Weekly Epidemiological *Bulletin*

Disease early warning system and response in Pakistan

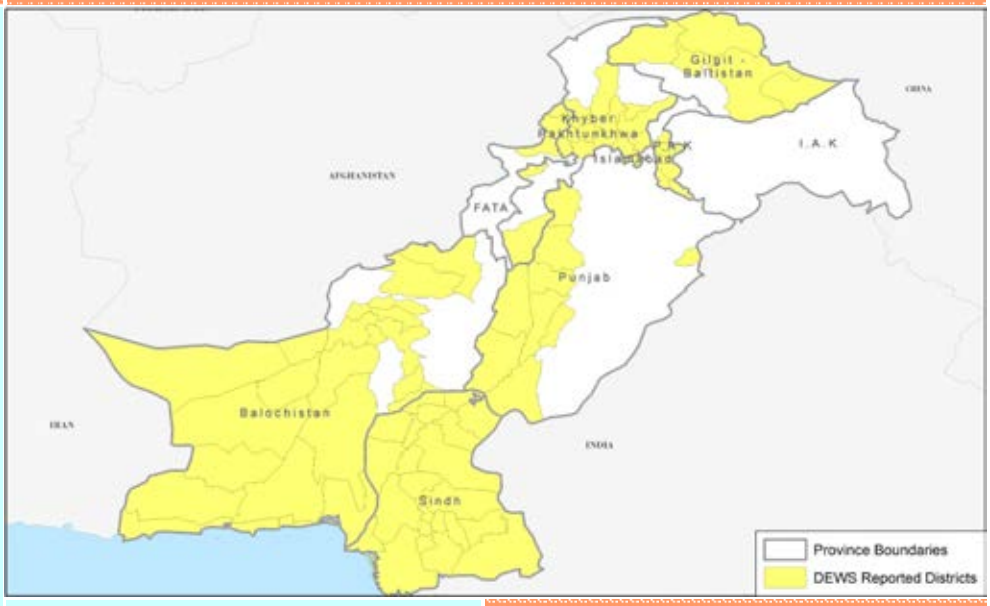
Volume 4, Issue 26, Wednesday 26 June 2013

Highlights

Epidemiological week no. 26
(23 to 29 June 2013)

- **Measles:** This week a total of 96 alerts investigated. 430 measles cases were reported from 24 districts. Vitamin-A drops provided to the suspected cases and district health teams were contacted to improve outreach vaccination in affected areas.
- **76** districts and 2081 health facilities have reported to Disease Early Warning system (DEWS) this week 26, compared to 69 districts with 1986 health facilities shared weekly data in week 25, 2013 to the DEWS.
- Total **833,036** patients consultations reported this week compared to **890,309** consultations in week 25, 2013.
- Altogether **143** alerts were investigated and **5** outbreaks were identified and timely responded.

Figure-1: 76 districts reported to DEWS in week 26, 2013



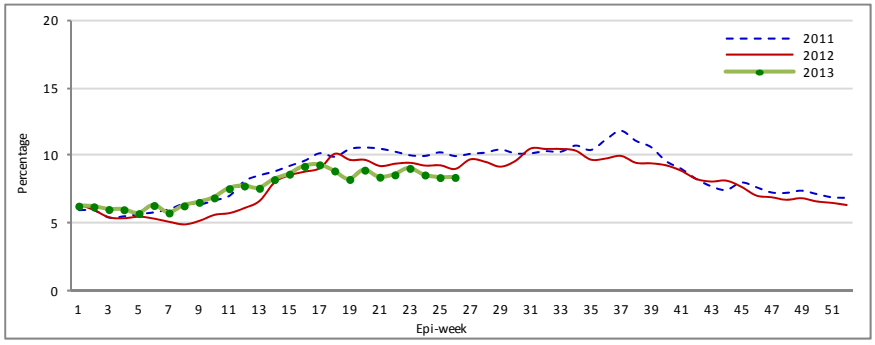
Priority diseases under surveillance in DEWS

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 26, 2013 (29 Dec 2012 to 29 June 2013)

Disease	# of Cases	Percentage
ARI	4,600,542	22%
Bloody diarrhoea	56,749	<0.5%
Acute diarrhoea	1,599,819	8%
S. Malaria	927,397	4%
Skin Diseases	785,986	4%
Unexplained fever	663,367	3%
Total (All consultations)	21,172,313	

Figure-2: Weekly trend of Acute Diarrhoea in Pakistan; Week-1, 2011 to week-26, 2013.



Major health events reported during the Epi-week - 26 (23 - 29 June 2013)

Disease	# of Cases	Percentage
ARI	109,160	13%
Bloody diarrhoea	2,377	<0.5%
Acute diarrhoea	70,035	8%
S. Malaria	31,963	4%
Skin Diseases	30,178	4%
Unexplained fever	22,787	3%
Total (All consultations)	833,036	

- 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.

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Outbreaks (Wk-26/2013):

Date	Disease	Province	District	Area	<5M	>5M	<5F	>5F	Action Taken
28-Jun	AWD	Balochistan	Awaran	Jhal Cheedgi UC &Tehsil Awaran	9	9	10	15	AWD cases were reported from DHQ Hospital, Awaran. On investigation 43 cases were found. Standard AWD case management was reinforced. Health and hygine session conducted in the community. Aqua tabs and ORS distributed among the affected families. All required medicine support was provided to health centre. Information shared with DoH.
28-Jun	Measles	Punjab	Bahawal-nagar	Bahawalnagar City-Mahajir Colony	8	3	8	6	25 suspected cases of measles reported from Bahawalnagar city and surrounding areas at DHQ. Another case, a 12 year old female reported at BVH. 8 cases were found unvaccinated for measles while 17 cases had received at least 1 dose of measles vaccine. 1 dose of Vitamin-A was given on the spot while 2nd dose provided to parents to be administered on next day. On active surveillance, 3 more cases were found. Health education sessions have been conducted in the community. A total of 4 blood samples were collected and sent to NIH. Mop up activity conducted in Bahawalnagar in 16 different areas. Information shared with DoH.
28-Jun	Measles	Punjab	Bahawal-nagar	Manchin abad- M.S Ganj, Haveli Lakha,	3	3	2	1	9 suspected cases of measles reported from Tehsil Manchin abad at DHQ. 4 cases were found unvaccinated for measles, while 5 cases had received at least 1 dose of measles vaccine. 3 blood samples were collected and sent to NIH. 1 dose of Vitamin-A was given on the spot while 2nd dose was provided to parents to be administered on next day. Health education sessions have been conducted at the respective localities. Mop up activity conducted in 4 localities. Information shared with DoH.
28-Jun	AWD	Sindh	Thar-parkar	Chohaan Paro, Village Chachi Gaju, UC Harho, taluka Nagar-parkar	0	4	2	14	20 AWD cases were reported from GD Chachi Gaju, district Tharparkar. During field investigation 16 more cases were found. Out of 20, 4 cases were found with severe dehydrated. 5 stool and 2 water samples were collected and sent to NIH. Open Dug well was the source of water. As per villagers, there was a gathering in the village and they have eaten lunch and become affected with watery diarrhea. Over all health and hygiene condition found not satisfactory. Health education session was imparted. Aqua tabs and soaps were distributed to affected families. Information shared with DoH.
28-Jun	AWD	Sindh	Thar-parkar	Shahdadani Paro, Village Sakrio, UC Tardos, taluka Chachro	0	2	0	4	6 AWD cases were reported from BHU Sakrio. During field investigation no new case was found. Out of 6 cases 2 cases were found severe dehydrated. Open Dug well was the source of water for drinking and other use. Over all health and hygiene condition was found not satisfactory. Health education session was imparted. 2 stool and 2 water samples were collected and sent to NIH. Aqua tabs, PURE Sachets and soaps were distributed to affected families. Information shared with DoH.

Figure-3: Number of alerts received and responded, week 23 - 26, 2013

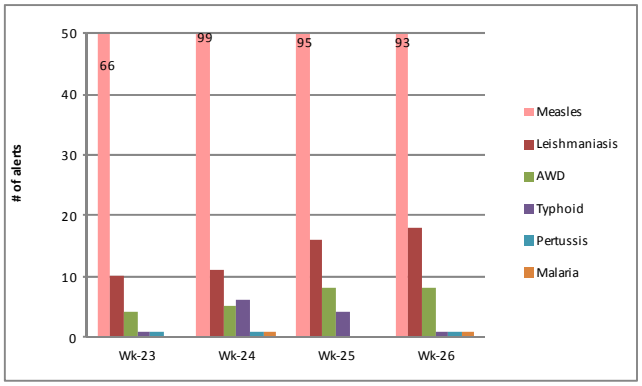
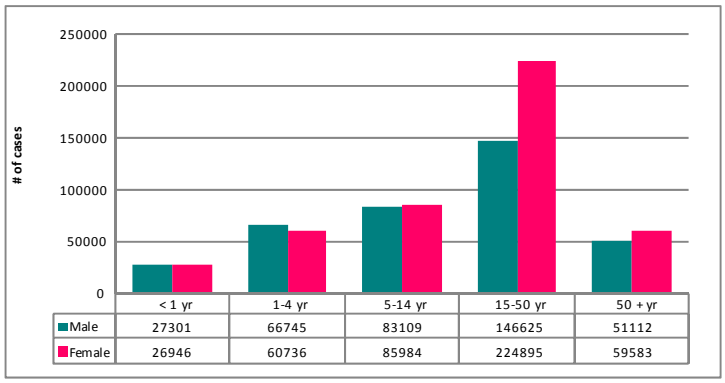


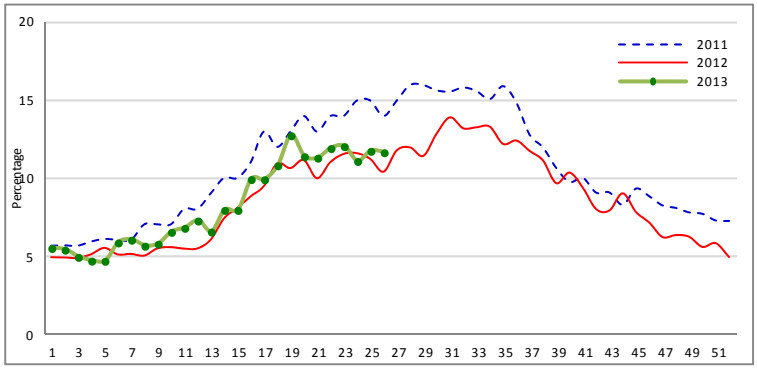
Figure-4: Number of consultations by age and gender, week 26, 2013



	< 1 yr	1-4 yr	5-14 yr	15-50 yr	50 + yr
Male	27301	66745	83109	146625	51112
Female	26946	60736	85984	224895	59583

Province Khyber Pakhtunkhwa:

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



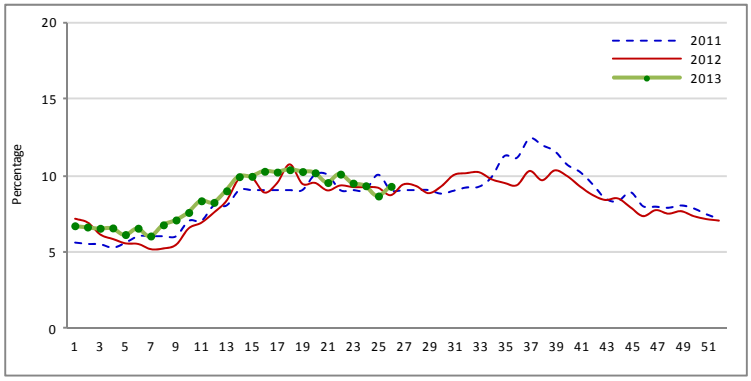
254 health facilities from 13 districts of Khyber Pakhtunkhwa sent reports to DEWS with a total of 88,200 patients consultations reported in week 26, 2013.

50 alerts were received and appropriate measures were taken. Altogether 49 alerts were for Measles; while 1 for Leishmaniasis.

The weekly trend of Acute diarrhoea is showing increase a slight (natural fluctuation) as compare with last two weeks in KP.

Province Sindh:

Figure-6: Weekly trend of Acute diarrhoea, province Sindh

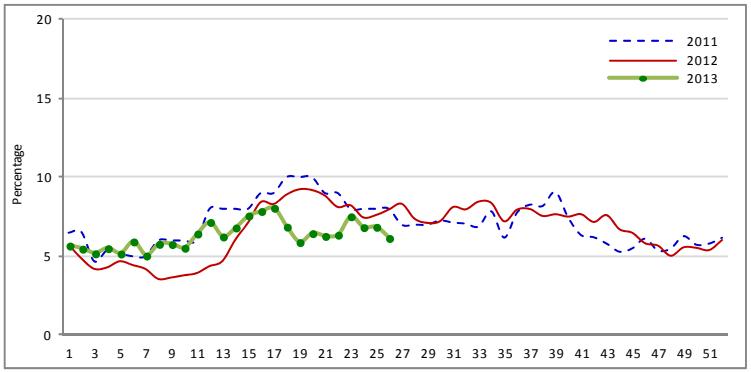


818 health facilities from 23 districts in Sindh province reported to DEWS with a total of 311,596 patient consultations in week 26, 2013. 12 alerts, 5 for Cutaneous Leishmaniasis, 3 each for AWD and NNT; while 1 for DF were received and appropriate measures were taken.

The overall proportion of AD for the province is high as compared to the previous years during the same period. In the recent weeks 8 AWD outbreaks identified and responded, the situation need continuous attention. ARI trend showing decrease as compared with last few weeks.

Province Punjab:

Figure-7: Trend of ARI, province Punjab



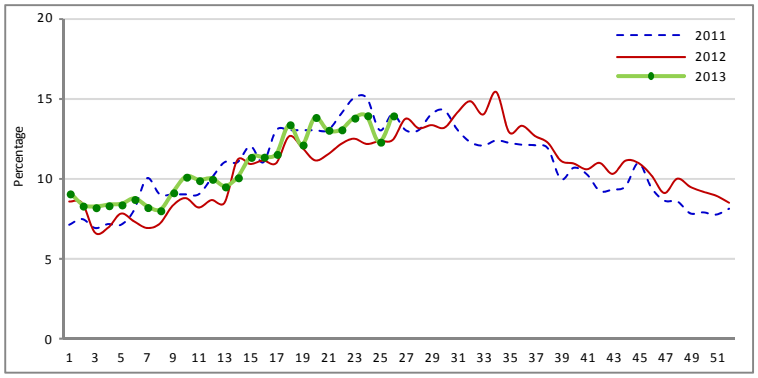
603 health facilities from 14 districts in province Punjab reported to DEWS with a total of 369,074 patients consultations in week 26, 2013. Total 53 alerts were received and appropriate measures were taken.

Altogether 34 alerts were for Measles; 7 for Acute diarrhoea; 4 for AWD; 3 for Scabies; 2 for DF; while 1 each for Bloody diarrhoea, Malaria and Typhoid.

The weekly trend of AD in Punjab showing decrease this week as compared with previous week.

Province Balochistan:

Figure-8: Weekly trend of Acute diarrhoea, province Balochistan



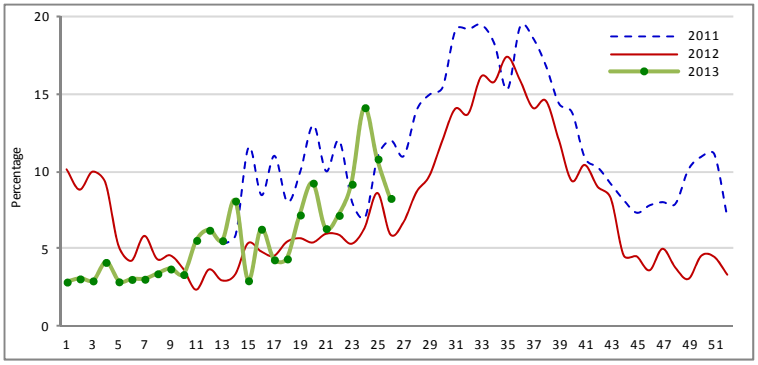
278 health facilities from 11 districts in province Balochistan reported to DEWS with a total of 40,854 patients consultations in week 26, 2013. Total 9 alerts reported and appropriate measures were taken in week 26, 2013.

Altogether 4 alerts were for Leishmaniasis; 2 for Measles; while 1 each for AWD, CCHF and Pertussis.

In this week the weekly proportion of AD showing increase compared with last week. Vigilant monitoring of the situation is required.

Province Gilgit Baltistan:

Figure-9: Weekly trend of Acute diarrhoea, province Gilgit Baltistan



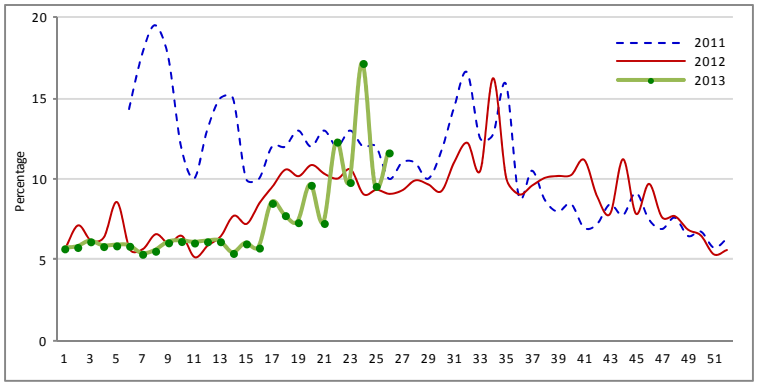
4 health facilities from 3 districts in Gilgit Baltistan reported to DEWS with a total of 67 patients consultations in week 26, 2013.

No alerts for any disease was reported in week 26, 2013.

The weekly AD trend is fluctuating and upward and required vigilant monitoring.

FATA:

Figure-10: Weekly trend of Acute diarrhoea, FATA

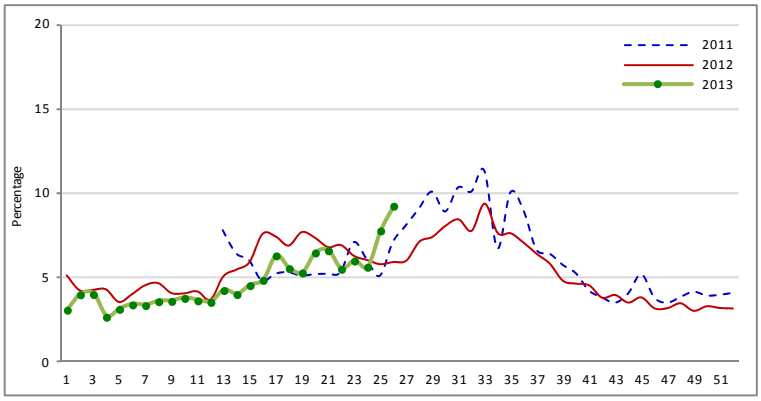


34 health facilities from 3 agencies in FATA reported to DEWS with a total of 8,297 patients consultations in week 26, 2013. 9 alerts, 8 for Leishmaniasis; while 1 for Measles were reported in week 26, 2013 and appropriate measures were taken.

Fluctuating and upward weekly trend of Acute diarrhoea is noted in FATA and require vigilant monitoring.

State of Azad Jammu and Kashmir:

Figure-11: Weekly trend of Acute diarrhoea, AJ&K



83 health facilities from 8 districts in AJ&K reported to DEWS with a total of 13,285 patients consultations in week 26, 2013.

5 alerts for Measles were received in week 26, 2013 and appropriate measures were taken.

Weekly trend of AD showing increase as compared with last week and require vigilant monitoring the situation,

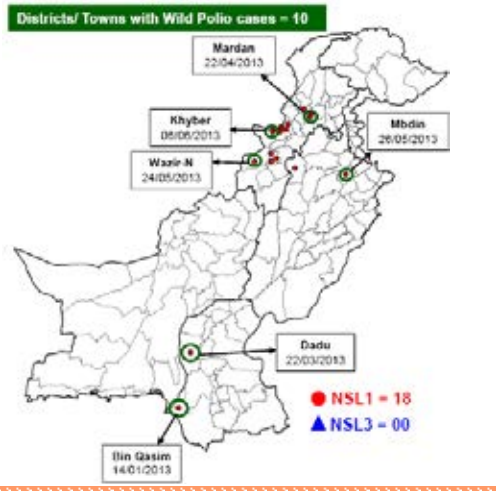
Table-1: Number of alerts and outbreaks reported and investigated with appropriate response

Disease	2012		Current week 26, 2013		2013 (Total up till week - 26)	
	A	O	A	O	A	O
Acute watery diarrhoea	635	171	8	3	50	11
Acute jaundice syndrome	113	22	0	0	15	4
Bloody diarrhoea	146	11	1	0	20	1
CCHF	68	41	1	0	29	15
Dengue fever	175	29	3	0	7	1
Diphtheria	60	16	0	0	22	1
Measles	5922	812	96	2	2467	246
Pertussis	366	147	1	0	31	8
NNT + tetanus	560	0	3	0	129	0
Malaria	136	68	1	0	14	2
Cutaneous Leishmaniasis	900	78	18	0	400	43
Others	1529	58	11	0	226	3
Total	10610	1453	143	5	3410	335

Distribution of Wild Polio Virus cases Pakistan 2012 and 2013

- In week 26, 2013, one new type-1 wild polio case was reported from Federally Administered Tribal Areas (North Waziristan agency), bringing the total number of polio cases to 18 in 2013 (compared to 24 during the same time period last year) from 10 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	-	-	2	-	-
Sindh	4	-	-	2	-	-
Khyber Pakhtunkhwa	27	-	-	4	-	-
FATA	17	2	1	10	-	-
Balochistan	4	-	-	-	-	-
AJ&K	-	-	-	-	-	-
Gilgit-Baltistan	1	-	-	-	-	-
Islamabad	-	-	-	-	-	-
Total	55	2	1	18	-	-

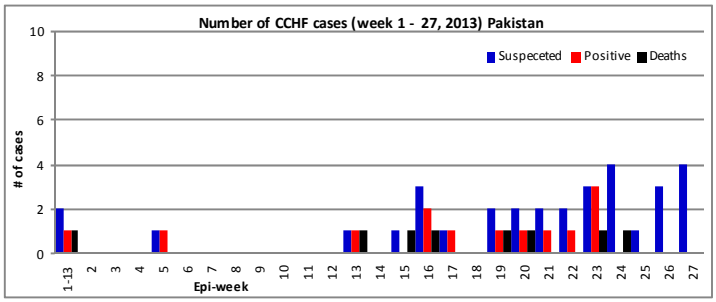


Follow up of CCHF

In week 26 and 27 (23 Jun - 6 July), 2013, 7 new suspected CCHF case reported, 4 from district Quetta; 1 from Sibi; 1 from Killa Abdullah in province Balochistan; while 1 case reported from Afghanistan admitted in Fatima Jinnah Chest Hospital, Quetta. 6 out of 7 suspected CCHF cases were admitted in Fatimah Jinnah Chest hospital, Quetta; while 1 cases belongs to district Sibi is admitted in Sandeman hospital, Quetta. All the laboratory results were awaiting. All the suspected cases having history of animal contact. Total 32 suspected, 13 confirmed CCHF cases and 8 deaths have been reported in year 2013.

In 2012, a total of 62 suspected cases have been reported throughout the country with 41 cases confirmed to date and in total 18 deaths; of which 13 deaths (CFR is 31.7%) are reported of the lab confirmed cases and 5 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).



Number of CCHF cases reported in year 2012 and 2013 up till June.

Province	District	2012			2013		
		Suspected	Lab confirmed	Deaths	Suspected	Lab confirmed	Deaths
Balochistan	Quetta	38	23	7	26	8	5
ICT	Islamabad	-	-	-	2	2	-
KPK	D I Khan	3	3	1	-	-	-
	Haripur	2	-	2	-	-	-
	Peshawar	4	3	2	1	1	-
Punjab	D G Khan	-	-	-	1	-	1
	Multan	6	3	2	1	1	1
	Rawalpindi	2	2	1	-	-	-
Sindh	Karachi	7	7	3	1	1	1
Total		**62**	**41**	**18**	**32**	**13**	**8**

Measles

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 26 (29 June 2013).

Province	2012 (Week 1 - 52)				2013 (Up till week 26)			
	# of Alerts	# of Outbreaks	# of Cases	# of Deaths	# of Alerts	# of Outbreaks	# of Cases	# of Deaths
AJ&K	165	6	268	0	201	11	391	1
Balochistan	447	119	1816	31	293	54	1168	47
FATA	211	31	559	13	65	12	187	3
Gilgit Baltistan	40	1	54	0	11	1	22	0
ICT	27	2	63	0	43	2	142	1
Khyber Pakhtunkhwa	1989	108	3542	38	826	70	1675	20
Punjab	809	40	1329	16	917	68	7459	83
Sindh	2234	505	7353	212	111	28	3351	146
Total	5922	812	14984	310	2467	246	14395	301

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.

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 26, 2013