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Muzaffarabad: WHO surveillance officer during field investigation at district Neelum  
Picture credit: Naeem



## Highlights

- There were 124 cases of bloody diarrhoea reported during this week 4, 2008.
- During the week Malaria cases increased by 36% from last week (W3=95 & W4=129)
- Acute diarrhoea cases decreased this week from 3,349 to 3,034 cases.
- There was 1 suspected case of acute flaccid paralysis reported from Mansehra district
- There was one suspected case of Human Avian Influenza reported from Mansehra district, the result was negative and the patient is stable.

The Weekly Morbidity and Mortality Report (WMMR) is published by the Ministry of Health of Pakistan (MOH) and the World Health Organization (WHO). The WMMR is built on surveillance data that health service providers and NGOs transmit on a weekly basis from health facilities and hospitals in those areas affected by the earthquake that struck Pakistan on 8 October 2005.

The WMMR objectives are to monitor the trend of health conditions over a period of time and provide vital information to all health partners. The WMMR is only a snapshot of the health conditions in those facilities where events are registered and data collected and does not necessarily reflect the situation from other health facilities.

The WMMR is a publication that has been developed for emergencies and previously used in other areas such as the Darfur Crisis.

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WHO Webpage: <http://www.whopak.org/disaster>

## Reporting Units

The total number of sites reporting to DEWS system in the earthquake affected areas remains 335, out of which 265 (79%) sent their surveillance data on time during the epidemiological week 04 (19 to 25 Jan 2008). District Neelum reports have not reached due to road block after heavy rain and snow fall. See table 1, which summarises the statistics for the last four weeks.

Table1. Reported health facilities by district, Earthquake Affected Areas, Pakistan, 29 Dec 2007 to 25 Jan 2008.

Area	Population	Reporting Health Facilities			
		29Dec 07-4Jan 08	5-11 Jan 08	12-18 Jan 08	19-25 Jan 08
		Week-01	Week-02	Week-03	Week-04
Bagh	452,532	37	36	36	38
Battagram	592,256	33	33	30	31
Mansehra	1,154,804	59	59	57	59
Muzaffarabad	770,000	73	54	58	69
Neelum	184,000	14	7	10	0
Poonch	633,712	63	65	55	68
<b>Total</b>	<b>3,727,668</b>	<b>279(83%)</b>	<b>254(76%)</b>	<b>246(73%)</b>	<b>265(79%)</b>

## Total number of consultations

The total number of units reporting increased by 6% this week (from 246 units last week to 265 units this week); and the total number of consultations reported through DEWS system were increased from 56,646 last week to 59,146 this week. The law and order situations in districts are now calm, but there were some road blockage in some districts due to heavy rain and snow fall, which effects negatively on reporting. It is expected that the number of reporting units will return to a normal level in following weeks. The weekly trend of reporting units participating in the DEWS and the number of consultations is shown in figure 1.

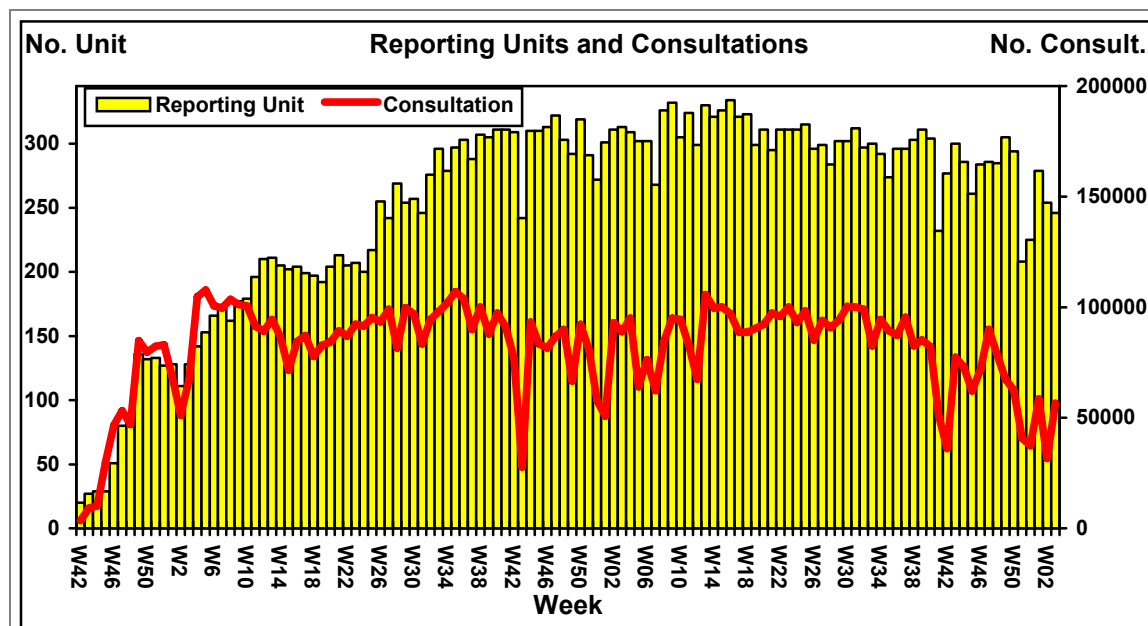


Figure 1. Weekly trend of reporting units and total number of consultations, Earthquake Affected Areas, Pakistan, 15 October 2005 – 25 Jan 2008.

**DEWS Data, Epidemiological Week No. 04, 2008**

During epidemiological week 04 (19 to 25 Jan, 2008), **59,146** consultations were reported through DEWS system. Consultations in patients under five years of age made up to **21%** of the total, consultations in children (five to fourteen years) made up to **21%**, in adults (fifteen to forty-four years) **40%** and **18%** in adults (forty-five years and over). Rates of upper respiratory tract infections (URTI) and lower respiratory infection (LRTI) both were higher in children (both age groups under fifteen). Acute diarrhoea (AD) had the highest rate in children less than five years of age (9%) and the lowest in adults of 15-44 years of age group. Scabies had a similar rate across all age groups (range 3% – 5%). All other diseases under surveillance not shown in the charts accounted for less than one percent of all consultations. See Figure 2.

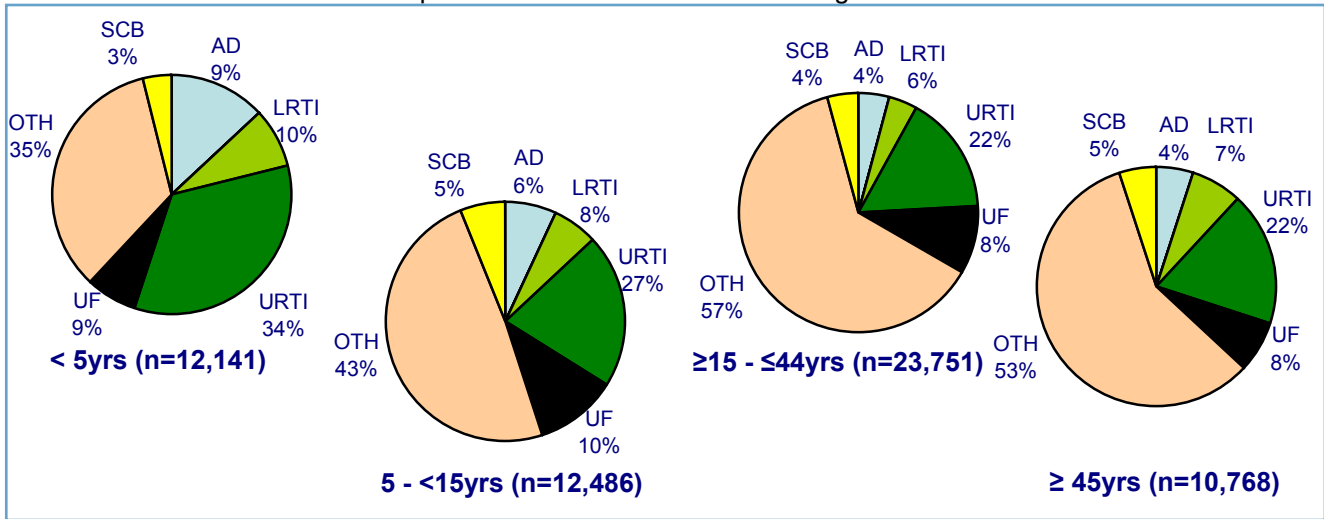


Figure 2. Proportion of primary causes for all reported cases, Earthquake Affected Areas, Pakistan, 19 –25 Jan 2008. \*OTH includes all other reportable conditions, plus all other consultations for conditions not under surveillance

During week 04 (19 to 25 Jan, 2008), **59,146** consultations were reported through DEWS, out of which 47% (27,821) of consultations were of male and 53% (31,325) were of female patients. The distribution of consultations by age and gender are very similar. In all ages and both gender the most common reason for consultation in the diseases under surveillance was upper respiratory tract infection (URTI) at 25% (15,058) of total consultations. Lower respiratory infection (LRTI) was the next most common disease under surveillance to be reported, at 7% of total consultations, followed by acute diarrhoea (AD) at 5% of all consultations. See Figure 3.

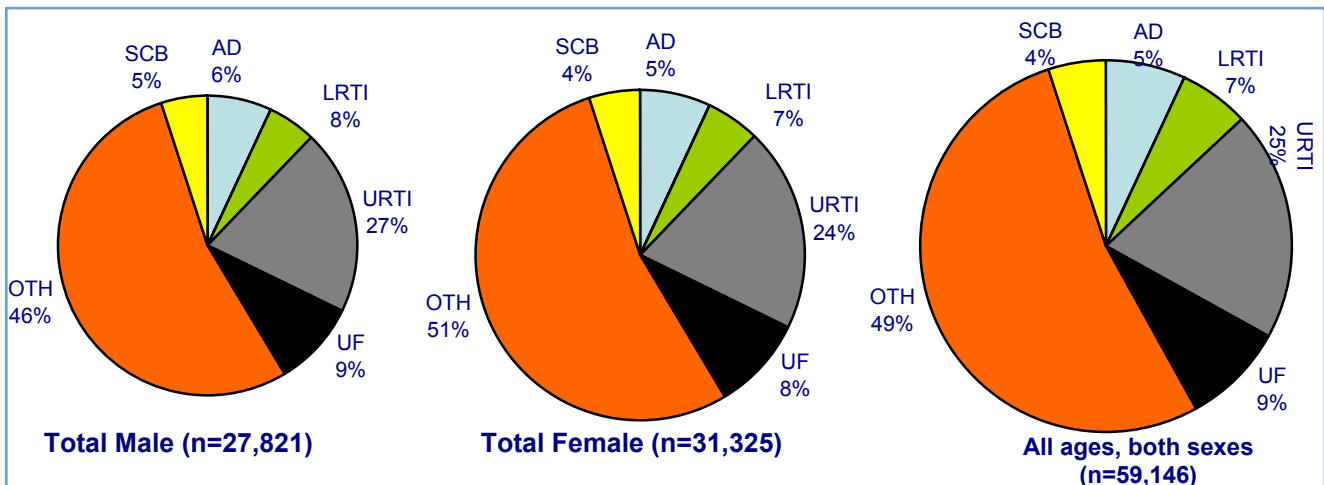


Figure 3. Proportion of primary causes for all reported cases, Earthquake Affected Areas, Pakistan, 19 –25 Jan 2008. \*OTH includes all other reportable conditions, plus all other consultations for conditions not under surveillance

**Week No. 04, 2008: Consultations by gender**

In week 04, there were 3,034 acute diarrhoea cases reported, out of which 1,599 cases were male and 1,435 cases were female. From week 1 to week 3 of 2008, the ratio of acute diarrhoea has increased in both genders but in week 4 it decreased. In the last four weeks the ratio of acute diarrhoea in males has been consistently higher than in females. See Figure 4.

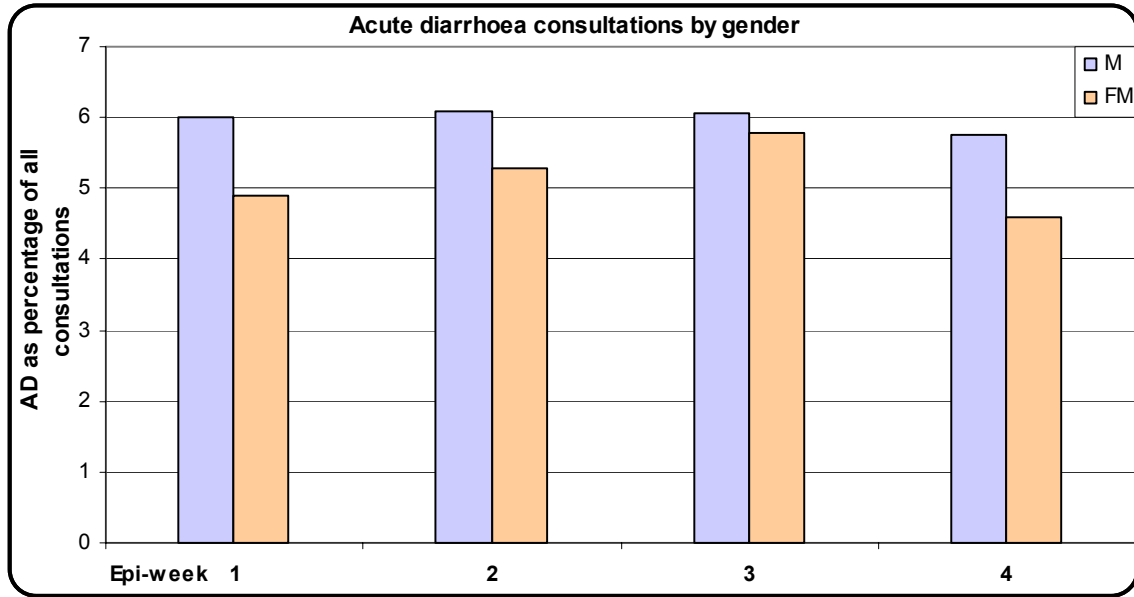


Figure 4: Acute diarrhoea as percentage of all consultations by gender, Earthquake Affected Areas, Pakistan, 29 Dec2007 to 25 Jan 2008

**DEWS Data, Epidemiological Week No. 4, 2008: Consultations by age**

When consultations are divided by age group, children less than 5 years of age group make up 21% of all consultations and 21% represent the five to fourteen years of age group. Adults of reproductive age make up 40% of consultations while 18% made up by older adults. See Figure 5.

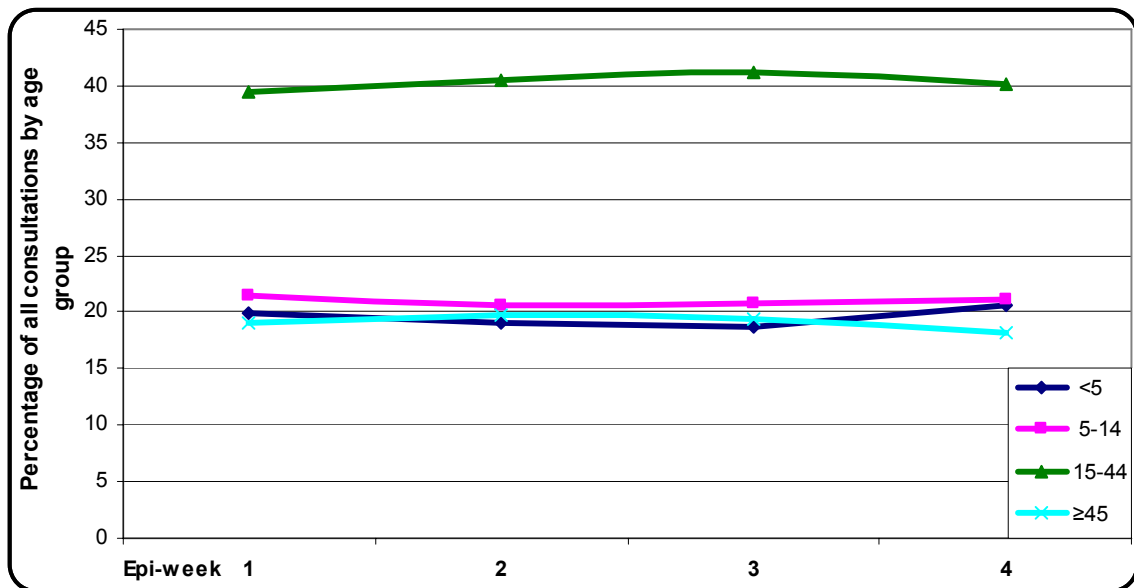


Figure 5: Total consultations by age group, Earthquake Affected Areas, Pakistan, 29 Dec2007 to 25 Jan 2008

**DEWS Data, (Epidemiological Weeks No. 1 – 4, 2008)**

During the period 29 Dec, 2007 to 25 Jan, 2008 (Epidemiological weeks 1 to 4, 2008 inclusive), 104,184 consultations relating to health conditions under surveillance were reported, out of the total of 207,275 consultations. **25%** (51,548) of consultations were due to upper respiratory infection (**URTI**), **8%** (16,7748) due to unexplained fever (**UF**), **7%** (14,606) lower respiratory infection, **6%** (11,427) acute diarrhoea (**AD**), and **4%** (8,915) due to scabies (**SCB**).

Table 2. Comparison of the weekly distribution of reported cases, deaths and monthly Case Fatality Rate (CFR), Earthquake Affected Areas, Pakistan, 29Dec 2007 – 25 Jan 2008.

Week Event	WEEK 01		WEEK 02		WEEK 03		WEEK 04		TOTAL		CFR%
	C	D	C	D	C	D	C	D	C	D	
AD	3170	0	1874	0	3349	0	3034	2	11427	2	0.021
AFP	2	0	2	0	2	0	1	0	7	0	0.000
AJS	5	0	4	0	7	0	7	0	23	0	0.000
BD	159	0	77	0	109	0	124	0	469	0	0.000
LRTI	3422	1	2847	3	3958	8	4379	6	14606	18	0.123
MAL	114	0	100	0	95	0	129	0	438	0	0.000
MG	0	0	1	0	0	0	0	0	1	0	0.000
MS	0	0	1	0	0	0	0	0	1	0	0.000
NNT	0	0	1	0	0	0	0	0	1	0	0.000
OTH	29918	6	16084	15	28364	8	28725	15	103091	44	0.043
SC	0	0	0	0	0	0	0	0	0	0	0.000
SCB	2597	0	1674	0	2016	0	2628	0	8915	0	0.000
UF	4476	0	2111	0	5100	0	5061	0	16748	0	0.000
URTI	14659	0	8185	0	13646	0	15058	1	51548	1	0.002
Total Cons.	58522	7	32961	18	56646	16	59146	24	207275	65	
RU	279		247		246		265				

There was a decrease in the number of acute diarrhoea (AD) cases from 3,349 to 3,034 since week 03 of 2008. There was an increase in the lower respiratory infection cases from 3,958 to 4,379 and URTI cases increased from 13,646 to 15,058 since last week. The weekly proportion of ARI (URTI plus LRTI) and AD is shown in figure 6.

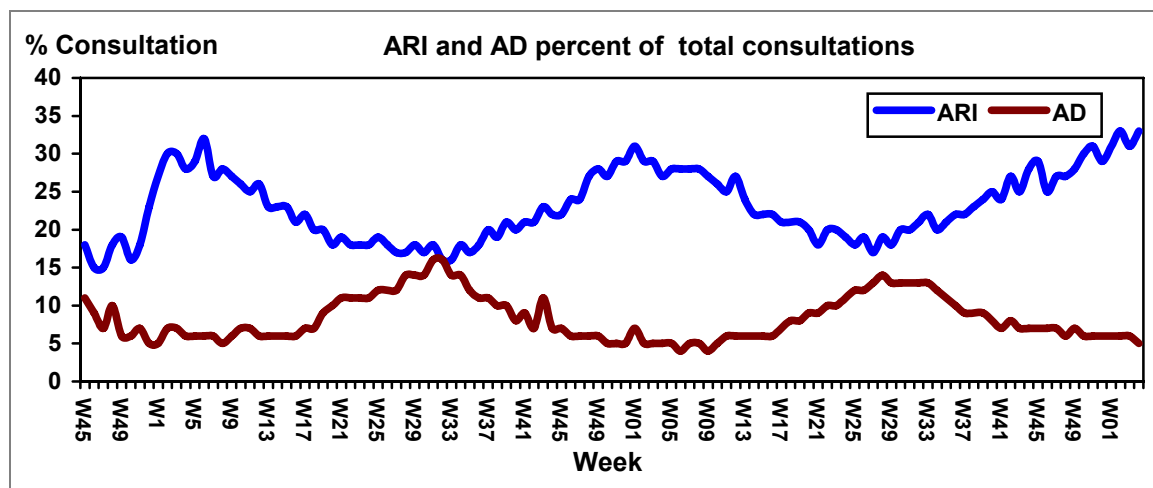


Figure 6. Weekly trend of percent of consultations for ARI and AWD, Earthquake Affected Areas, Pakistan, 15 October 2005 – 25 Jan 2007.

**Acute Diarrhoea and suspected Cholera**

During week 4 of 2008, there were 3,034 cases (5% of total consultations in current week) of AD reported, out of which 1,048 cases were in patients less than 5 years of age group, 731 in patients 5 – 14 years old, 856 in patients 15 – 44 years of age and 399 in patients 45 years and over age group. There was one death reported from Muzaffarabad district. There were no cases of suspected cholera reported from any district. The rate of acute diarrhoea differs by age group, with the highest rate seen in patients less than 5 years of age group, while adults 15-44 years of age group have lowest rate. In the last four weeks, the trend in the disease shows to be decreasing in all age groups. See Figure 7.

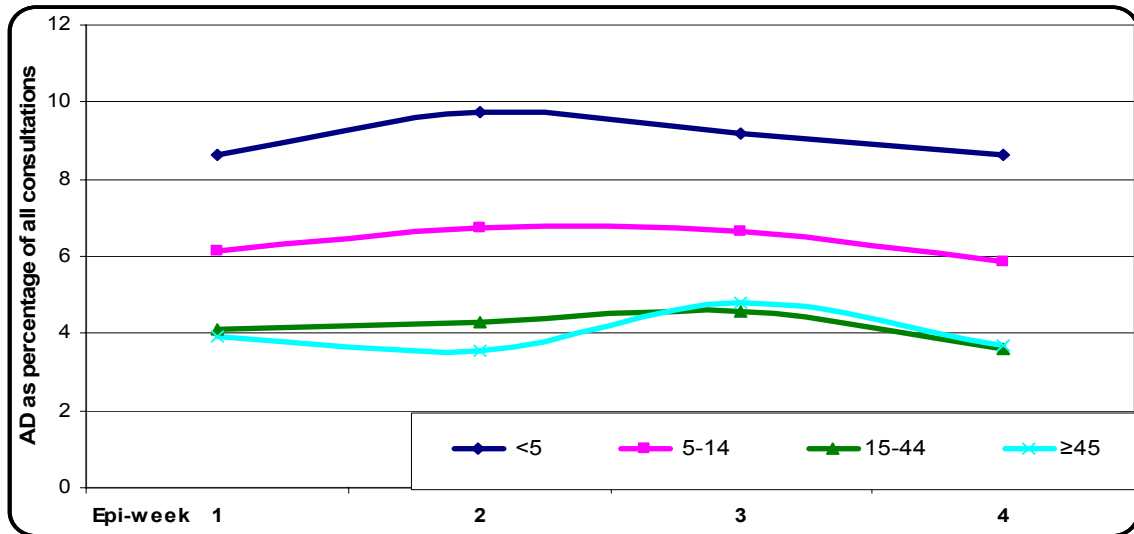


Figure 7: Trend in Acute diarrhoea as a percent of all consultations, by age group, Earthquake Affected Areas, Pakistan, 29 December 2007 to 25 January 2008

**Bloody Diarrhoea**

During week 04 of 2008, there were 124 cases of bloody diarrhoea reported. There were no associated deaths reported from any district. The rate of bloody diarrhoea differs considerably by age group, with the highest rate seen in patients 5-14 years age group, while older adults having lowest rate. See Figure 8.

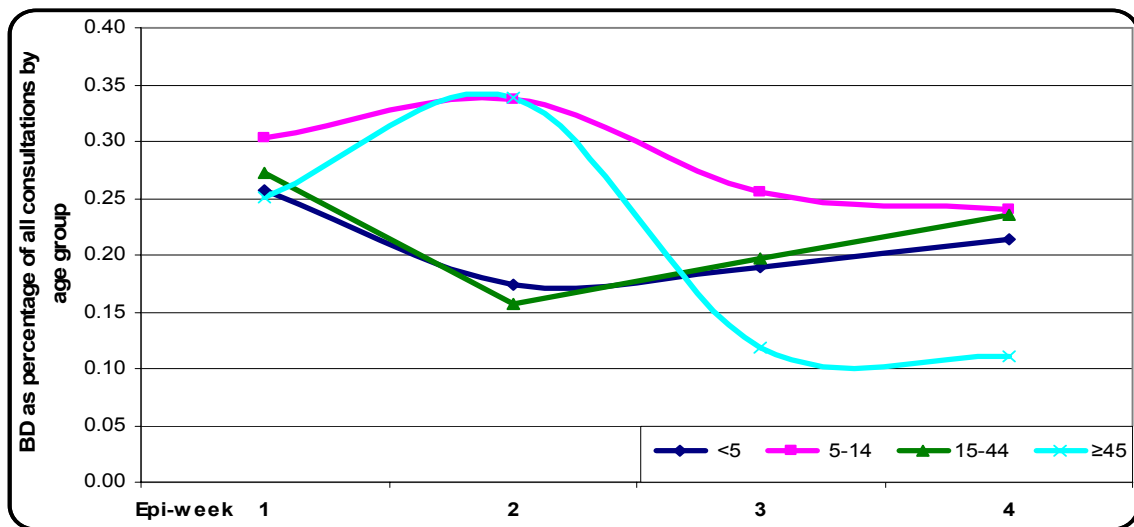


Figure 8: Bloody Diarrhoea percentage of all consultations, by age group, Earthquake Affected Areas, Pakistan, 29 Dec 07 to 25 Jan 2008

**Acute Jaundice Syndrome**

In week 04 of 2008, there were 7 cases of suspected hepatitis reported, out of which 6 cases were reported from Battagram district, while 1 case reported from Bagh district. There was no associated death reported from any district. There were no suspected hepatitis cases reported from Muzaffarabad, Mansehra and Poonch district. See figure 9.

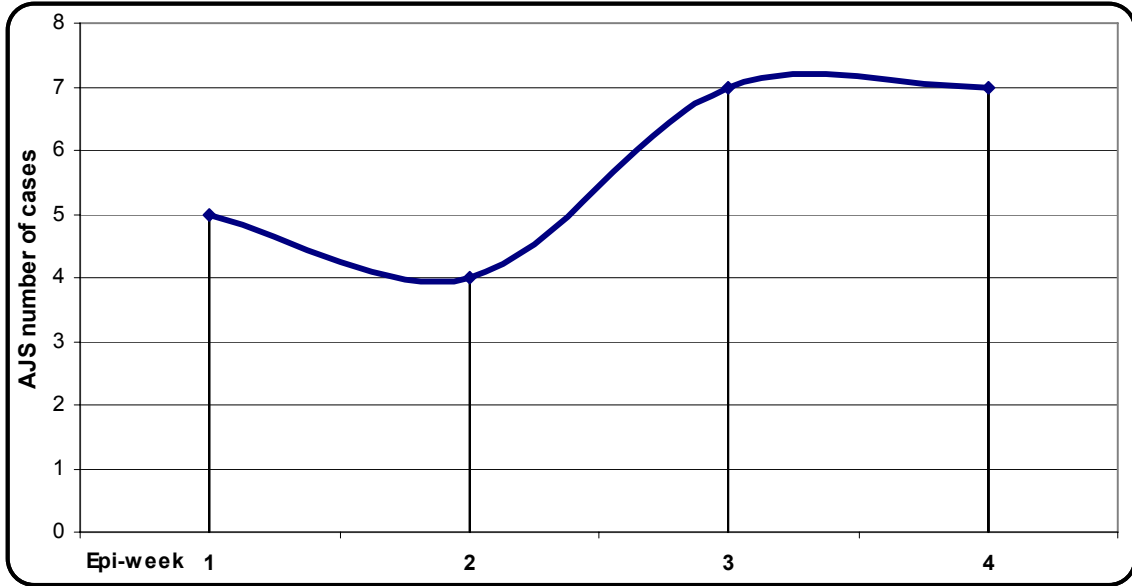


Figure 9: Acute jaundice syndrome number of cases, Earthquake Affected Areas, Pakistan, 29 Dec 2007 to 25 January 2008

**Malaria**

In week 4 of 2008, there were 129 suspected cases of malaria reported. There were no associated deaths reported from any district. District Poonch have highest rate of suspected malaria. District Bagh, Poonch, and Muzaffarabad have seen minor increasing in suspected malaria cases in this week. See figure 10.

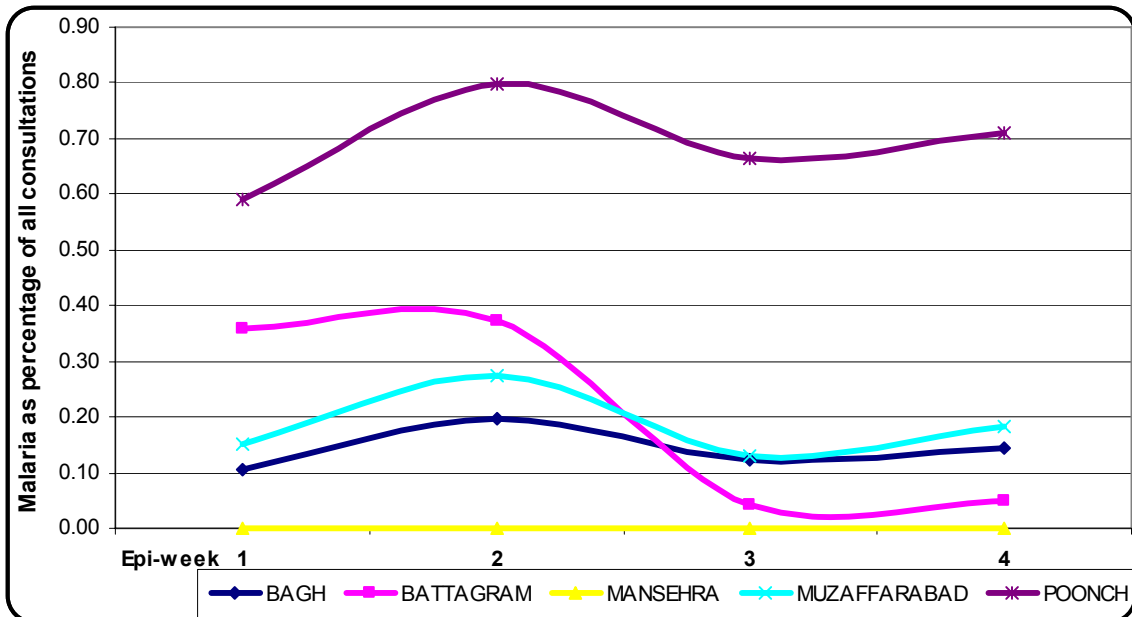


Figure 10: Malaria percentage of all consultations by district, Earthquake Affected Areas, Pakistan, 29 Dec 2007 to 25 January 2008

**Measles**

In this week, there was no suspected case of measles reported from any district. In the last three months there have been 6 suspected measles cases reported and there was only one suspected measles case reported since last seven weeks. However, when compared to the trends in the last year, the weekly number of cases reported is still comparatively low. See Figure 11.

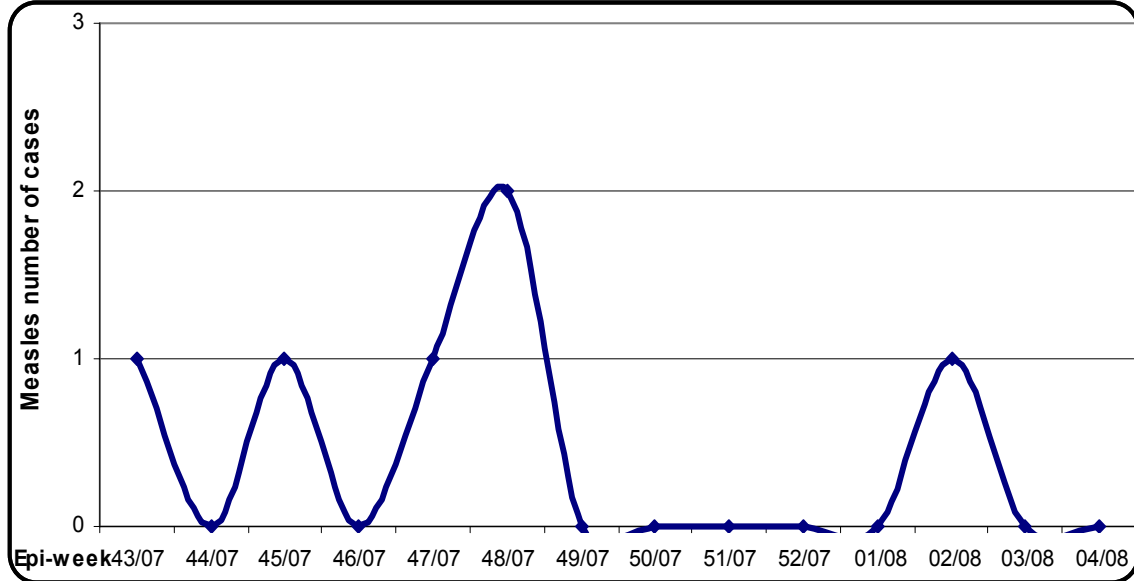


Figure 11: Trend in measles number of cases, Earthquake Affected Areas, Pakistan, 20 October 2007 – 25 January 2008.

**Upper Respiratory Infection and Lower respiratory Infection:**

In week 4 of 2008, there were 4,379 consultations for Acute Lower Respiratory Infections and 15,058 cases of Upper Respiratory Infections reported through the DEWS system. Graph shows minor increasing in both LRTI and URTI consultations in this week. See Figure 12.

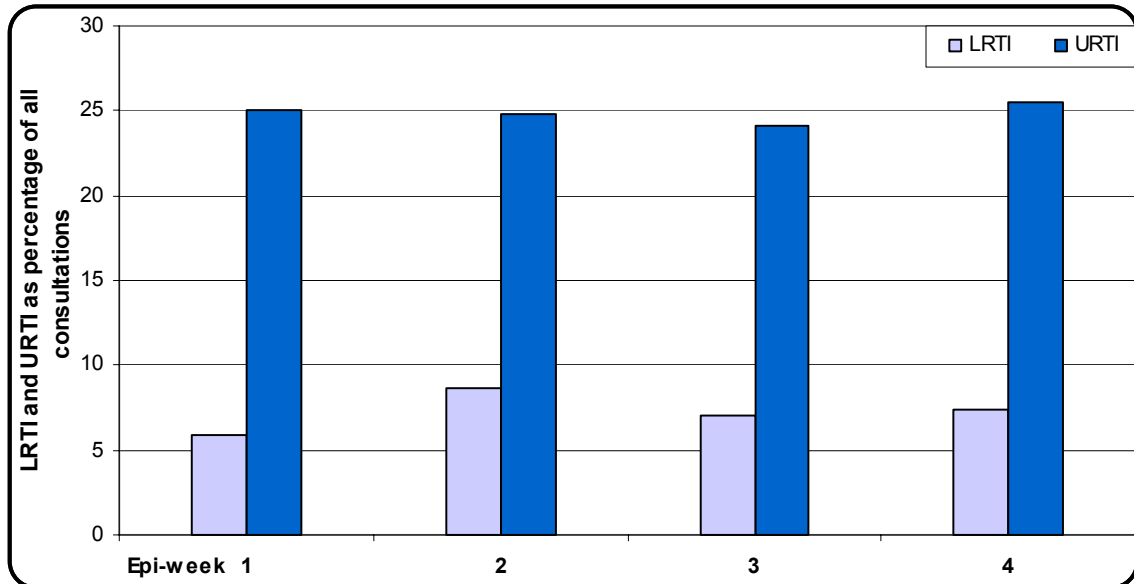


Figure 12: LRTI and URTI as percentage of all consultations, Earthquake Affected Areas, Pakistan, 29 Dec 2007 to 25 January 2008

**Other Conditions under Surveillance:**

There were 2,628 cases of scabies and 5,061 cases of unexplained fever reported in this week, with no associated deaths reported from any district. There were no suspected cases of hemorrhagic fever or neonatal tetanus reported from any district. The rate of scabies increased 30% from last week, but this increase is not focus on any specific district. See Figure 13.

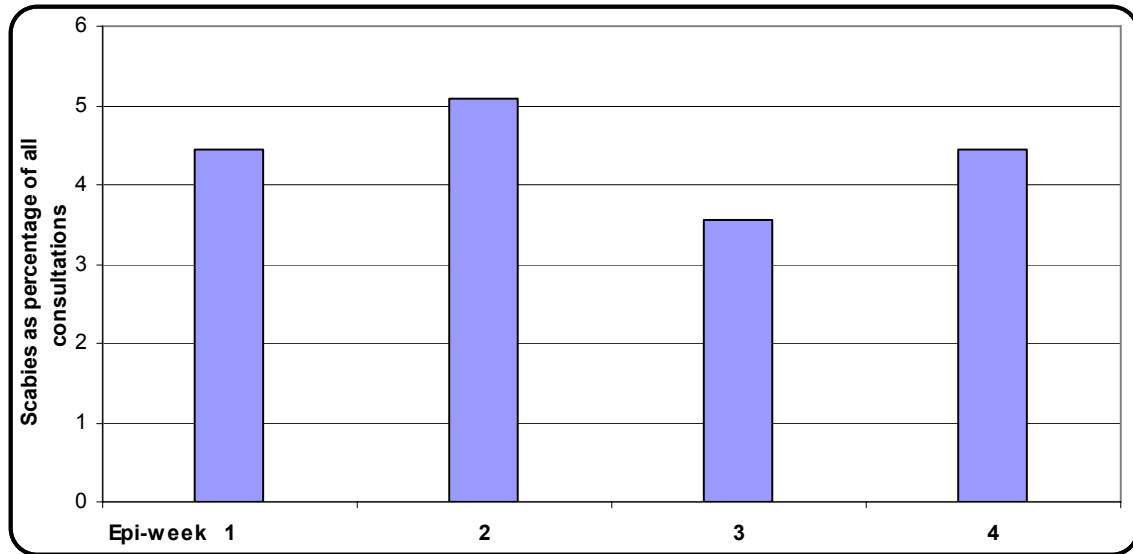


Figure 13: Scabies as a percent of all consultations, Earthquake Affected Areas, Pakistan, 29 Dec 2007 to 25 January 2008

## Outbreak Alert and Response<sup>1</sup>

### Mansehra

#### Acute Flaccid Paralysis

One suspected case of AFP reported from DHQ hospital, Mansehra; the patient was a 27 month old female resident of Behali, Mansehra came to hospital with the complaints of mild weakness in both legs with duration of last two days, no history of fever and trauma. The patient was vaccinated; one stool sample was taken by WHO Polio team and sent to NIH for laboratory confirmation.

#### Human Avian Influenza

One suspected case of human avian influenza reported by AMC hospital, Abbottabad. The patient was an 18 year old female student nurse had the signs and symptoms of flu and fever with duration of last three days. The patient performed duty in private ward when suspected human cases were admitted in the isolation rooms on 7<sup>th</sup> and 14<sup>th</sup> December 2007. The blood and throat samples was taken and sent to NIH for laboratory confirmation and the result was negative for human avian influenza.

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<sup>1</sup> Outbreak Investigation and response of Suspected Viral Hepatitis, Malaria, and Bloody Diarrhoea and Watery Diarrhoea would only take place when a cluster of cases is identified or there is an increase in the incidence of the disease.  
(Note: Single death due to Diarrhoea and single case of reported severe dehydration among >5 years would be investigated)

**Number of reported cases and deaths per District, AJK**Table 3. Number of reported cases and deaths, **Bagh District\***, Earthquake Affected Areas, Pakistan, 29 Dec 07 - 25 Jan 08.

Week	AD		SC		BD		AFP		LRTI		URTI		MAL		MS		MG		AHF		SCB		UF		AJS		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
01	256	0	0	0	9	0	0	0	155	0	1935	0	10	0	0	0	0	0	0	0	389	0	188	0	0	0	6410	1
02	235	0	0	0	5	0	0	0	131	0	1129	0	11	0	0	0	0	0	0	0	281	0	127	0	1	0	3701	5
03	263	0	0	0	16	0	0	0	248	0	2060	0	12	0	0	0	0	0	0	0	340	0	258	0	0	0	6594	0
04	385	0	0	0	16	0	0	0	210	0	2321	0	15	0	0	0	0	0	0	0	347	0	203	0	1	0	6920	2
<b>Total</b>	<b>1139</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>46</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>744</b>	<b>0</b>	<b>7445</b>	<b>0</b>	<b>48</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1357</b>	<b>0</b>	<b>776</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>23625</b>	<b>8</b>

Table 4. Number of reported cases and deaths, **Poonch District\***, Earthquake Affected Areas, Pakistan, 29 Dec 07 - 25 Jan 08.

Week	AD		SC		BD		AFP		LRTI		URTI		MAL		MS		MG		AHF		SCB		UF		AJS		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
01	663	0	0	0	3	0	0	0	1042	0	2481	0	57	0	0	0	0	0	0	0	585	0	1065	0	0	0	3746	2
02	409	0	0	0	3	0	0	0	746	0	1804	0	55	0	0	0	0	0	0	0	361	0	850	0	0	0	2660	2
03	524	0	0	0	9	0	0	0	885	0	2245	0	56	0	0	0	0	0	0	0	389	0	952	0	0	0	3389	1
04	681	0	0	0	10	0	0	0	839	0	2858	1	75	0	0	0	0	0	0	0	540	0	1013	0	0	0	4567	3
<b>Total</b>	<b>2277</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3512</b>	<b>0</b>	<b>9388</b>	<b>1</b>	<b>243</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1875</b>	<b>0</b>	<b>3880</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14362</b>	<b>8</b>

Table 5. Number of reported cases and deaths, **Muzaffarabad District\***, Earthquake Affected Areas, Pakistan, 29 Dec 07 - 25 Jan 08.

Week	AD		SC		BD		AFP		LRTI		URTI		MAL		MS		MG		AHF		SCB		UF		AJS		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
01	1064	0	0	0	82	0	0	0	1502	0	5140	0	26	0	0	0	0	0	0	0	635	0	2012	0	0	0	6658	0
02	441	0	0	0	27	0	1	0	963	0	2080	0	20	0	1	0	0	0	0	0	281	0	218	0	2	0	3234	6
03	1694	0	0	0	38	0	1	0	2223	1	5532	0	25	0	0	0	0	0	0	0	459	0	2662	0	1	0	7938	4
04	1076	1	0	0	48	0	0	0	2557	3	5382	0	36	0	0	0	0	0	0	0	643	0	2744	0	0	0	7374	7
<b>Total</b>	<b>4275</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>195</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>7245</b>	<b>4</b>	<b>18134</b>	<b>0</b>	<b>107</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2018</b>	<b>0</b>	<b>7636</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>25204</b>	<b>17</b>

**Number of reported cases and deaths per District, NWFP**Table 6. Number of reported cases and deaths, **Battagram District\***, Earthquake Affected Areas, Pakistan, 29 Dec 07 - 25 Jan 08.

Week	AD		SC		BD		AFP		LRTI		URTI		MAL		MS		MG		AHF		SCB		UF		AJS		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
01	605	0	0	0	44	0	0	0	205	0	1472	0	21	0	0	0	0	0	0	0	306	0	384	0	3	0	2838	0
02	357	0	0	0	25	0	1	0	277	0	876	0	14	0	0	0	0	0	0	0	153	0	323	0	1	0	1739	1
03	459	0	0	0	43	0	0	0	219	0	1324	0	2	0	0	0	0	0	0	0	213	0	365	0	6	0	2292	0
04	549	0	0	0	49	0	0	0	302	0	1764	0	3	0	0	0	0	0	0	0	432	0	371	0	6	0	2589	0
<b>Total</b>	<b>1970</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>161</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1003</b>	<b>0</b>	<b>5436</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1104</b>	<b>0</b>	<b>1443</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>9458</b>	<b>1</b>

Table 7. Number of reported cases and deaths, **Mansehra District\***, Earthquake Affected Areas, Pakistan, 29 Dec 07 - 25 Jan 08.

Week	AD		SC		BD		AFP		LRTI		URTI		MAL		MS		MG		AHF		SCB		UF		AJS		OTH	
	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D	C	D
01	411	0	0	0	9	0	2	0	274	1	3024	0	0	0	0	0	0	0	0	0	628	0	813	0	2	0	8758	5
02	347	0	0	0	1	0	0	0	566	3	1888	0	0	0	0	0	1	0	0	0	536	0	575	0	0	0	4282	6
03	406	0	0	0	3	0	1	0	383	7	2485	0	0	0	0	0	0	0	0	0	615	0	863	0	0	0	8151	5
04	342	1	0	0	1	0	1	0	470	3	2732	0	0	0	0	0	0	0	0	0	666	0	727	0	0	0	7269	3
<b>Total</b>	<b>1506</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>1693</b>	<b>14</b>	<b>10129</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2445</b>	<b>0</b>	<b>2978</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>28460</b>	<b>19</b>