Weekly Epidemiological *Bulletin*

Disease early warning system and response in Pakistan

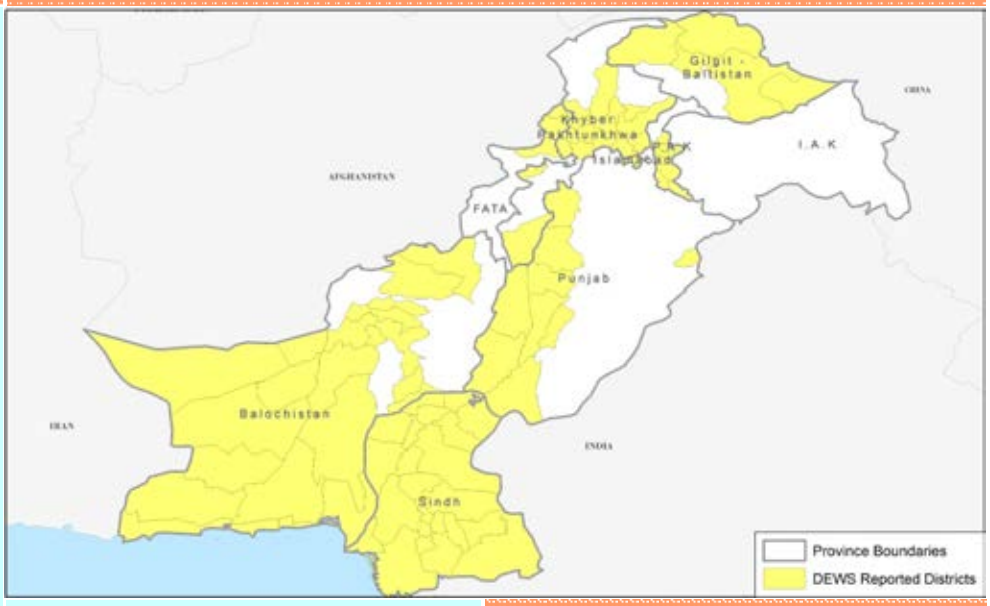
Volume 4, Issue 28, Wednesday 17 July 2013

Highlights

Epidemiological week no. 28
(7 to 13 July 2013)

- **Measles:** This week a total of 65 alerts investigated. 287 measles cases were reported from 27 districts. Vitamin-A drops provided to the suspected cases and district health teams were contacted to improve outreach vaccination in affected areas.
- **81** districts and 2154 health facilities have reported to Disease Early Warning system (DEWS) this week 28, compared to 76 districts with 2039 health facilities shared weekly data in week 27, 2013 to the DEWS.
- Total **852,087** patients consultations reported this week compared to **796,799** consultations in week 27, 2013.
- Altogether **93** alerts were investigated and **9** outbreaks were identified and timely responded.

Figure-1: 81 districts reported to DEWS in week 28, 2013



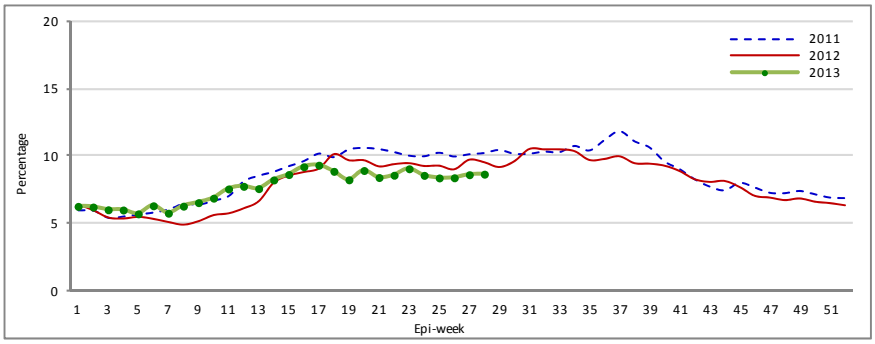
Priority diseases under surveillance in DEWS

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 28, 2013 (29 Dec 2012 to 13 July 2013)

Disease	# of Cases	Percentage
ARI	4,841,015	21%
Bloody diarrhoea	61,070	<0.5%
Acute diarrhoea	1,746,620	8%
S. Malaria	989,455	4%
Skin Diseases	854,849	4%
Unexplained fever	709,118	3%
Total (All consultations)	22,867,624	

Figure-2: Weekly trend of Acute Diarrhoea in Pakistan; Week-1, 2011 to week-28, 2013.



Major health events reported during the Epi-week - 28 (7 - 13 July 2013)

Disease	# of Cases	Percentage
ARI	119,354	14%
Bloody diarrhoea	2,150	<0.5%
Acute diarrhoea	73,999	9%
S. Malaria	31,633	4%
Skin Diseases	36,772	4%
Unexplained fever	23,810	3%
Total (All consultations)	852,087	

- 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-28/2013):

Date	Disease	Province	District	Area	<5M	>5M	<5F	>5F	Action Taken
11-Jul	AWD	Balochistan	Quetta	Killi Khelji, UC Panjpai	0	0	0	0	43 AWD cases including 2 deaths were reported from district Quetta. During investigation found cases of different ages were suffering from mild to moderate dehydration. 23 cases referred to SPH were discharged after giving treatment. Required essential medicines were given to district health team for treatment of patients. Health and hygiene session were conducted in the community. 1 stool sample was collected and sent to NIH for lab investigation. All the information shared with DoH.
11-Jul	Pertussis	Balochistan	Panjgur	Mohalla Brovi, UC Sordo, Tehsil Panjgur	0	3	1	2	6 probable Pertussis cases were reported from district Panjgur. All the cases were from same location. Families were sensitized about routine immunization. Symptomatic treatment along with health education given to all the cases and contacts.
8-Jul	Measles	Khyber Pakhtunkhwa	Battagram	Kubai	7	0	3	1	Alert for 11 suspected Measles cases were reported from DHQ hospital, Battagram, 5 patients were belongs to Kubai, 5 from Jabba, while 1 suspected case belongs to Uttal. Vitamin-A drops were given to all the suspected cases. The EPI team was requested to start outreach vaccination in the area. All information shared with EDOH.
9-Jul	Measles	Khyber Pakhtunkhwa	Haripur	Marchabad UC Tofkian	0	0	3	2	Alert for 5 suspected Measles cases were reported from BHU Tofkian Haripur, Vitamin-A drops were given to all the suspected cases. Out of 5 cases 3 patients were belongs to same family. EDO Health and EPI Coordinator informed about the situation and requested to start outreach vaccination.
10-Jul	Measles	Punjab	Bhakkar	UC Litten, Tehsil Mankera	0	2	0	1	Alert for 3 suspected Measles cases reported from THQ Mankera. All the suspected cases were given first dose of Vitamin-A, while second dose was ensured after 24 hours. Community was provided awareness through health education session for highlighting importance of vaccination of children against all the EPI diseases. Information shared with EDO (H).
9-Jul	Measles	Punjab	Mianwali	UC Mianwal Urban 1	0	1	1	1	Alert for 3 suspected Measles cases were reported from DHQ hospital. All the suspected cases were found unvaccinated. First dose of Vitamin-A was given to all the suspected cases, while second dose was ensured after 24 hours. Community was provided awareness through health education session for highlighting importance of vaccination of children against all the EPI diseases. Information shared with EDO(H).
9-Jul	Measles	Punjab	Mianwali	UC Moch	1	1	0	2	Alert for 4 suspected Measles cases from DHQ hospital. All the suspected cases were given first dose of Vitamin-A, while second dose was ensured after 24 hours. Community was provided awareness through health education session for highlighting importance of vaccination of children against all the EPI diseases. All information shared with EDO(H).

Figure-3: Number of alerts received and responded, week 25 - 28, 2013

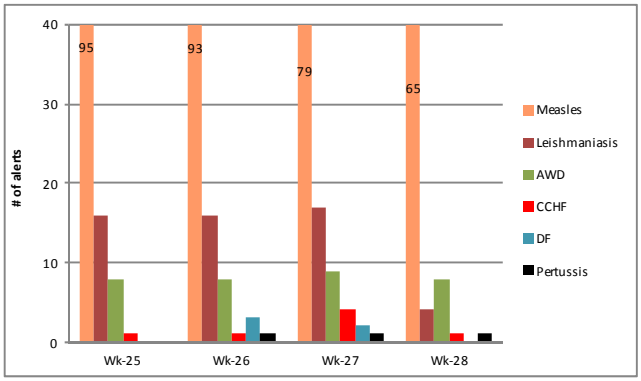
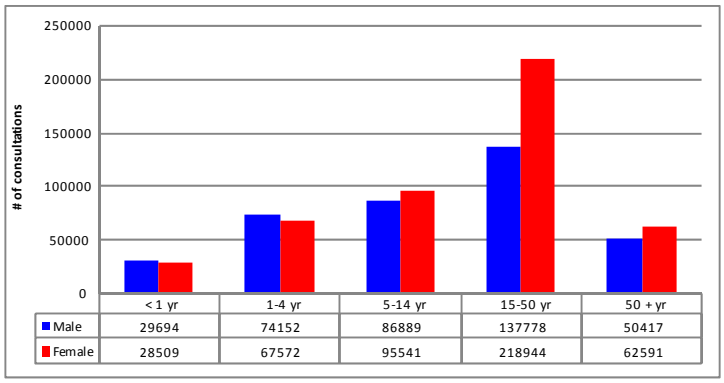


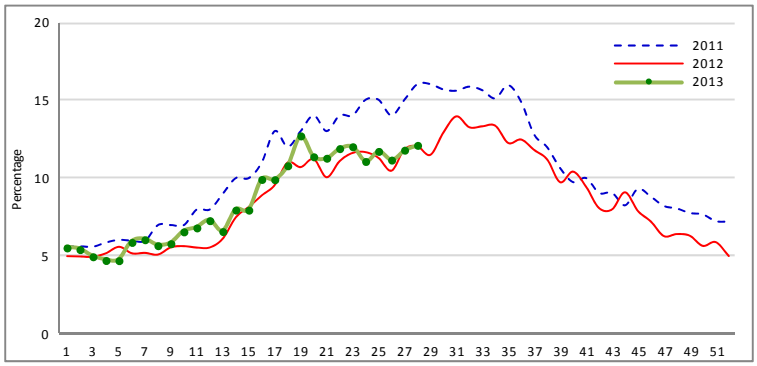
Figure-4: Number of consultations by age and gender, week 28, 2013



	< 1 yr	1-4 yr	5-14 yr	15-50 yr	50 + yr
Male	29694	74152	86889	137778	50417
Female	28509	67572	95541	218944	62591

Province Khyber Pakhtunkhwa:

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



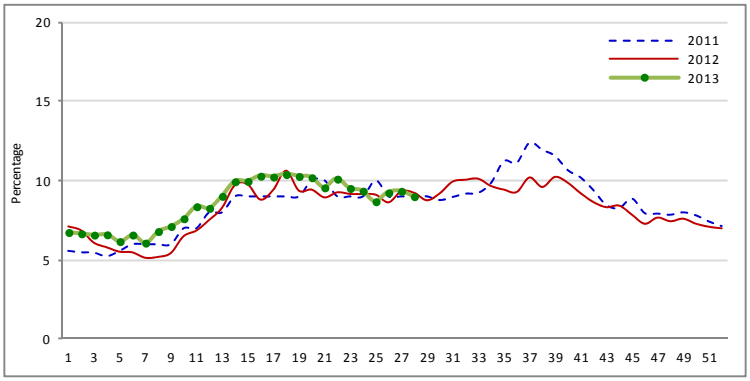
334 health facilities from 16 districts of Khyber Pakhtunkhwa sent reports to DEWS with a total of 105,522 patients consultations reported in week 28, 2013.

31 alerts for Measles were received and appropriate measures were taken.

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

Province Sindh:

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

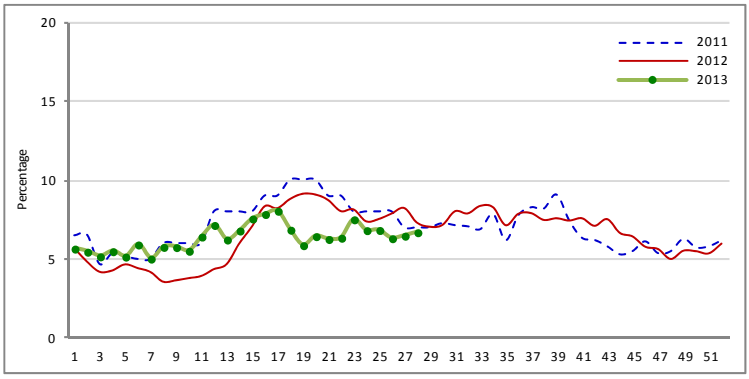


808 health facilities from 23 districts in Sindh province reported to DEWS with a total of 336,482 patient consultations in week 28, 2013. 6 alerts, 4 for NNT; while 1 each for Diphtheria and Cutaneous Leishmaniasis were received and appropriate measures were taken.

The overall proportion of AD for the province is high as compared to the previous years during the same period. During this season 11 AWD outbreaks identified and responded, the situation need continuous attention in the province.

Province Punjab:

Figure-7: Trend of ARI, province Punjab



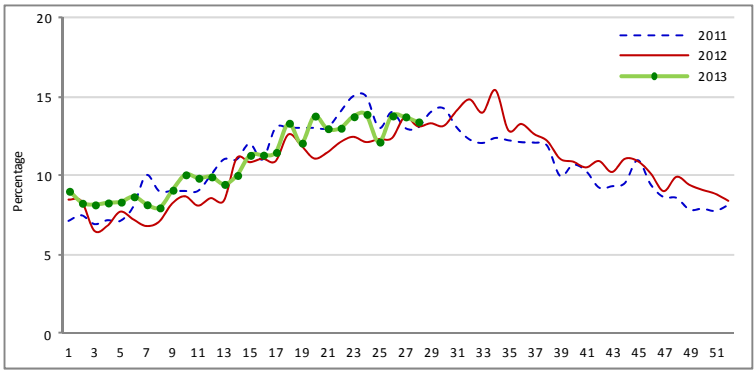
606 health facilities from 14 districts in province Punjab reported to DEWS with a total of 348,714 patients consultations in week 28, 2013. Total 43 alerts were received and appropriate measures were taken.

Altogether 26 alerts were for Measles; 7 for AWD; 4 for Acute diarrhoea; 2 each for Scabies and Typhoid; while 1 each for ARI and Cutaneous Leishmaniasis.

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

Province Balochistan:

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



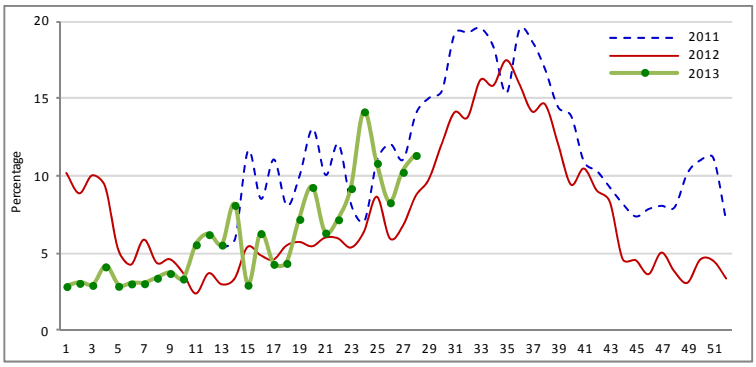
273 health facilities from 13 districts in province Balochistan reported to DEWS with a total of 36,017 patients consultations in week 28, 2013. Total 11 alerts reported and appropriate measures were taken in week 28, 2013.

Altogether 7 alerts were for Measles; while 1 each for AWD, CCHF, Cutaneous Leishmaniasis and Pertussis.

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

Province Gilgit Baltistan:

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



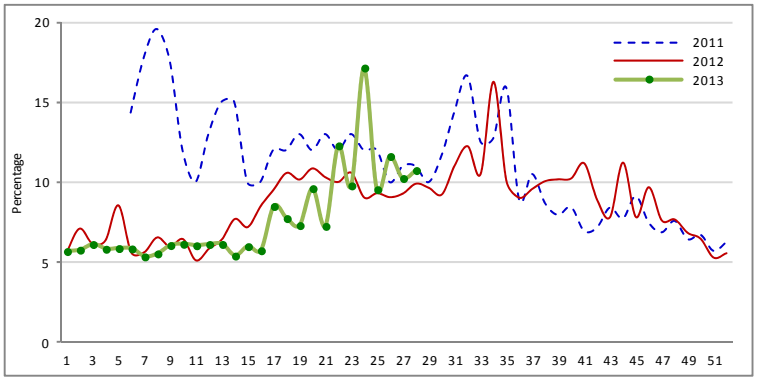
6 health facilities from 3 districts in Gilgit Baltistan reported to DEWS with a total of 609 patients consultations in week 28, 2013.

No alerts for any disease was reported in week 28, 2013.

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

FATA:

Figure-10: Weekly trend of Acute diarrhoea, FATA

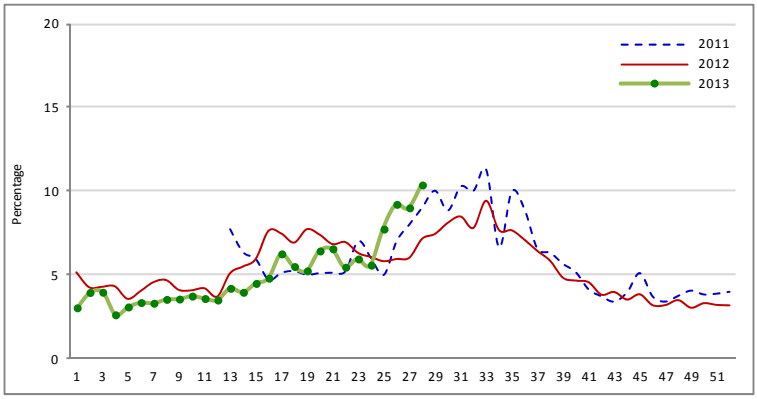


38 health facilities from 3 agencies in FATA reported to DEWS with a total of 11,010 patients consultations in week 28, 2013. 1 alert for Cutaneous Leishmaniasis was reported in week 28, 2013 and appropriate measures were taken.

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



77 health facilities from 8 districts in AJ&K reported to DEWS with a total of 10,227 patients consultations in week 28, 2013.

No alerts or outbreak was received in week 28, 2013.

Weekly trend of AD showing increase this week. Vigilant monitoring of the situation is required.

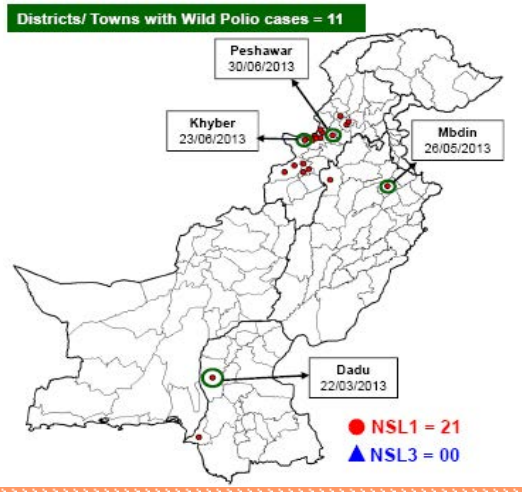
Table-1: Number of alerts and outbreaks reported and investigated with appropriate response

Disease	2012		Current week 28, 2013		2013 (Total up till week - 28)	
	A	O	A	O	A	O
Acute watery diarrhoea	656	193	8	1	67	15
Acute jaundice syndrome	113	22	0	0	17	5
Bloody diarrhoea	146	11	0	0	22	1
CCHF	68	41	1	0	34	19
Dengue fever	175	29	0	0	9	1
Diphtheria	60	16	1	0	24	1
Measles	5922	812	65	7	2608	256
Pertussis	366	147	1	1	33	9
NNT + tetanus	560	0	4	0	135	0
Malaria	136	68	0	0	14	2
Cutaneous Leishmaniasis	900	78	4	0	417	43
Others	1529	58	9	0	241	3
Total	10631	1475	93	9	3621	355

Distribution of Wild Polio Virus cases Pakistan 2012 and 2013

- In week 28, 2013, 3 new wild polio cases (type-1) were reported in the country; 2 from Federally Administered Tribal Areas (Khyber and North Waziristan Agencies) and 1 from Khyber Pakhtunkhwa (Peshawar district) bringing the total number of polio cases to 21 in 2013 (compared to 27 during the same time period last year) from 11 districts/towns/ tribal agencies /areas (compared to 15 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	-	-	5	-	-
FATA	17	2	1	12	-	-
Balochistan	4	-	-	-	-	-
AJ&K	-	-	-	-	-	-
Gilgit-Baltistan	1	-	-	-	-	-
Islamabad	-	-	-	-	-	-
Total	55	2	1	21	-	-

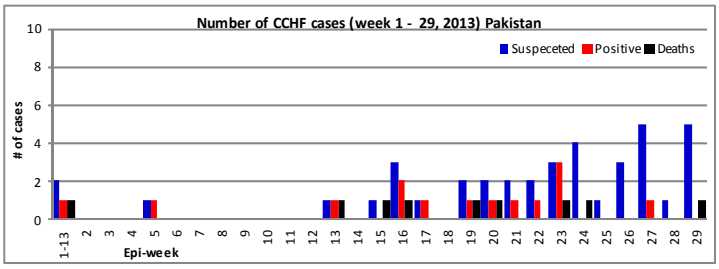


Follow up of CCHF

In last 2 weeks (week 28 and ongoing week 29), 2013, 5 suspected and 1 positive CCHF cases were reported. 4 suspected cases including 1 death were from province Balochistan 2 each from districts Quetta and Pishin; while 1 suspected case belongs to Afghanistan (admitted in hospital in Quetta). All the cases having history of contacts with animals at home and their products (Boucher by profession). All the laboratory results were awaiting. And 1 positive CCHF case reported from district Karachi, province Sindh , a 50 years old female patient found with history of contact with animals at home. Total 40 suspected, 14 confirmed CCHF cases and 9 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 15 July.

Province	District	2012			2013		
		Suspected	Lab confirmed	Deaths	Suspected	Lab confirmed	Deaths
Balochistan	Quetta	38	23	7	31	8	6
	Pishin	-	-	-	2	-	-
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	2	2	1
Total		**62**	**41**	**18**	**40**	**14**	**9**

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 28 (13 July 2013).

Province	2012 (Week 1 - 52)				2013 (Up till week 28)			
	# of Alerts	# of Outbreaks	# of Cases	# of Deaths	# of Alerts	# of Outbreaks	# of Cases	# of Deaths
AJ&K	165	6	268	0	205	11	398	1
Balochistan	447	119	1816	31	300	54	1180	47
FATA	211	31	559	13	66	12	188	4
Gilgit Baltistan	40	1	54	0	11	1	22	0
ICT	27	2	63	0	44	2	146	1
Khyber Pakhtunkhwa	1989	108	3542	38	900	77	1809	20
Punjab	809	40	1329	16	968	71	7961	91
Sindh	2234	505	7353	212	114	28	3376	148
Total	5922	812	14984	310	2608	256	15080	312

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 28, 2013