

Contents

Reporting Units.....	2
Total number of consultations	2
DEWS Data, Epidemiological Week No. 17, 2007.....	3
DEWS Data, Monthly Summary (Epidemiological Weeks No. 14-17).....	4
Acute Watery Diarrhoea	5
Bloody Diarrhoea.....	5
Acute Jaundice Syndrome.....	6
Malaria.....	7
Acute Respiratory Infection	8
Other Reportable Diseases and Conditions	8
Outbreak Alert and Response	9
Number of reported cases and deaths per District, AJK	10
Number of reported cases and deaths per District, NWFP	11

Abbaspur: Health education sessions for male and female residents of the area.
Pictured by: Dr. Fawad



Highlights

- In the past month (Epidemiological weeks 14-17 inclusive), 154,710 health events under surveillance were reported including 70 deaths
- This week, there were 322 (96%) reporting units contributing to the report.
- In week 17, Total 88,828 consultations were reported, with 22 deaths
- There were no measles cases reported in the EQ districts in week 17
- Alerts were received for suspected hepatitis and malaria in Mansehra; in both cases there was no clustering
- An alert for four cases of meningitis was received from AIMS Muzffarabad. Two of the patients had already died

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.

The WMMR is produced with the financial support of AAI Australia, Americares, CIDA, Denmark, DFID, ECHO, Ireland, Italy, Japan, Korea, Monaco, Norway, SIDA, Slovak Republic, Switzerland, Turkey, USAID



The WMMR is published by the World Health Organization (WHO), Health Emergency Operation Centre, House #6, Street #20, F-7/2, Islamabad, Pakistan
For More Information, please contact:

Dorcas Taylor, Epidemiologist, WHO/EHA/Pakistan; taylor@pak.emro.who.int or
Dr. Birjees Mazher Kazi, Chief, Public Health Laboratories Division, NIH MOH; kazis@isb.paknet.com.pk or
WHO Webpage: <http://www.whopak.org/disaster>

Reporting Units

The number of reporting sites able to report decreased to 322 this week. Reporting timeliness of the DEWS system has also decreased in the current epidemiological week compared with week 16.

See Table 1 for summary statistics.

Table1. Reported health facilities by district, Earthquake Affected Areas, Pakistan, 31 Mar – 27 Apr 2007.

Area	Population	Reporting Health Facilities			
		31Mar-6Apr Week-14	7-13 April Week-15	14-20 April Week-16	21-27 April Week-17
Muzaffarabad	894,364	100	103	104	100
Bagh	452,532	40	42	43	37
Poonch	633,712	74	76	81	74
Mansehra / Balakot	1,154,804	70	71	72	73
Battagram / Shangla	592,256	37	34	34	38
Total	3,727,668	321(96%)	326(97%)	334(99%)	322(96%)

Total number of consultations

In week 17 there was a decrease in the number of reporting sites. The number of consultations also decreased to 88,828 from 96,872. The highest number of consultations by district was in Muzaffarabad, with 28,131, and the lowest was in Battagram, at 8,321. The weekly trend of reporting units participating in the DEWS and the number of consultations is shown in figure 1.

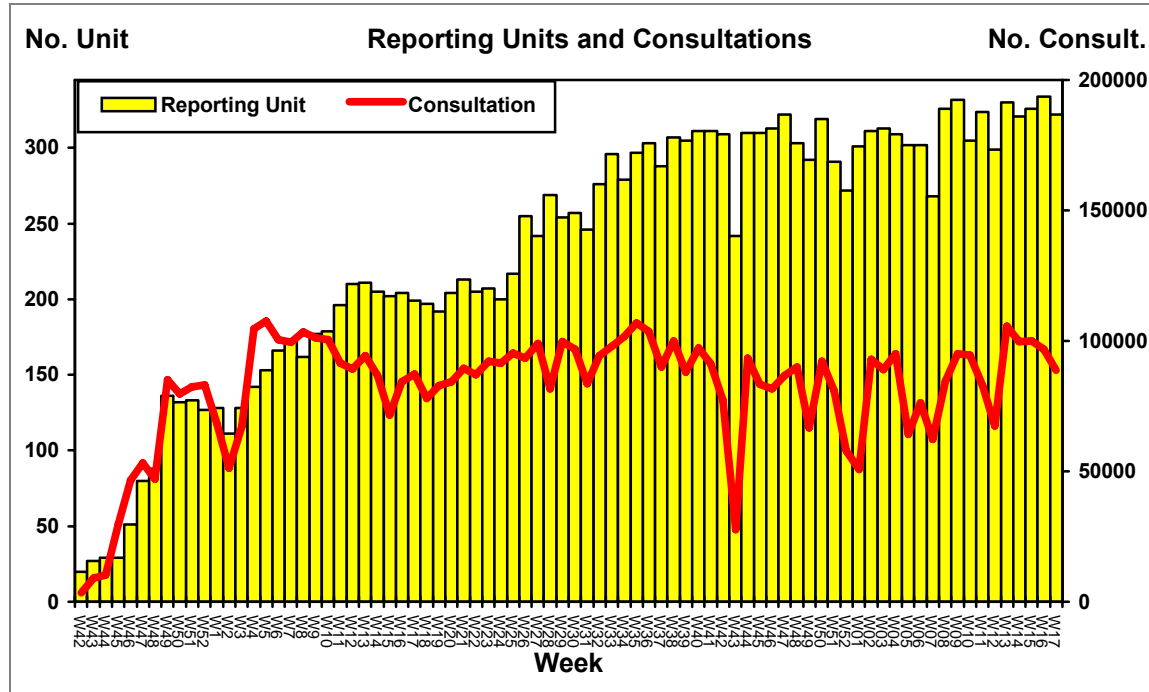


Figure 1. Weekly trend of reporting units and total number of consultations, Earthquake Affected Areas, Pakistan, 15 October 2005 - 27 April 2007.

DEWS Data, Epidemiological Week No. 17, 2007

Between 21-27 April 2007, **88,828** consultations were reported through DEWS. Overall, **21%** (18,343) were due to acute respiratory infections (**ARI**), one percentage point lower than the same week last year. **7%** (6,223) of consultations were due to acute watery diarrhoea (**AWD**), **6%** (5,604) were due to fever of unknown origin (**FUO**) and **4%** (3,557) due to injuries (**INJ**). All of these percentages are almost identical to the rate seen in the same week last year. **ARI** in patients under five years is 2% higher in week 17 of 2007 compared to that same age group in the same week last year. At **18%** of consultations in patients 5 or more years old, the rate of ARI is one percentage point higher than in the same week last year. All other reportable conditions each represented less than 1% of the total consultations in week 17.

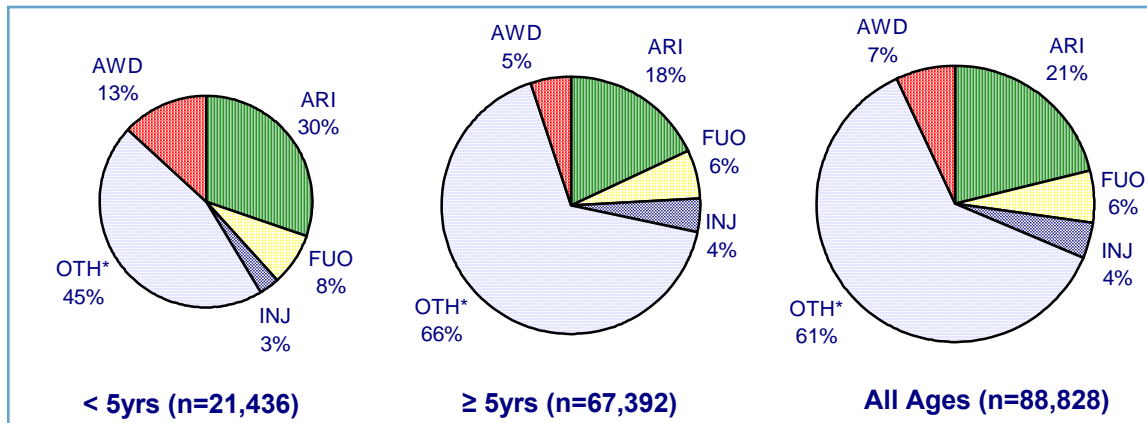


Figure 2. Proportion of primary causes for all reported cases, Earthquake Affected Areas, Pakistan, 21- 27 April 2007.

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

DEWS Data, Epidemiological Week No. 16, 2007: Consultations by age

The number of measles cases has dropped considerably in the past year, but the proportion of measles cases in children five and over has also dropped. From week 17 of 2006 to week 43 of 2006, patients five and over made up approximately 48% of the measles cases reported in a week, while from week 44 of 2006 to week 17 of 2007 patients five and over only made up an average of 14% of cases in a given week. This suggests that the measles campaigns undertaken through 2005 and 2006 have been successful and achieved good coverage. See figure 3.

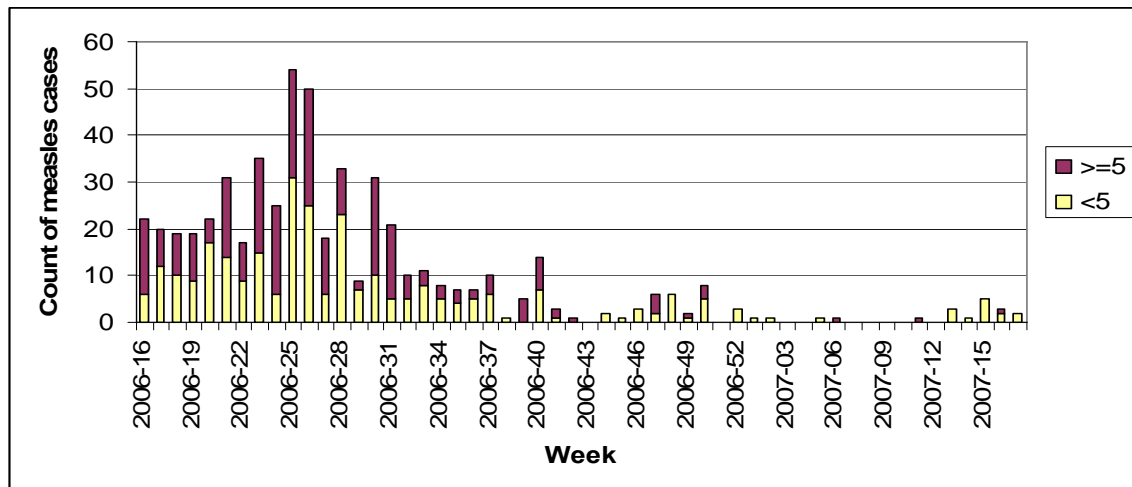


Figure 3: Measles cases by age group, Earthquake Affected Areas, Pakistan, 22 April 2006 – 21 April 2007

DEWS Data, Monthly Summary (Epidemiological Weeks No. 13-16)

In the past four weeks from 31 March to 27 April 2007 (Epidemiological weeks 14-17 inclusive), 154,710 consultations for health conditions under surveillance were reported, out of a total 385,370 consultations. **22%** (83,912) of consultations were due to acute respiratory infection (**ARI**), **7%** (26,526) unexplained fever (**FUO**), **6%** (25,030) acute watery diarrhoea (**AWD**) and **4%** (15,534) Injuries (**INJ**).

Table 2. Comparison of the weekly distribution of reported cases, deaths and monthly Case Fatality Rate (CFR), Earthquake Affected Areas, Pakistan, 31 Mar – 27 April 2007.

Week	WEEK 14		WEEK 15		WEEK 16		WEEK 17		TOTAL		CFR%
Event	C	D	C	D	C	D	C	D	C	D	
AWD	6327	0	6185	0	6295	0	6223	0	25030	0	0.000
BD	454	0	489	0	416	0	381	0	1740	0	0.000
AFP	0	0	2	0	0	0	0	0	2	0	0.000
MAL	330	0	477	0	505	0	481	0	1793	0	0.000
ARI	22175	4	22496	3	20898	3	18343	4	83912	14	0.017
MES	1	0	5	0	3	0	0	0	9	0	0.000
MEN	3	1	4	0	4	1	6	1	17	3	17.647
JAU	28	0	31	0	24	0	62	0	145	0	0.000
TET	0	0	2	1	0	0	0	0	2	1	50.000
AHF	0	0	0	0	0	0	0	0	0	0	0.000
FUO	6928	0	7056	0	6938	0	5604	0	26526	0	0.000
INJ	3837	1	4193	0	3947	1	3557	2	15534	4	0.026
OTH	59580	7	59067	9	57842	17	54171	15	230660	48	0.021
TOTAL	99663	13	100007	13	96872	22	88828	22	385370	70	
RU	321		326		334		322				

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 **95,514** consultations were reported in the **less than 5** years old group, (**25%** of the total consultations), of which **31%** (29,832) were due to **ARI**, **11%** (10,403) due to **AWD**, **8%** (7,703) due to **FUO** and **3%** (3,095) 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 31 Mar – 27 April 2007.

Week	WEEK 14		WEEK 15		WEEK 16		WEEK 17		TOTAL		CFR%
Event	C	D	C	D	C	D	C	D	C	D	
AWD	2306	0	2463	0	2845	0	2789	0	10403	0	0.000
BD	145	0	135	0	128	0	117	0	525	0	0.000
AFP	0	0	1	0	0	0	0	0	1	0	0.000
MAL	65	0	92	0	98	0	98	0	353	0	0.000
ARI	7742	2	7876	2	7693	3	6521	3	29832	10	0.033
MES	1	0	5	0	2	0	0	0	8	0	0.000
MEN	0	0	1	0	0	0	1	0	2	0	0.000
JAU	5	0	1	0	2	0	1	0	9	0	0.000
TET	0	0	2	1	0	0	0	0	2	1	50.000
AHF	0	0	0	0	0	0	0	0	0	0	0.000
FUO	2164	0	1879	0	2038	0	1622	0	7703	0	0.000
INJ	768	0	865	0	775	0	687	0	3095	0	0.000
OTH	12428	0	10823	4	10730	5	9600	4	43581	13	0.029
TOTAL	25624	2	24143	7	24311	8	21436	7	95514	24	
RU	321		326		334		322				

In the current week, there was a minor decrease in the number of **AWD** cases with **6,295** last week and **6,223** this week. In the current week, **ARI** decreased in the total number of cases compared with the previous week, (**20,898** last week and **18,343** this week). The weekly proportion of ARI and AWD is shown in figure 4.

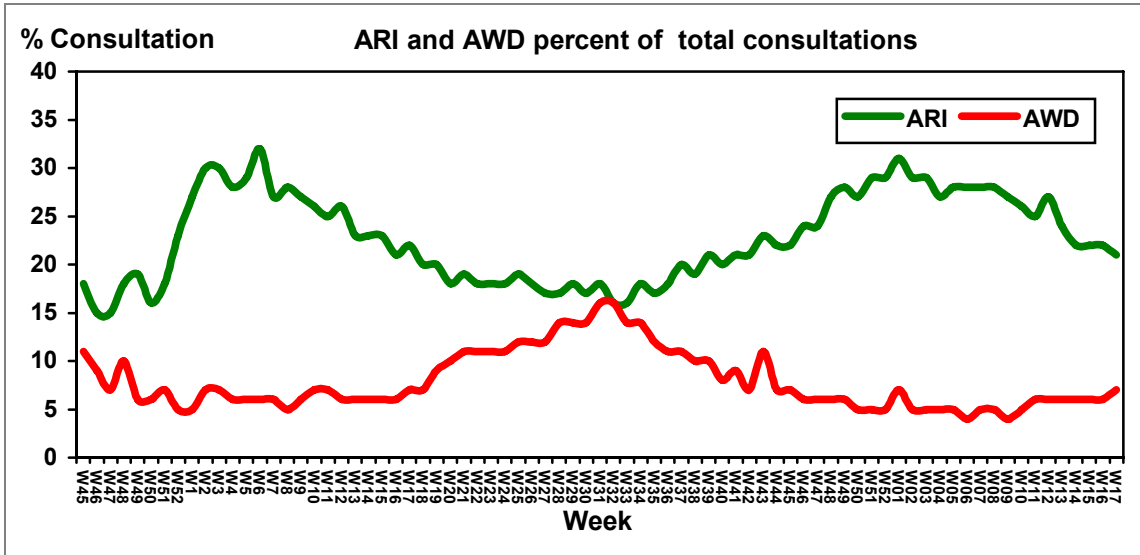


Figure 4. Weekly trend of percent of consultations for ARI and AWD, Earthquake Affected Areas, Pakistan, 5 November 2005 – 27 April 2007.

Acute Watery Diarrhoea

In week 17 there were 6,223 cases of AWD reported a 1% decrease over week 16. There were no associated deaths reported from any district. The rate of AWD differs both between and within districts, with varying rates by each tehsil in a district. In Mansehra and Bagh districts the rate is similar between teshsils, while Battagram, Mansehra, and Muzaffarabad have larger variations between teshsils. The highest rate is in Rawalakot teshil, Poonch district. See Figure 5.

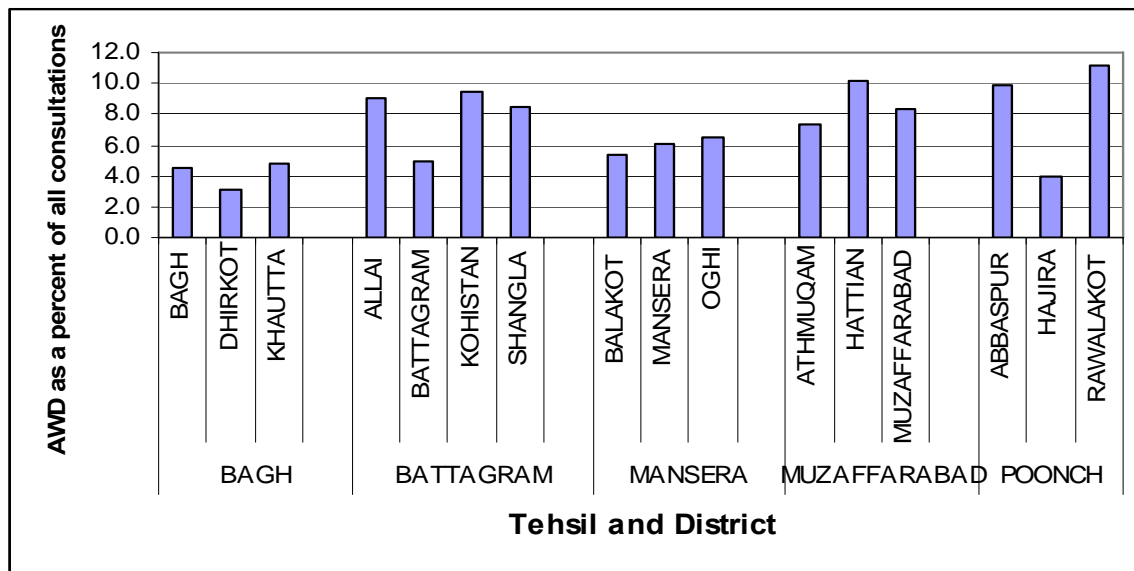


Figure 5: AWD as a percent of all consultations, by district and tehsil, Earthquake Affected Areas, Pakistan, 21 – 27 April 2007

Bloody Diarrhoea

In week 17, there were 381 cases of bloody diarrhoea reported, 8% lower compared to numbers week 16. There were no associated deaths reported. The rate of bloody diarrhoea has been lower in 2007 than in 2006 for a majority of the past 8 weeks. See figure 6

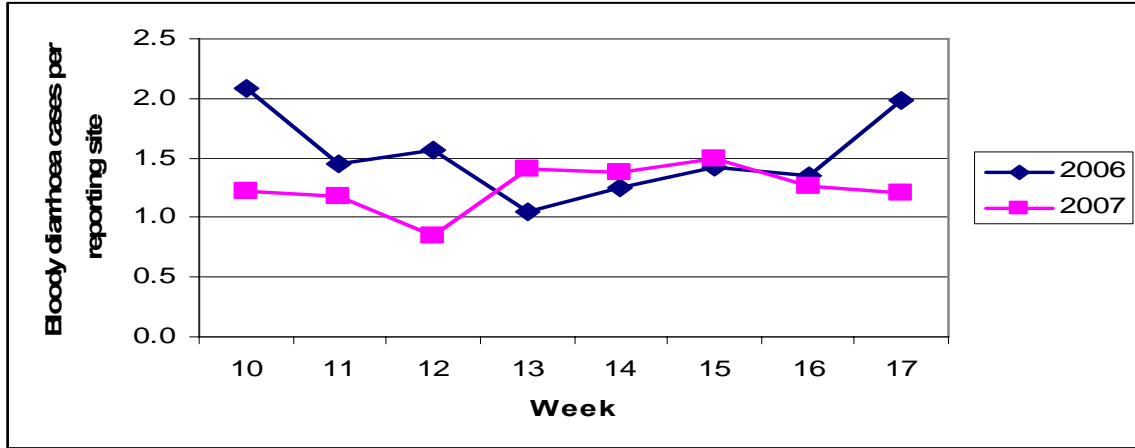


Figure 6: Trend in bloody diarrhoea cases per reporting site, 2006 and 2007, Earthquake Affected Areas, Pakistan, 4 March – 28 April 2006 and 3 March – 27 April 2007

Acute Jaundice Syndrome

In week 17 there were 62 cases of suspected hepatitis, there were no associated deaths reported. The rate of suspected hepatitis varies by district, but has shown an upward trend in most districts in the past week. The large spike in the rate in Poonch district is due to an ongoing outbreak, described in the outbreaks and alerts sections in WMMR week 15. See figure 7.

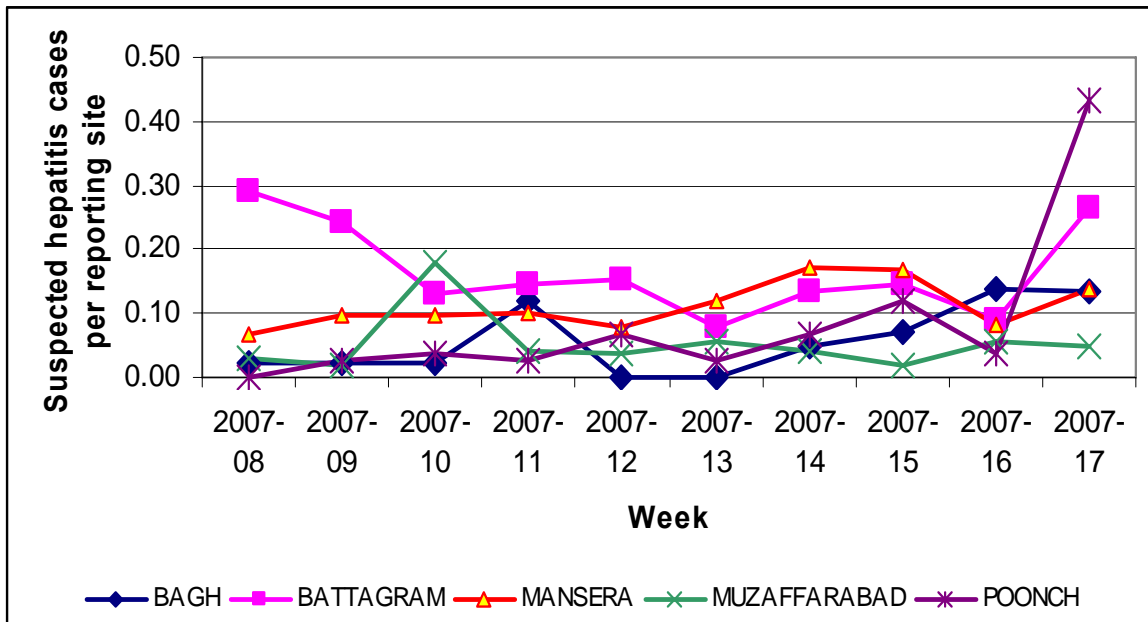


Figure 7: Trend in suspected hepatitis cases per reporting site, by district, Earthquake Affected Areas, Pakistan, 17 February 2007 – 27 April 2007

Malaria

In week 17, there were 481 suspected malaria cases reported, 5% lower than week 16. There were no associated deaths reported. The rate of malaria varies by district, with Poonch, with the highest rate of malaria, having a rate ten times that of Mansehra, the district with the lowest rate. See figure 8.

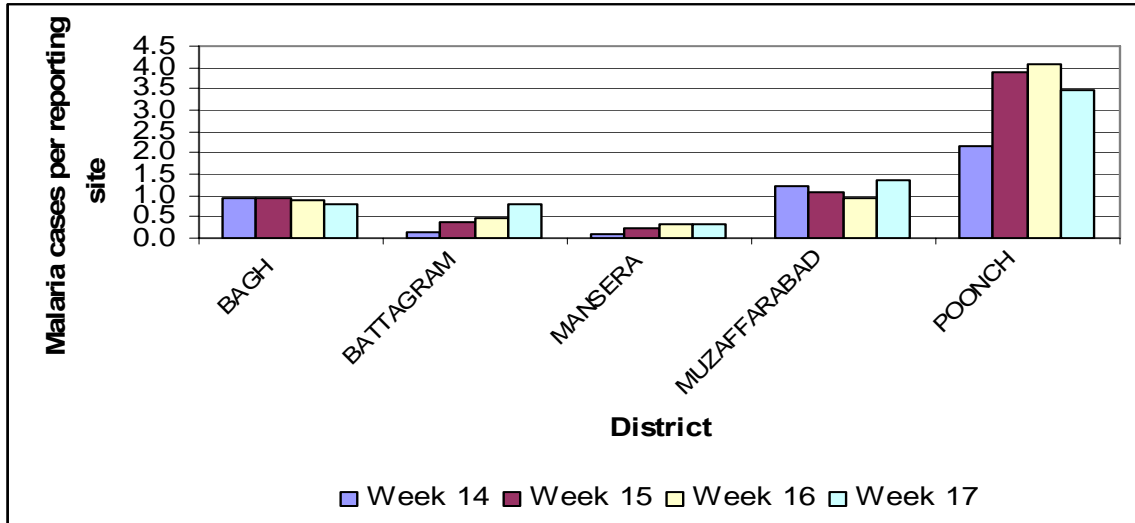


Figure 8: Trend in malaria cases per reporting site, by district, Earthquake Affected Areas, Pakistan, 31 March – 27 April 2007

Measles

There were no cases of suspected measles reported in week 17 from any district. In 2007, 7 out of 17 weeks have had no measles cases reported. In 2006, there were two weeks with no measles, out of 52 reporting weeks, and in 2005, there was one week out of 11 with no measles cases reported. See Figure 9.

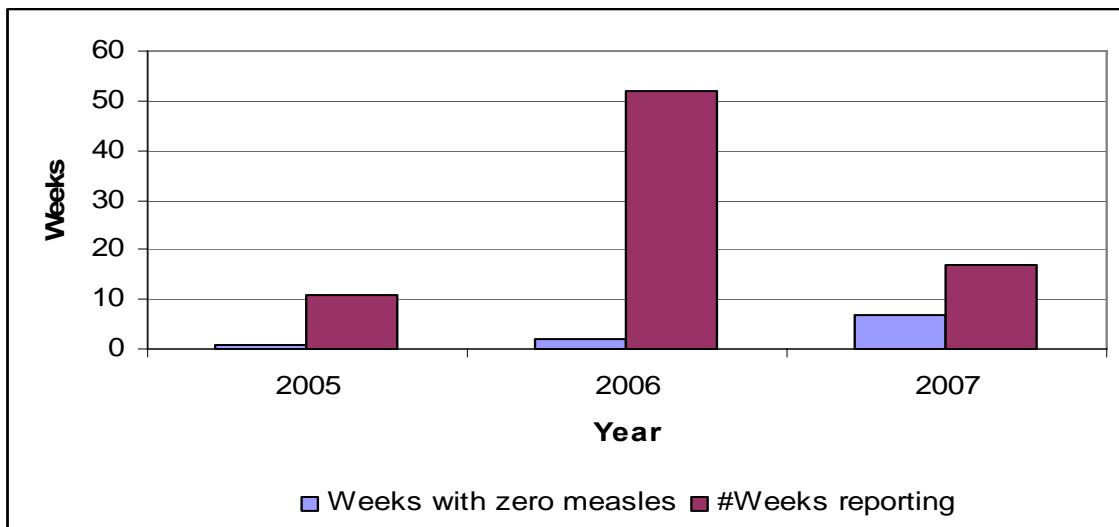


Figure 9: Count of weeks with no measles cases and total number of reporting weeks, 2005, 2006 and 2007, 31 December 2005 – 27 April 2007

Acute Respiratory Infection

In week 17, there were 18,343 consultations for ARI reported through the DEWS. There were four associated deaths, 3 were in patients under five, from Bagh, Muzaffarabad, and Mansehra districts. There was one death in a patient over five years of age, from Mansehra district. The rate of ARI has been declining slightly in patients five years and older, but has remained relatively stable, at approximately 30%, in patients under five. See Figure 10.

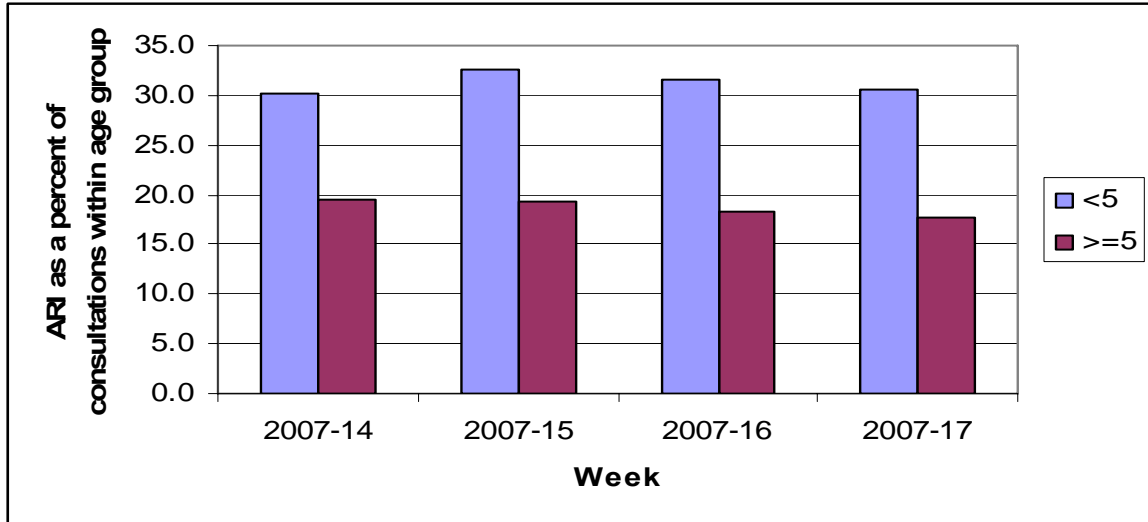


Figure 10: Trend in ARI as a percent of all consultations with age group, by age group, Earthquake Affected Areas, Pakistan, 31 March – 27 April 2007

Other Reportable Diseases and Conditions

There were 6 cases of suspected meningitis reported in week 17, five cases over five years of age reported and one case less than five years of age reported from Muzaffarabad district. There were 5,604 cases of fever of unknown origin, and 3,557 cases of injuries. There were no cases of tetanus or acute haemorrhagic fever.

Since reporting began, there have been 365 cases of meningitis reported. 270 of those cases were from Muzaffarabad, which also has the referral hospital for the entire area of PAK. See figure 11.

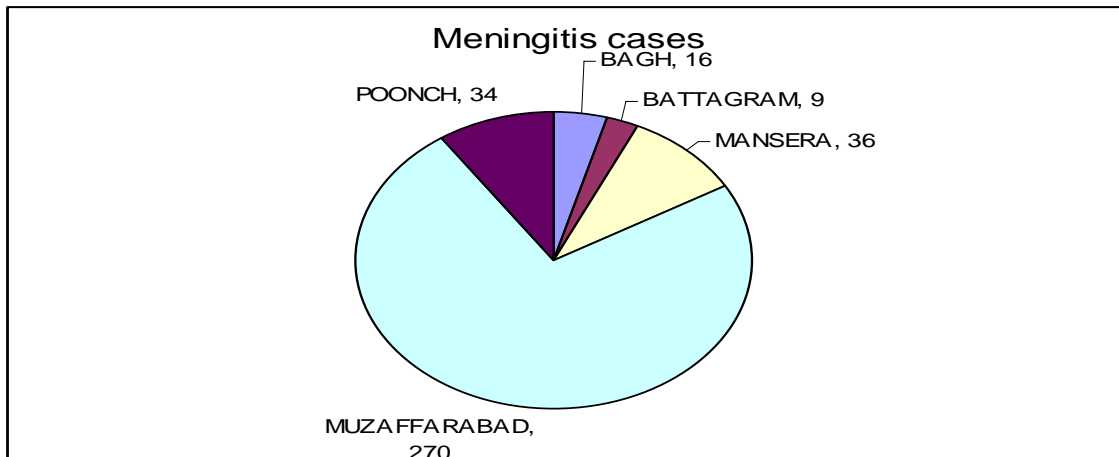


Figure 11: Meningitis cases, Earthquake Affected Areas, Pakistan, 15 October 2005 – 27 April 2007

Outbreak Alert and Response¹

Acute Jaundice: Mansehra

Three cases of suspected hepatitis were reported from RHC Chowki. On investigation, the cases were from different areas, and therefore no clustering was occurring.

Malaria: Mansehra

Malaria cases were reported from Shohal Field Clinic and CH Garhi Hospital. On investigation, there was no clustering, and those tests that had been undertaken were negative.

Meningitis Muzaffarabad

Four cases of suspected meningitis, and two deaths, were reported from AIMS, Muzaffarabad. The first case was a three day old male child from Chaki Sayedan. CSF examination was clear, and he improved on antibiotics. Case two was a twelve day old female child from Danna Kacheli. Her CSF was also clear, and she is improving on antibiotics. The third case was a 20 year old male who died on the 20th of April, 10 days after admission. He had a large number of comorbidities, and it cannot be conclusively said that he had meningitis, or that it was the cause of his death. The fourth case was reported after death as well, and no further details were available.

¹ 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, PAKTable 6. Number of reported cases and deaths, **Bagh District**, Earthquake Affected Areas, Pakistan, 31 Mar -27 Apr 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
14	614	0	44	0	0	0	37	0	2542	0	0	0	0	0	2	0	0	0	0	0	266	0	755	0	12244	1
15	553	0	41	0	0	0	40	0	2538	1	1	0	1	0	3	0	0	0	0	0	267	0	666	0	11099	3
16	693	0	61	0	0	0	38	0	2552	1	0	0	1	1	6	0	0	0	0	0	254	0	725	0	11790	3
17	551	0	36	0	0	0	30	0	1806	1	0	0	0	0	5	0	0	0	0	0	283	0	669	0	9534	2
Total	2411	0	182	0	0	0	145	0	9438	3	1	0	2	1	16	0	0	0	0	0	1070	0	2815	0	44667	9

Table 7. Number of reported cases and deaths, **Poonch District**, Earthquake Affected Areas, Pakistan, 31 Mar -27 Apr 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
14	1531	0	38	0	0	0	161	0	3870	1	0	0	0	0	5	0	0	0	0	0	1970	0	701	0	7599	3
15	987	0	47	0	0	0	295	0	4006	0	4	0	0	0	9	0	0	0	0	0	1995	0	663	0	7421	1
16	1181	0	30	0	0	0	329	0	3929	0	1	0	0	0	3	0	0	0	0	0	2011	0	711	0	7878	2
17	1220	0	31	0	0	0	257	0	3046	1	0	0	0	0	32	0	0	0	0	0	1474	0	505	0	6186	4
Total	4919	0	146	0	0	0	1042	0	14851	2	5	0	0	0	49	0	0	0	0	0	7450	0	2580	0	29084	10

Table 8. Number of reported cases and deaths, **Muzaffarabad District**, Earthquake Affected Areas, Pakistan, 31 Mar -27 Apr 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
14	1905	0	286	0	0	0	120	0	9010	1	0	0	2	1	4	0	0	0	0	0	2683	0	1667	1	17091	1
15	2534	0	306	0	0	0	113	0	9057	1	0	0	2	0	2	0	0	0	0	0	2599	0	2067	0	18815	3
16	2537	0	244	0	0	0	99	0	8373	2	1	0	3	0	6	0	0	0	0	0	2680	0	1801	1	18392	7
17	2266	0	209	0	0	0	137	0	6345	1	0	0	6	1	5	0	0	0	0	0	1367	0	1568	2	14808	3
Total	9242	0	1045	0	0	0	469	0	32785	5	1	0	13	2	17	0	0	0	0	0	9329	0	7103	4	69106	14

Number of reported cases and deaths per District, NWFPTable 9. Number of reported cases and deaths, **Battagram District**, Earthquake Affected Areas, Pakistan, 31 Mar -27 Apr 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
14	955	0	42	0	0	0	6	0	1747	0	0	0	0	0	5	0	0	0	0	0	357	0	211	0	4735	1
15	415	0	34	0	0	0	13	0	1575	0	0	0	0	0	5	0	0	0	0	0	604	0	198	0	4426	0
16	470	0	54	0	0	0	16	0	1778	0	1	0	0	0	3	0	0	0	0	0	347	0	229	0	4199	2
17	527	0	71	0	0	0	31	0	1988	0	2	0	0	0	10	0	0	0	0	0	513	0	208	0	4971	0
Total	2367	0	201	0	0	0	66	0	7088	0	3	0	0	0	23	0	0	0	0	0	1821	0	846	0	18331	3

Table 10. Number of reported cases and deaths, **Mansehra District***, Earthquake Affected Areas, Pakistan, 31 Mar -27 Apr 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
14	1322	0	44	0	0	0	6	0	5006	2	1	0	1	0	12	0	0	0	0	0	1652	0	503	0	17911	1
15	1696	0	61	0	2	0	16	0	5320	1	0	0	1	0	12	0	2	1	0	0	1591	0	599	0	17306	2
16	1414	0	27	0	0	0	23	0	4266	0	0	0	0	0	6	0	0	0	0	0	1646	0	481	0	15583	3
17	1659	0	34	0	0	0	24	0	5158	1	0	0	0	0	10	0	0	0	0	0	1967	0	607	0	18672	6
Total	6091	0	166	0	2	0	69	0	19750	4	1	0	2	0	40	0	2	1	0	0	6856	0	2190	0	69472	12