Table-1: Number of alerts and outbreaks reported and investigated with appropriate response

Disease	2012		Current week 23, 2013		2013 (Total up till week - 23)	
	A	O	A	O	A	O
Acute watery diarrhoea	635	171	4	0	29	7
Acute jaundice syndrome	113	22	2	0	12	4
Bloody diarrhoea	146	11	3	0	14	1
CCHF	68	41	5	1	23	9
Dengue fever	175	29	1	1	4	1
Diphtheria	60	16	1	0	22	1
Measles	5922	812	66	3	2161	239
Pertussis	366	147	1	0	29	8
NNT + tetanus	560	0	1	0	121	0
Malaria	136	68	0	0	12	2
Cutaneous Leishmaniasis	900	78	10	0	354	40
Others	1529	58	10	0	195	3
Total	10610	1453	104	5	2976	315

Distribution of Wild Polio Virus cases Pakistan 2012 and 2013

- In week 23, 2013, 4 new type-1 wild polio cases were reported from Federally Administered Tribal Areas (FATA; 3 from Khyber agency and 1 from FR Bannu), bringing the total number of polio cases to 14 in 2013 (compared to 22 during the same time period last year) from 8 districts/towns/tribal agencies /areas (compared to 13 during the same time period last year).

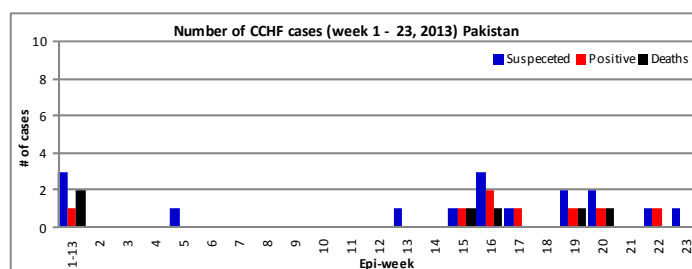


Province	2012			2013		
	P1	P3	P1+P3	P1	P3	P1+P3
Punjab	2	-	-	1	-	-
Sindh	4	-	-	2	-	-
Khyber Pakhtunkhwa	27	-	-	4	-	-
FATA	17	2	1	7	-	-
Balochistan	4	-	-	-	-	-
AJ&K	-	-	-	-	-	-
Gilgit-Baltistan	1	-	-	-	-	-
Islamabad	-	-	-	-	-	-
Total	55	2	1	14	-	-

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 23, 2013, 1 new CCHF case was reported from Islamabad resident of district Killa Abdulla, Balochistan (Lab result Positive for CCHF). The case is 45 years old female (housewife) found clear contact history with animals, admitted at Shifa Int'l Hospital, Islamabad for treatment. Platelets count was 17000 at the time of admitting in the hospital and now improving. While the 2nd case (Lab result awaiting) reported from same district Killa Abdulla, Province Balochistan, a 28 year old male, labor by profession found no contact history with animals (but have animals around his working place), Platelets count was 34000 at the time of admitting in the hospital. The total 16 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).

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 23 (8 June 2013).

Province	2012 (Week 1 - 52)				2013 (Up till week 23)			
	# of Alerts	# of Outbreaks	# of Cases	# of Deaths	# of Alerts	# of Outbreaks	# of Cases	# of Deaths
AJ&K	165	6	268	0	181	11	362	1
Balochistan	447	119	1816	31	284	51	1138	45
FATA	211	31	559	13	61	12	182	3
Gilgit Baltistan	40	1	54	0	11	1	22	0
ICT	27	2	63	0	40	2	128	1
Khyber Pakhtunkhwa	1989	108	3542	38	674	70	1464	19
Punjab	809	40	1329	16	799	64	6374	75
Sindh	2234	505	7353	212	111	28	3281	146
Total	5922	812	14984	310	2161	239	12951	290

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 23, 2013

