

Epidemiological Week No. 12 (17 - 23 Mar)

Mar 28/ Vol. 70/ DEWS 2007-12

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Bagh: Unprotected Water sources can be a danger  
Pictured by: Dr. Musa Rahim / Engr. Imran



## Highlights

- In the past month (Epidemiological weeks 09-12 inclusive), 146,583 health events under surveillance were reported including 68 deaths
- This week, there were 297 (87%) reporting units contributing to the report.
- In week 12, Total 67,285 consultations were reported, with 15 deaths
- This week rate of acute watery diarrhoea has 9% decreased as compare with last week
- The rate of ARI this week is 3 percentage point higher than the rate in week 12 of 2006
- There were no cases of acute flaccid paralysis, tetanus or haemorrhagic fever reported in this week.

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 number of reporting sites able to report decreased by twenty-seven this week. The low reporting rate may be due to heavy rains and landslides in the earthquake affected districts.

See Table 1 for summary statistics.

Table1. Reported health facilities by district, Earthquake Affected Areas, Pakistan, 24 Feb - 23 Mar 2007.

Area	Population	Reporting Health Facilities			
		24 Feb-2 Mar Week-9	3 - 9 Mar Week-10	10-16 Mar Week-11	17-23 Mar Week-12
Muzaffarabad	894,364	104	83	101	83
Bagh	452,532	42	43	42	42
Poonch	633,712	77	77	77	74
Mansehra / Balakot	1,154,804	72	71	70	65
Battagram / Shangla	592,256	35	31	34	33
<b>Total</b>	<b>3,727,668</b>	<b>332(99%)</b>	<b>305(91%)</b>	<b>324(97%)</b>	<b>297(87%)</b>

**Total number of consultations**

In week 12 there was a decrease in the number of reporting sites, and the number of consultations also decreased to 67,285 from 82,749, most likely due to heavy rains and land sliding. The highest number of consultations by district was in Muzaffarabad, with 22,760 and the lowest was in Battagram, at 4,048.

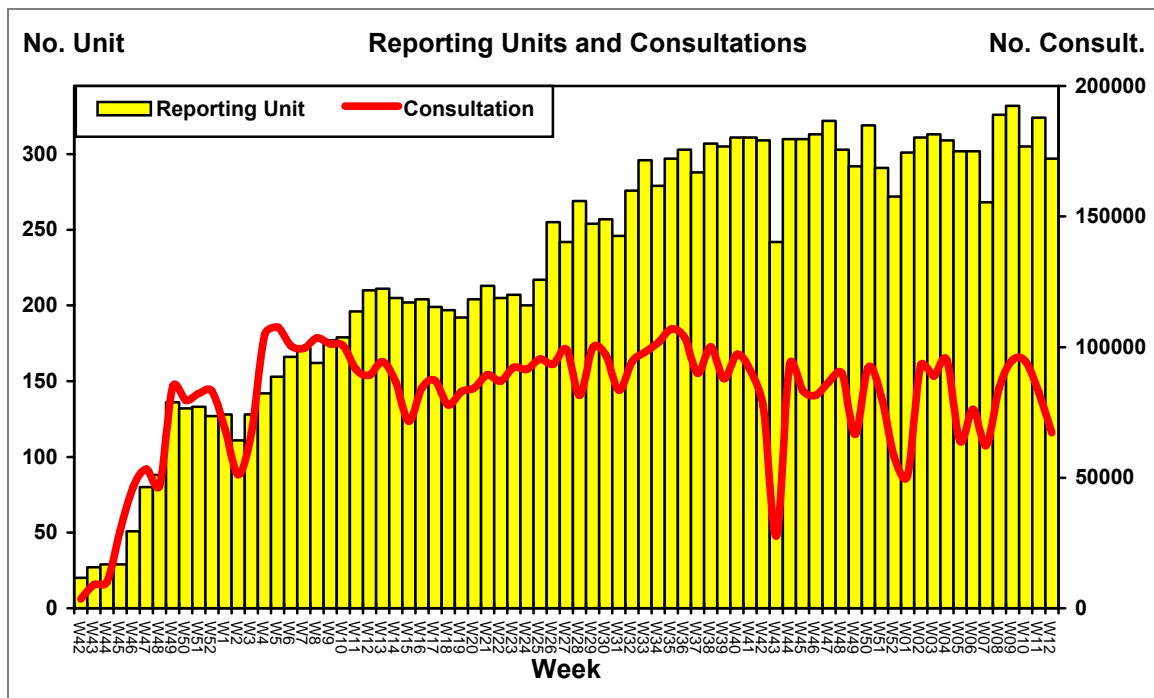


Figure 1. Weekly trend of reporting units and total number of consultations, Earthquake Affected Areas, Pakistan, 15 October 2005 - 23 March 2007.

**DEWS Data, Epidemiological Week No. 11, 2007**

Between 17 - 23 Mar 2007, **67,285** consultations were reported through DEWS. Overall, **27%** (18,273) were due to acute respiratory infections (**ARI**), 3 percentage point higher than the rate in week 12 of 2006. **6%** of consultations (4,294) were due to acute watery diarrhoea (**AWD**), **7%** (4,531) due to fever of unknown origin (**FUO**), and **4%** (2,972) due to injuries (**INJ**). All of these percentages are almost identical to the rate seen in this week last year. **ARI** in patients under five years is 4% higher in week 12 of 2007 when compared to that same age group of week 12 of 2006. At **24%** of consultations in patients 5 or more years old, the rate of ARI is 2% higher in this age group as compare last year. All other reportable conditions each represented less than 1% of the total consultations in week 12.

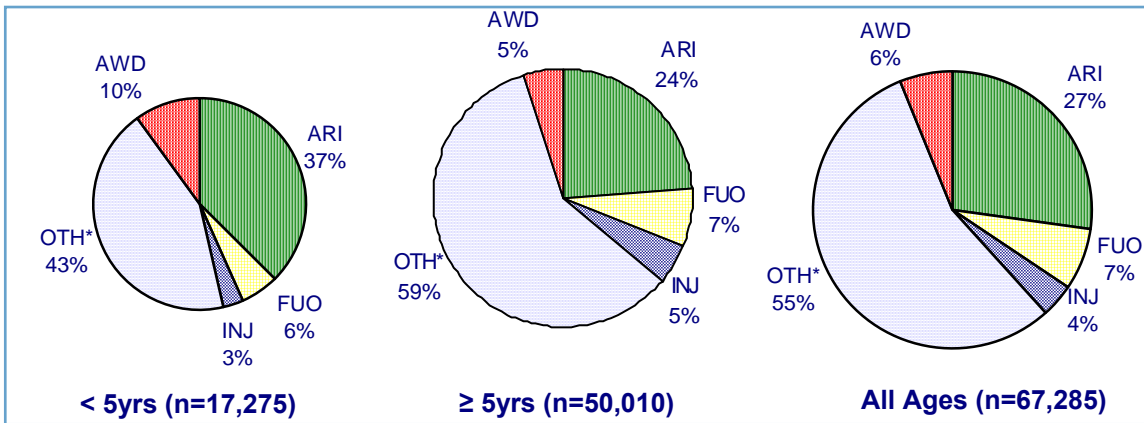


Figure 2. Proportion of primary causes for all reported cases, Earthquake Affected Areas, Pakistan, 17 - 23 March 2007.

\*OTH includes all other reportable conditions, plus all other consultations for conditions not under surveillance

**DEWS Data, Epidemiological Week No. 12, 2007: Consultations by age**

Despite an improvement in the weather in recent weeks, the rate of ARI has remained almost identical, but decrease in patients less than five years, and also decrease in patients five and over. The stability of the rate of ARI throughout the winter is notable. See figure 3.

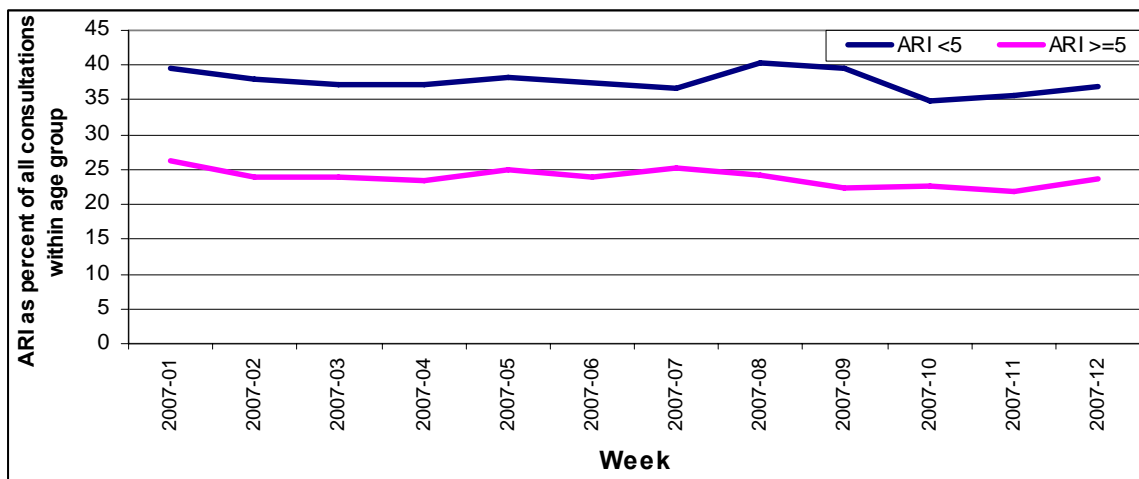


Figure 3: Trend in ARI as a percent of all consultations, by age group, Earthquake Affected Areas, Pakistan, 30 December 2006 – 23 March 2007

**DEWS Data, Monthly Summary (Epidemiological Weeks No. 09-12)**

In the past four weeks between 24 Feb - 23 Mar 2007 (Epidemiological weeks 09-12 inclusive), 146,583 consultations for health conditions under surveillance were reported, out of a total 339,567 consultations. **26%** (88,731) of consultations were due to acute respiratory infection (**ARI**), **5%** (18,005) acute watery diarrhoea (**AWD**), **7%** (23,655) unexplained fever (**FUO**) and **4%** (14,056) Injuries (**INJ**).

Table 2. Comparison of the weekly distribution of reported cases, deaths and monthly Case Fatality Rate (CFR), Earthquake Affected Areas, Pakistan, 24 Feb – 23 March 2007.

Week	WEEK 09		WEEK 10		WEEK 11		WEEK 12		TOTAL		CFR%
Event	C	D	C	D	C	D	C	D	C	D	
<b>AWD</b>	4155	1	4813	0	4743	0	4294	0	18005	1	0.006
<b>BD</b>	307	0	375	0	383	0	253	0	1318	0	0.000
<b>AFP</b>	0	0	0	0	0	0	0	0	0	0	0.000
<b>MAL</b>	175	0	156	0	206	0	168	0	705	0	0.000
<b>ARI</b>	25287	9	24236	5	20935	1	18273	4	88731	19	0.021
<b>MES</b>	0	0	0	0	1	0	0	0	1	0	0.000
<b>MEN</b>	2	1	8	1	7	3	3	1	20	6	30.000
<b>JAU</b>	21	0	30	0	23	0	18	0	92	0	0.000
<b>TET</b>	0	0	0	0	0	0	0	0	0	0	0.000
<b>AHF</b>	0	0	0	0	0	0	0	0	0	0	0.000
<b>FUO</b>	6865	0	6252	0	6007	0	4531	0	23655	0	0.000
<b>INJ</b>	4065	0	3950	1	3069	0	2972	0	14056	1	0.007
<b>OTH</b>	54164	13	54672	10	47375	8	36773	10	192984	41	0.021
<b>TOTAL</b>	<b>95041</b>	<b>24</b>	<b>94492</b>	<b>17</b>	<b>82749</b>	<b>12</b>	<b>67285</b>	<b>15</b>	<b>339567</b>	<b>68</b>	
<b>RU</b>	<b>332</b>		<b>305</b>		<b>324</b>		<b>297</b>				

C – Cases, D – Deaths, AWD - Acute Diarrhoea, BD - Bloody Diarrhoea, AFP - Acute Flaccid Paralysis, MAL – Malaria, ARI - Acute Respiratory Infection, MES – Measles, Men - Meningitis, JAU - Acute Jaundice Syndrome, TET - Neonatal Tetanus, AHF Acute Hemorrhagic Fever, FUO –Unexplained fever, INJ – Injuries, OTH – Others, RU – Reporting Units. Please note data from late reporting in previous weeks has been updated.

During the same reporting period **83,839** consultations were reported in the **less than 5 years old** group, (**25%** of the total consultations), of which **37%** (30,799) were due to **ARI**, **9%** (7,922) due to **AWD**, **8%** (6,502) due to **FUO** and **3%** (2,602) were reported as injuries (**INJ**).

Table 3. Total number of reported cases, deaths and monthly Case Fatality Rate (CFR), less than 5 years old, Earthquake Affected Areas, Pakistan 24 Feb – 23 March 2007.

Week	WEEK 09		WEEK 10		WEEK 11		WEEK 12		TOTAL		CFR%
Event	C	D	C	D	C	D	C	D	C	D	
<b>AWD</b>	1934	1	2107	0	2110	0	1771	0	7922	1	0.013
<b>BD</b>	98	0	120	0	118	0	90	0	426	0	0.000
<b>AFP</b>	0	0	0	0	0	0	0	0	0	0	0.000
<b>MAL</b>	21	0	17	0	19	0	8	0	65	0	0.000
<b>ARI</b>	9069	9	8029	3	7324	1	6377	3	30799	16	0.052
<b>MES</b>	0	0	0	0	0	0	0	0	0	0	0.000
<b>MEN</b>	0	1	3	0	0	1	1	1	4	3	75.000
<b>JAU</b>	2	0	2	0	5	0	3	0	12	0	0.000
<b>TET</b>	0	0	0	0	0	0	0	0	0	0	0.000
<b>AHF</b>	0	0	0	0	0	0	0	0	0	0	0.000
<b>FUO</b>	2078	0	1728	0	1629	0	1067	0	6502	0	0.000
<b>INJ</b>	695	0	827	0	528	0	552	0	2602	0	0.000
<b>OTH</b>	9063	6	10166	2	8872	2	7406	2	35507	12	0.034
<b>TOTAL</b>	<b>22960</b>	<b>17</b>	<b>22999</b>	<b>5</b>	<b>20605</b>	<b>4</b>	<b>17275</b>	<b>6</b>	<b>83839</b>	<b>32</b>	
<b>RU</b>	<b>332</b>		<b>305</b>		<b>324</b>		<b>297</b>				

In the current week, there was a decrease in the number of cases of **AWD** with **4,743** last week and **4,294** this week. In the current week, **ARI** decreased in the total number of cases as compared with the previous week, (**20,935** last week and **18,273** this week). The weekly proportion of ARI and AWD is shown in figure 4.

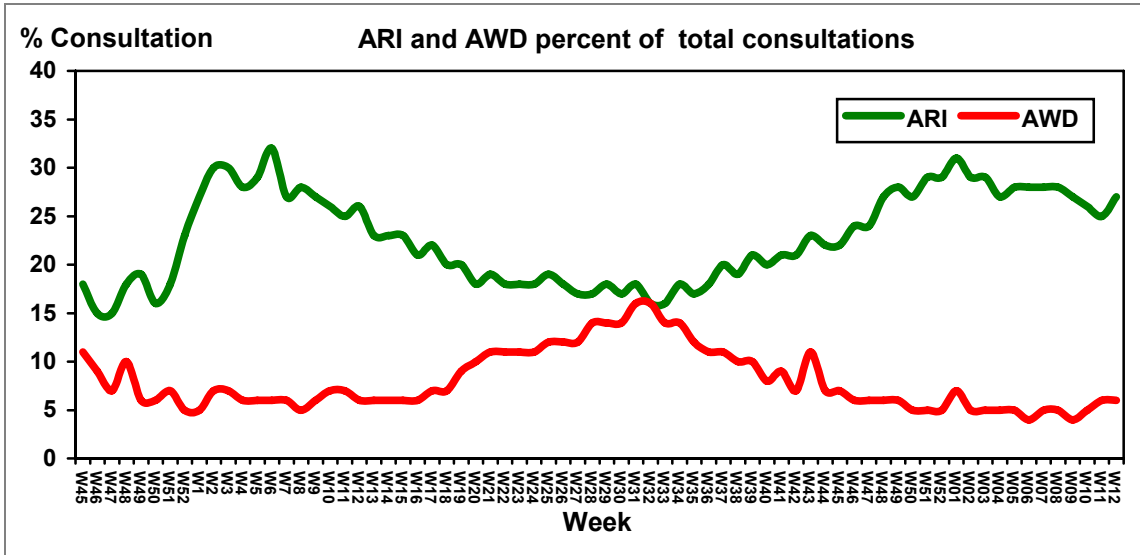


Figure 4. Weekly trend of percent of consultations for ARI and AWD, Earthquake Affected Areas, Pakistan, 5 November 2005 – 23 March 2007.

**Acute Watery Diarrhoea**

In week 12 there were 4,294 cases of AWD reported; a 9% decrease over week 11. There were no associated deaths reported from any district. The rate of AWD in 2007 is less than 1% higher than that of 2006 for most weeks. However, the rate of AWD has been climbing in the past three weeks. See Figure 5.

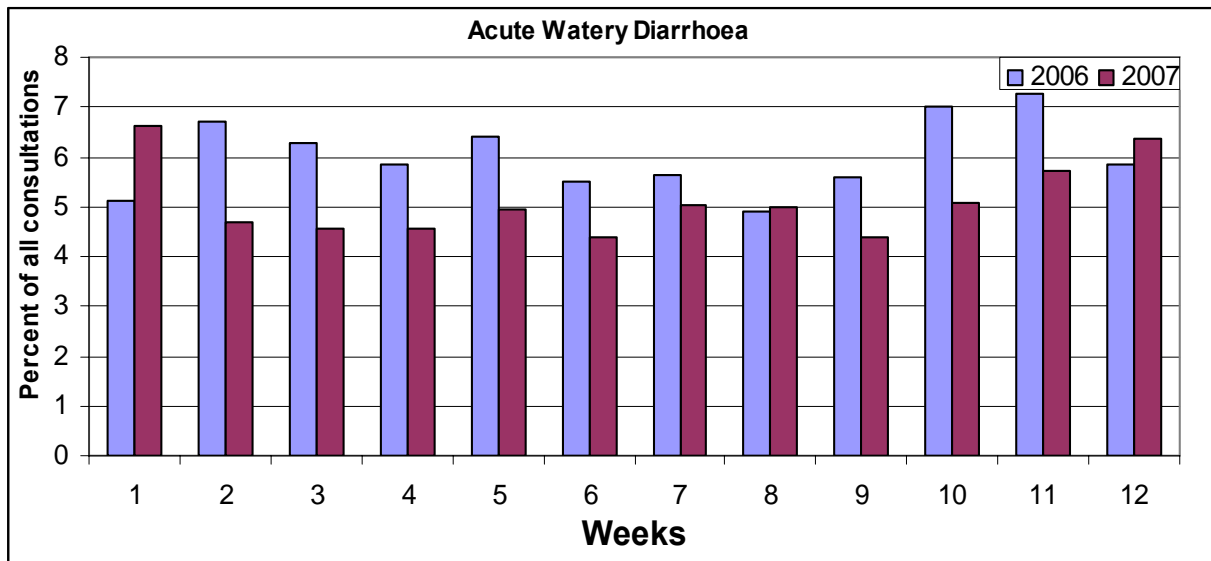


Figure 5: Trend in AWD as a percent of all consultations, 2006 and 2007, , Earthquake Affected Areas, Pakistan, 30 December 2005 – 10 March 2006 and 31 December 2006 – 23 March 2007

**Bloody Diarrhoea**

In week 12, there were 253 cases of bloody diarrhoea reported, a 34% decrease over week 11. There were no associated deaths. The rate of bloody diarrhoea is lower and has less fluctuation in 2007 than in 2006. See figure 6

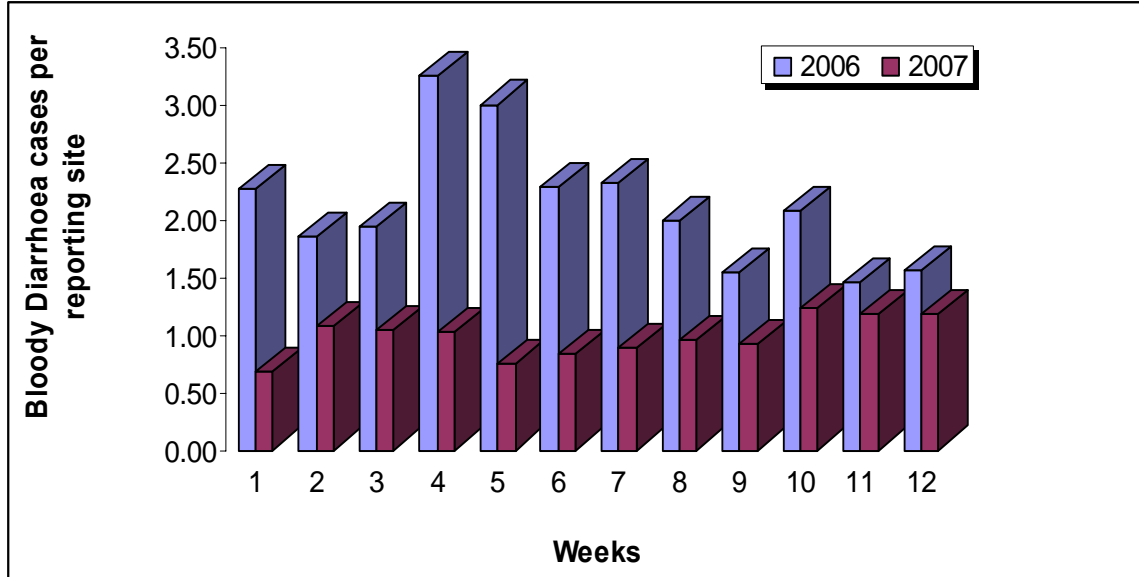


Figure 6: Trend in bloody diarrhoea cases per reporting site, 2006 and 2007, Earthquake Affected Areas, Pakistan, 31 December 2005 – 10 March 2006 and 30 December 2006 – 23 March 2007

**Acute Jaundice Syndrome**

In week 12 there were 18 cases of suspected hepatitis, 22% lower than the number of cases in the previous week. There were no associated deaths. In the first 9 weeks of 2007 and week 11, Battagram has had a much higher rate of suspected hepatitis than any other district, but in week 10 Muzaffarabad district had higher rate than any other district. However, it should be noted that the rate in all the districts is still less than one case per reporting site on average. See figure 7.

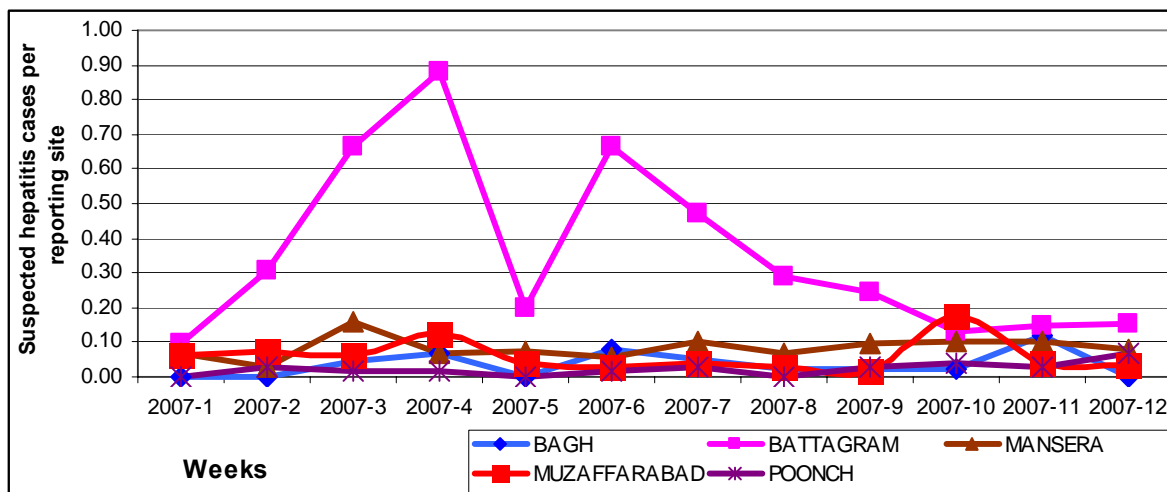


Figure 7: Trend in suspected hepatitis cases per reporting site, by district, Earthquake Affected Areas, Pakistan, 30 December 2006 – 23 March 2007

**Malaria**

In week 12, there were 168 malaria cases reported, a decrease of 18% from week 11. There were no associated deaths. The rate of malaria differs by district, and Poonch district has a rate 3 to 4 times higher than the other districts for last four weeks. See figure 8.

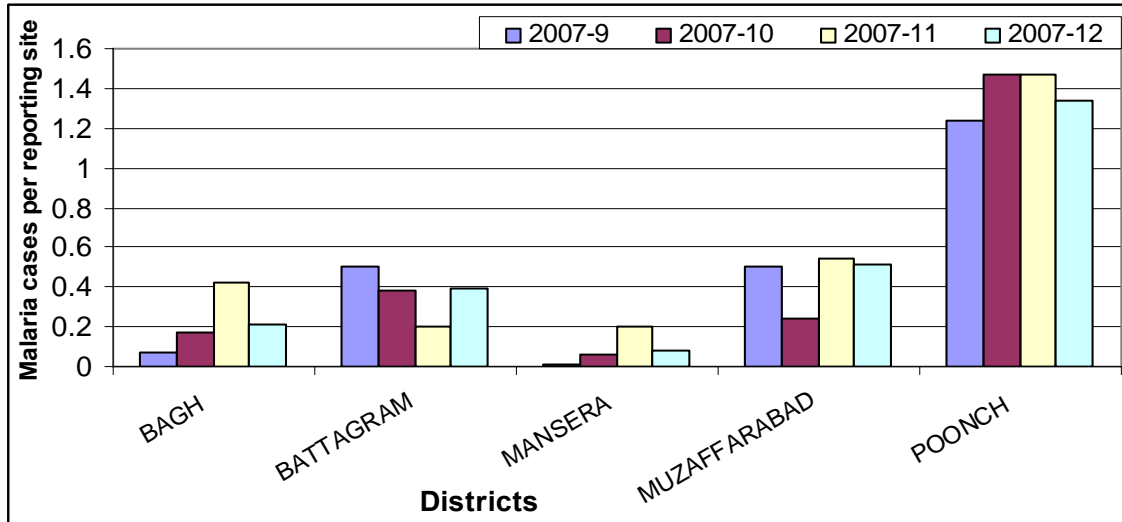


Figure 8: Trend in malaria cases per reporting site, by district, Earthquake Affected Areas, Pakistan, 24 Feb – 23 March 2007

**Measles**

There were no cases of measles reported in week 12 from any district. The number of measles cases has declined considerably over time. It reached a peak in mid 2006, but since beginning of 2007, there have been only 5 cases in total. See figure 10.

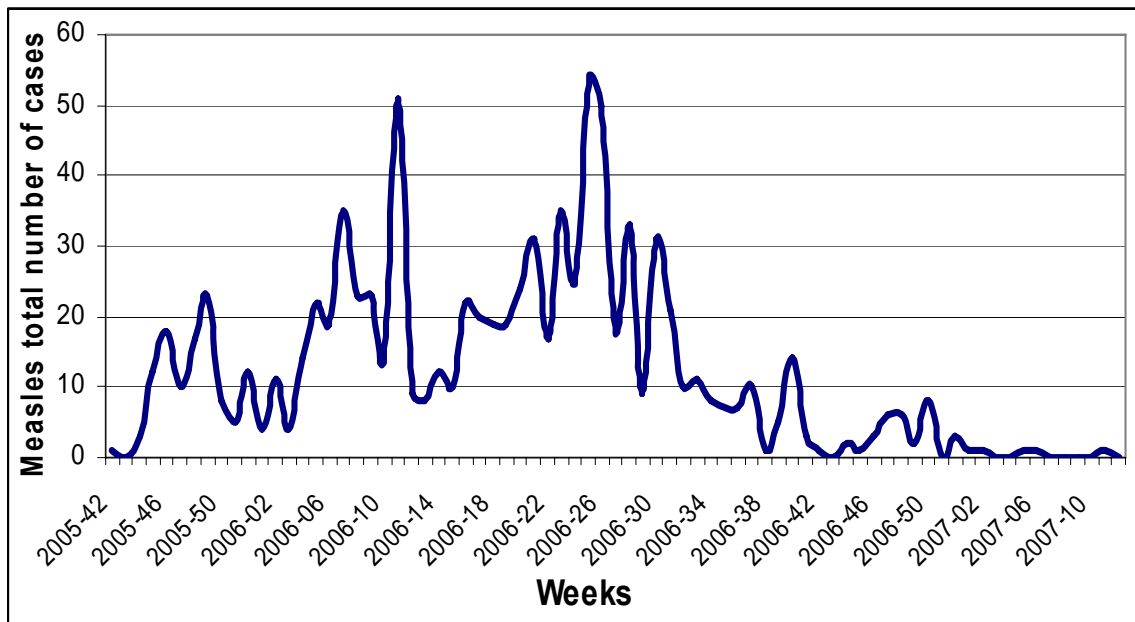


Figure 9: Trend in measles cases, 30 December 2006 – 23 March 2007

**Acute Respiratory Infection**

In week 12, there were 18,273 consultations for ARI reported through the DEWS. There was four associated death 2 under five from Muzaffarabad district and 1 under five and 1 over five from Mansehra district.. See Figure 10.

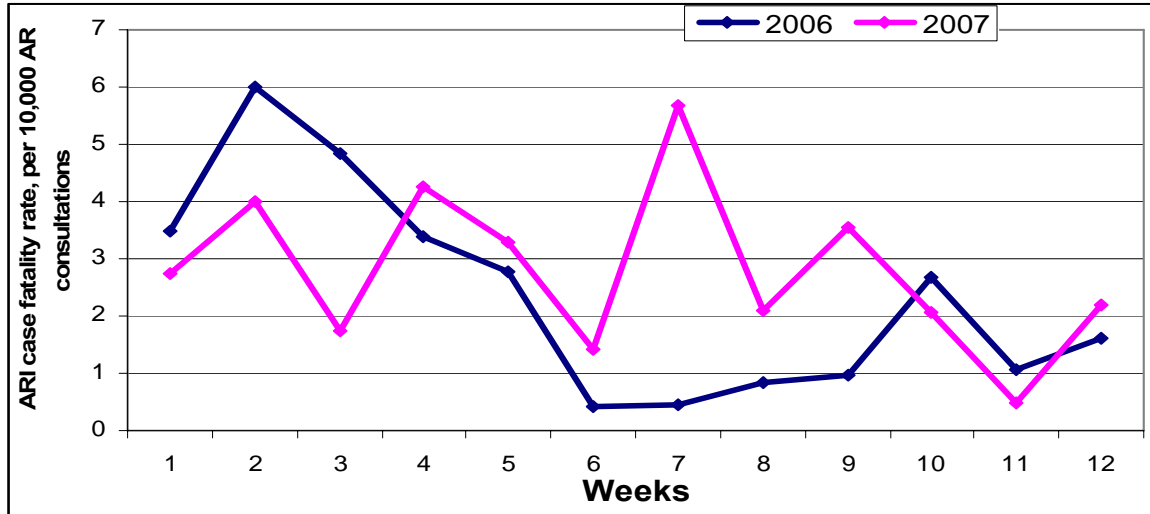


Figure 10: Trend in ARI as a percent of all consultations, 2006 and 2007, Earthquake Affected Areas, Pakistan, 31 December 2005 – 24 March 2006 and 30 December 2006 – 23 March 2007.

**Other Reportable Diseases and Conditions**

There were 3 cases of suspected meningitis in week 12 reported: 2 cases over five years of age reported from district Muzaffarabad and 1 case under five years of age reported from Rawalakot district. There was 1 death under five years of age reported from Rawalakot district. There were 4,531 cases of fever of unknown origin, and 2,972 cases of injuries. There were no cases of acute flaccid paralysis, tetanus or haemorrhagic fever reported in week 12.

Though meningitis is generally considered to have distinct seasonal pattern, this is not seen in the DEWS reported cases. There may be some difficulty in diagnoses of meningitis ; a majority of the suspected cases are negative when tested. See figure 11.

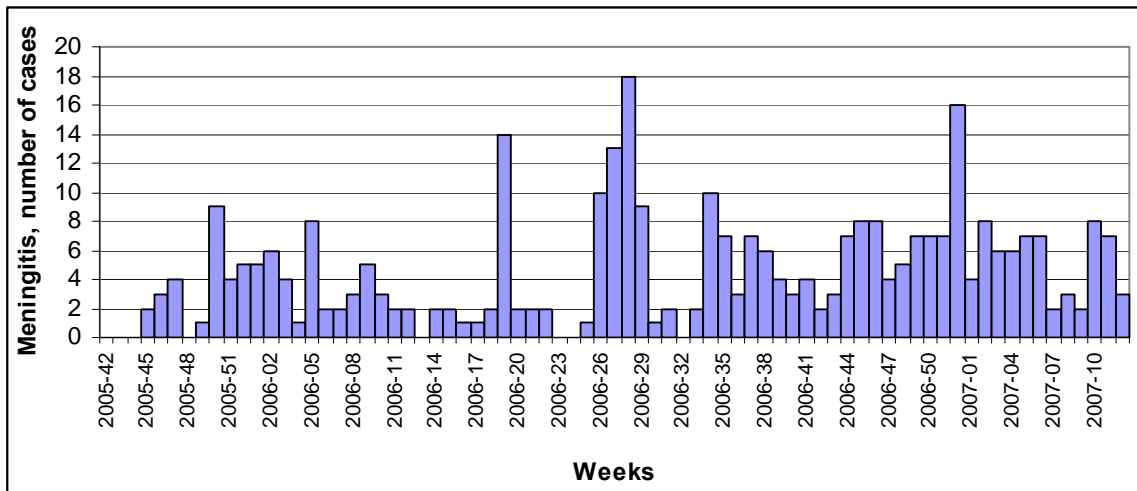


Figure 11: Trend in meningitis cases, Earthquake Affected Areas, Pakistan, 15 October 2005 – 23 March 2007

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

### Neonatal Tetanus:

#### Mansehra:

- CSR team visited DHQ Hospital to investigate the death of an infant due to neonatal tetanus. The patient was a ten day old male baby delivered at home by traditional birth attendant. The child had a history of fits, generalized rigidity and stiffness, lockjaw and was reluctant to feed. A verbal autopsy was also carried out with the help of Mercy Corps. The verbal autopsy recorded that the child was born on 10/03/07 at home with the assistance of the mother in law with no antenatal and post natal checkups. The umbilical cord was cut with a kitchen knife, immunization of child and mother was not done, and the child was not on exclusive breast feeding.

### Avian Influenza:

#### Mansehra:

- Suspected avian influenza cases from birds of rural and backyard poultry farms of Mansehra and Abbottabad were reported. WHO CSR Team visited the close contacts of infected bird flu at Abbottabad and samples taken from two care taker of backyard poultry. These samples tested negative.

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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 6. Number of reported cases and deaths, **Bagh District**, Earthquake Affected Areas, Pakistan, 24 Feb – 23 Mar 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		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
09	437	0	35	0	0	0	3	0	2709	0	0	0	0	0	1	0	0	0	0	0	228	0	638	0	9744	2
10	653	0	39	0	0	0	7	0	3297	0	0	0	0	0	1	0	0	0	0	0	218	0	561	0	11264	2
11	582	0	29	0	0	0	17	0	2769	0	0	0	0	0	5	0	0	0	0	0	246	0	591	0	8730	2
12	568	0	21	0	0	0	9	0	2799	0	0	0	0	0	0	0	0	0	0	0	187	0	618	0	6939	2
<b>Total</b>	<b>2240</b>	<b>0</b>	<b>124</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>11574</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>879</b>	<b>0</b>	<b>2408</b>	<b>0</b>	<b>36677</b>	<b>8</b>

Table 7. Number of reported cases and deaths, **Poonch District**, Earthquake Affected Areas, Pakistan, 24 Feb – 23 Mar 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		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
09	885	1	35	0	0	0	95	0	3921	1	0	0	0	0	2	0	0	0	0	0	1847	0	645	0	6802	1
10	1287	0	43	0	0	0	113	0	4192	1	0	0	0	0	3	0	0	0	0	0	2088	0	684	0	7796	3
11	1244	0	34	0	0	0	113	0	3856	0	0	0	0	0	2	0	0	0	0	0	2030	0	638	0	6694	2
12	1280	0	41	0	0	0	98	0	3210	0	0	0	1	1	5	0	0	0	0	0	1498	0	519	0	6084	0
<b>Total</b>	<b>4696</b>	<b>1</b>	<b>153</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>419</b>	<b>0</b>	<b>15179</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>1</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7463</b>	<b>0</b>	<b>2486</b>	<b>0</b>	<b>27376</b>	<b>6</b>

Table 8. Number of reported cases and deaths, **Muzaffarabad District**, Earthquake Affected Areas, Pakistan, 24 Feb – 23 Mar 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		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
09	1509	0	183	0	0	0	52	0	10678	3	0	0	2	0	2	0	0	0	0	0	2821	0	2064	0	16613	6
10	1712	0	226	0	0	0	20	0	9420	3	0	0	7	1	15	0	0	0	0	0	2065	0	2066	1	17536	4
11	1580	0	250	0	0	0	55	0	7744	1	0	0	7	2	4	0	0	0	0	0	1852	0	1315	0	15932	2
12	1327	0	148	0	0	0	43	0	6924	2	0	0	2	0	3	0	0	0	0	0	1191	0	1415	0	11707	5
<b>Total</b>	<b>6128</b>	<b>0</b>	<b>807</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>170</b>	<b>0</b>	<b>34766</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>3</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7929</b>	<b>0</b>	<b>6860</b>	<b>1</b>	<b>61788</b>	<b>17</b>

**Number of reported cases and deaths per District, NWFP**Table 9. Number of reported cases and deaths, **Battagram District**, Earthquake Affected Areas, Pakistan, 24 Feb – 23 Mar 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		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
09	398	0	29	0	0	0	18	0	2025	0	0	0	0	0	9	0	0	0	0	0	374	0	189	0	4101	0
10	334	0	39	0	0	0	12	0	1792	0	0	0	0	0	4	0	0	0	0	0	376	0	164	0	3357	0
11	261	0	33	0	0	0	7	0	1421	0	1	0	0	0	5	0	0	0	0	0	248	0	167	0	2530	1
12	306	0	23	0	0	0	13	0	1092	0	0	0	0	0	5	0	0	0	0	0	326	0	114	0	2169	0
<b>Total</b>	<b>1299</b>	<b>0</b>	<b>124</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>6330</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1324</b>	<b>0</b>	<b>634</b>	<b>0</b>	<b>12157</b>	<b>1</b>

Table 10. Number of reported cases and deaths, **Mansehra District\***, Earthquake Affected Areas, Pakistan, 24 Feb – 23 Mar 2007.

Week	AWD		BD		AFP		MAL		ARI		MEA		MEN		JAU		TET		AHF		UXF		INJ		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
09	890	0	25	0	0	0	7	0	5942	5	0	0	0	1	7	0	0	0	0	0	1595	0	529	0	16904	4
10	827	0	28	0	0	0	4	0	5535	1	0	0	1	0	7	0	0	0	0	0	1505	0	475	0	14721	1
11	1076	0	37	0	0	0	14	0	5145	0	0	0	0	1	7	0	0	0	0	0	1631	0	358	0	13489	0
12	813	0	20	0	0	0	5	0	4248	2	0	0	0	0	5	0	0	0	0	0	1329	0	306	0	9874	3
<b>Total</b>	<b>3606</b>	<b>0</b>	<b>110</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>30</b>	<b>0</b>	<b>20870</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>26</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>6060</b>	<b>0</b>	<b>1668</b>	<b>0</b>	<b>54988</b>	<b>8</b>