

Epidemiological Week No. 15 (7-13 Apr)

Apr 23/ Vol. 73/ DEWS 2007-15

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Bagh: Unprotected Water sources can be a danger
Pictured by: Dr. Fawad



Highlights

- In the past month (Epidemiological weeks 12-15 inclusive), 154,101 health events under surveillance were reported including 65 deaths
- This week, there were 323 (96%) reporting units contributing to the report.
- In week 15, Total 98,462 consultations were reported, with 13 deaths
- An outbreak of suspected hepatitis was identified in village Tangara, district Poonch
- Two cases of neonatal tetanus were reported from Mansehra district
- Four cases of measles were reported from district Poonch

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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Reporting Units

The number of reporting sites able to report increased to 323 this week. Reporting timeliness of the DEWS system has increased in the current epidemiological week compared with week 14. See Table 1 for summary statistics.

Table 1. Reported health facilities by district, Earthquake Affected Areas, Pakistan, 17 Mar – 13 Apr 2007.

Area	Population	Reporting Health Facilities			
		17-23 Mar Week-12	24-30 Mar Week-13	31Mar-6Apr Week-14	7-13 April Week-15
Muzaffarabad	894,364	83	105	100	103
Bagh	452,532	43	42	40	41
Poonch	633,712	75	77	74	76
Mansehra / Balakot	1,154,804	65	68	70	71
Battagram / Shangla	592,256	33	38	37	32
Total	3,727,668	298(89%)	330(98%)	321(96%)	323(96%)

Total number of consultations

In week 15 there was increasing in the number of reporting sites and the number of consultations also increased to 98,462 from 98,140. The highest number of consultations by district was in Muzaffarabad, with 35,495, and the lowest was in Battagram, at 6,905. The weekly trend of reporting units participating in the DEWS and the number of consultations is shown in figure 1.

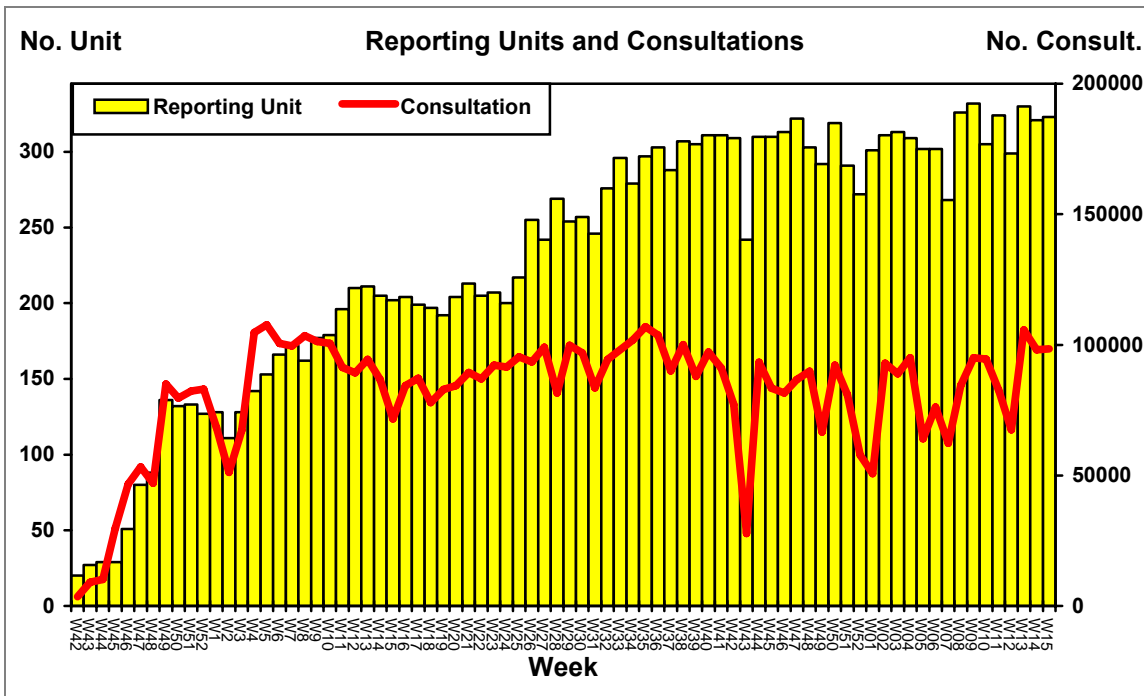


Figure 1. Weekly trend of reporting units and total number of consultations, Earthquake Affected Areas, Pakistan, 15 October 2005 - 13 April 2007.

DEWS Data, Epidemiological Week No. 15, 2007

Between 7-13 April 2007, **98,462** consultations were reported through DEWS. Overall, **23%** (22,346) were due to acute respiratory infections (**ARI**), two percentage point higher than the same week last year. **7%** (7,015) were due to fever of unknown origin (**FUO**), **6%** (6,071) of consultations were due to acute watery diarrhoea (**AWD**), and **4%** (4,130) due to injuries (**INJ**). All of these percentages are almost identical to the rate seen in similar week last year. **ARI** in patients under five years is 1% higher in week 15 of 2007 as compared to that same age group in the same week last year. At **19%** of consultations in patients 5 or more years old, the rate of ARI is one percentage point higher as compared to the same week last year. All other reportable conditions each represented less than 1% of the total consultations in week 15.

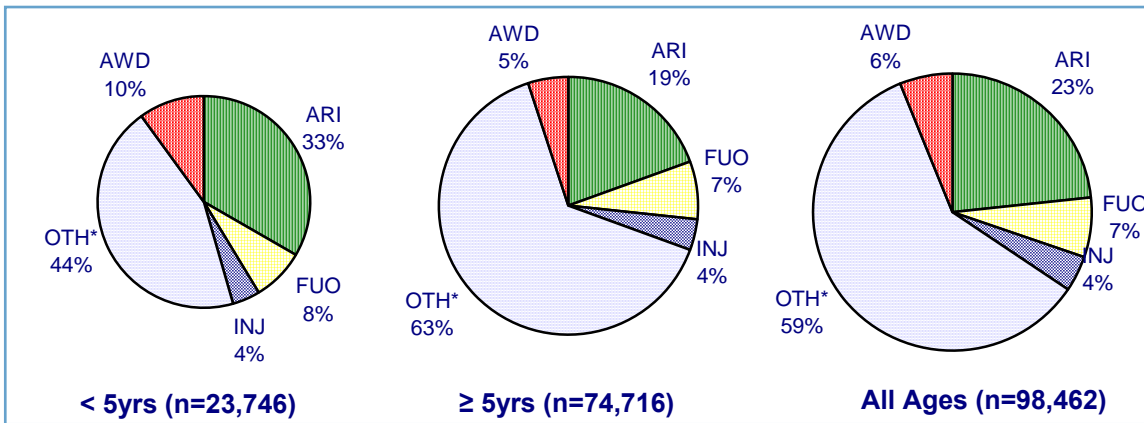


Figure 2. Proportion of primary causes for all reported cases, Earthquake Affected Areas, Pakistan, 7- 13 April 2007.

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

DEWS Data, Epidemiological Week No. 15, 2007: Consultations by age

With warmer weather, the rate of diarrhea could be expected to increase. However, in the last five weeks, the increases have been inconsistent and minor in both age groups. The rate of acute diarrhea in patients under five is approximately double that of patients five years and over. See figure 3.

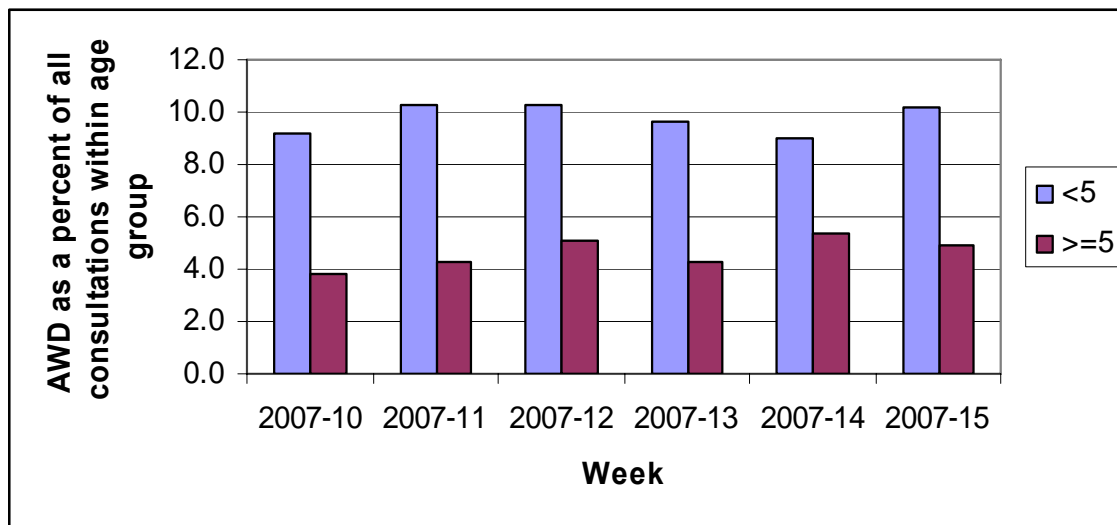


Figure 3: Trend in AWD as a percent of all consultations, by age group, Earthquake Affected Areas, Pakistan, 3 March – 13 April 2007

DEWS Data, Monthly Summary (Epidemiological Weeks No. 12-15)

In the past four weeks from 7 to 13 April 2007 (Epidemiological weeks 12-15 inclusive), 154,101 consultations for health conditions under surveillance were reported, out of a total 369,725 consultations. **24%** (87,784) of consultations were due to acute respiratory infection (**ARI**), **6%** (22,548) acute watery diarrhoea (**AWD**), **7%** (26,026) unexplained fever (**FUO**) and **4%** (14,764) Injuries (**INJ**).

Table 2. Comparison of the weekly distribution of reported cases, deaths and monthly Case Fatality Rate (CFR), Earthquake Affected Areas, Pakistan, 17 Mar – 13 April 2007.

Week Event	WEEK 12		WEEK 13		WEEK 14		WEEK 15		TOTAL		CFR%
	C	D	C	D	C	D	C	D	C	D	
AWD	4307	0	5958	0	6212	0	6071	0	22548	0	0.000
BD	254	0	447	0	448	0	480	0	1629	0	0.000
AFP	0	0	2	0	0	0	2	0	4	0	0.000
MAL	170	0	306	0	307	0	443	0	1226	0	0.000
ARI	18308	4	25260	6	21870	4	22346	3	87784	17	0.019
MES	0	0	3	0	1	0	5	0	9	0	0.000
MEN	3	1	3	0	3	1	4	0	13	2	15.385
JAU	18	0	19	0	28	0	31	0	96	0	0.000
TET	0	0	0	0	0	0	2	1	2	1	50.000
AHF	0	0	0	0	0	0	0	0	0	0	0.000
FUO	4531	0	7564	0	6916	0	7015	0	26026	0	0.000
INJ	2987	0	3972	1	3675	1	4130	0	14764	2	0.014
OTH	36893	10	62118	17	58680	7	57933	9	215624	43	0.020
TOTAL	67471	15	105652	24	98140	13	98462	13	369725	65	
RU	299		330		321		323				

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 **93,525** consultations were reported in the **less than 5** years old group, (**25%** of the total consultations), of which **34%** (31,439) were due to **ARI**, **10%** (9,108) due to **AWD**, **8%** (7,484) due to **FUO** and **3%** (2,934) 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 17 Mar – 13 April 2007.

Week Event	WEEK 12		WEEK 13		WEEK 14		WEEK 15		TOTAL		CFR%
	C	D	C	D	C	D	C	D	C	D	
AWD	1779	0	2644	0	2263	0	2422	0	9108	0	0.000
BD	90	0	155	0	144	0	135	0	524	0	0.000
AFP	0	0	1	0	0	0	1	0	2	0	0.000
MAL	8	0	47	0	58	0	83	0	196	0	0.000
ARI	6393	3	9598	6	7632	2	7816	2	31439	13	0.041
MES	0	0	3	0	1	0	5	0	9	0	0.000
MEN	1	1	1	0	0	0	1	0	3	1	33.333
JAU	3	0	2	0	5	0	1	0	11	0	0.000
TET	0	0	0	0	0	0	2	1	2	1	50.000
AHF	0	0	0	0	0	0	0	0	0	0	0.000
FUO	1067	0	2379	0	2164	0	1874	0	7484	0	0.000
INJ	556	0	805	0	724	0	849	0	2934	0	0.000
OTH	7420	2	11731	6	12105	0	10557	4	41813	12	0.029
TOTAL	17317	6	27366	12	25096	2	23746	7	93525	27	
RU	299		330		321		323				

In the current week, there was a decrease in the number of **AWD** cases with **6,212** last week and **6,071** this week. In the current week, **ARI** increased in the total number of cases as compared with the previous week, (**21,870** last week and **22,346** this week). The weekly proportion of ARI and AWD is shown in figure 4.

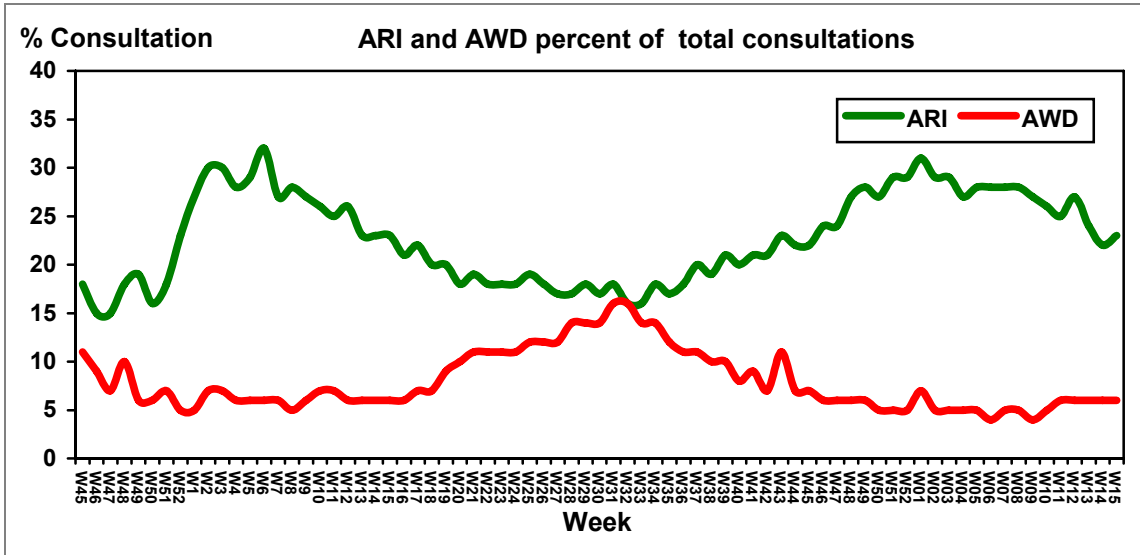


Figure 4. Weekly trend of percent of consultations for ARI and AWD, Earthquake Affected Areas, Pakistan, 5 November 2005 – 13 April 2007.

Acute Watery Diarrhoea

In week 15 there were 6,071 cases of AWD reported, a 2% decrease over week 14. There were no associated deaths reported from any district. The rate of AWD varies by district, with Bagh showing the lowest rate (3.3%) and Muzaffarabad the highest (6.1%). See Figure 5.

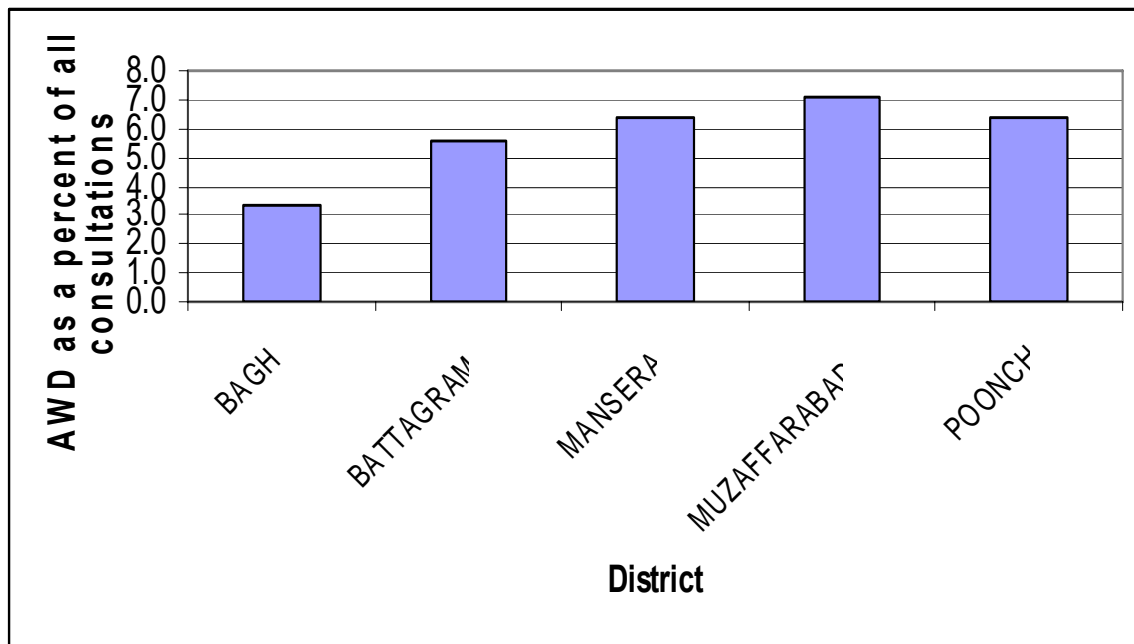


Figure 5: AWD as a percent of all consultations, by district, Earthquake Affected Areas, Pakistan, 7 – 13 April 2007

Bloody Diarrhoea

In week 15, there were 480 cases of bloody diarrhoea reported, 7% point higher compare with numbers over week 14. There were no associated deaths reported. The rate and trend of bloody diarrhea varies by district, with Muzaffarabad having both the highest rate, and a steady upward trend in the last four weeks. Battagram and Poonch both experienced a temporary increase, while Mansehra has seen a steady but very small increase and in Poonch the rate has remained steady. See figure 6

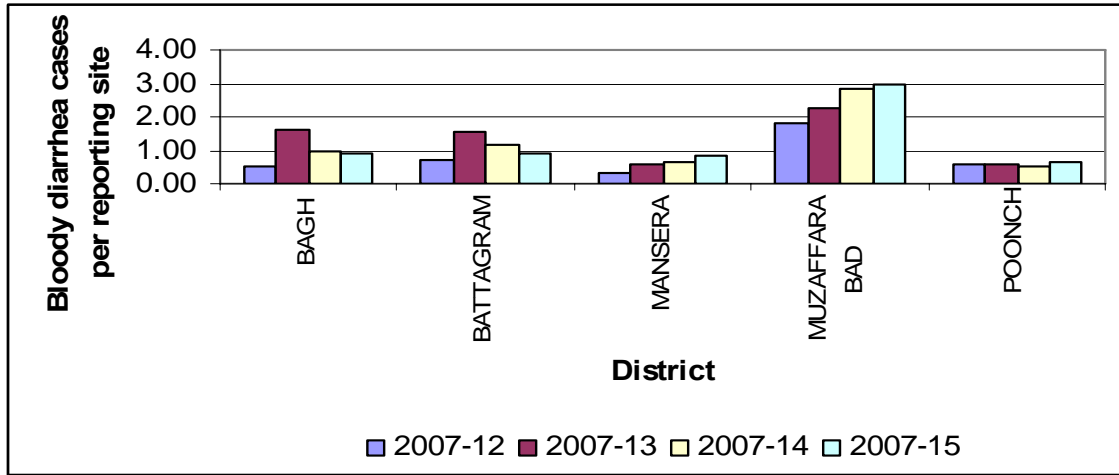


Figure 6: Trend in bloody diarrhea cases per reporting site, by district, Earthquake Affected Areas, Pakistan, 17 March – 13 April 2007

Acute Jaundice Syndrome

In week 15 there were 31 cases of suspected hepatitis, 11% higher than the number of cases in the previous week. There were no associated deaths. Sporadic cases of suspected hepatitis are common, and more likely to be a chronic condition. However, if there is a clustering of cases it is more likely to be an indication of a possible outbreak. Bagh, Battagram, and Poonch districts have no clustering, with no reporting site reporting more than two cases of suspected hepatitis. Mansehra has one site with 7 suspected cases, and Poonch, which is experiencing an outbreak, has 9 cases in a single site. See figure 7.

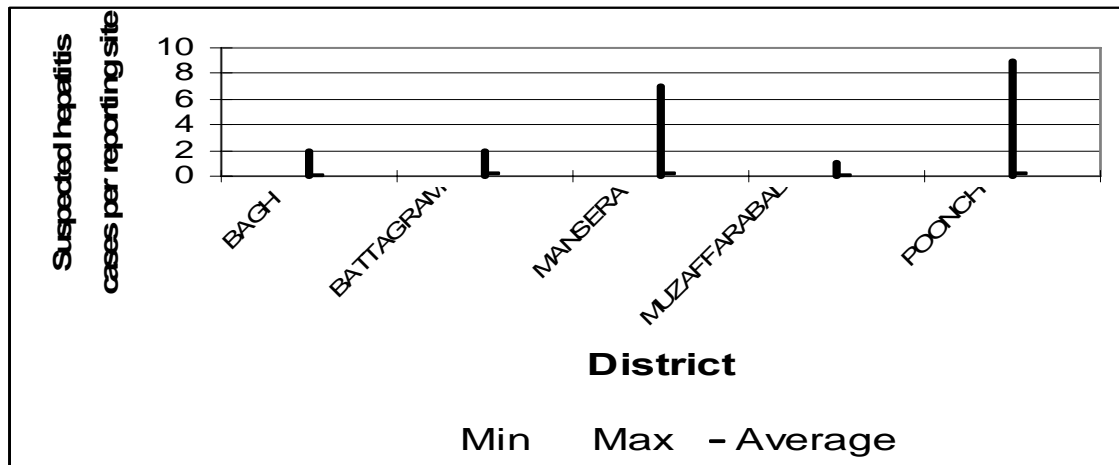


Figure 7: Minimum, maximum, and average number of suspected hepatitis cases per reporting site, by district, Earthquake Affected Areas, Pakistan, 6 – 13 April 2007

Malaria

In week 15, there were 443 suspected malaria cases reported, an increase of 44% higher from week 14. There were no associated deaths reported. With the warmer weather, malaria cases could be expected to rise, and the trend shows a step increase in the number of malaria cases per reporting site in the past four weeks. See figure 8.

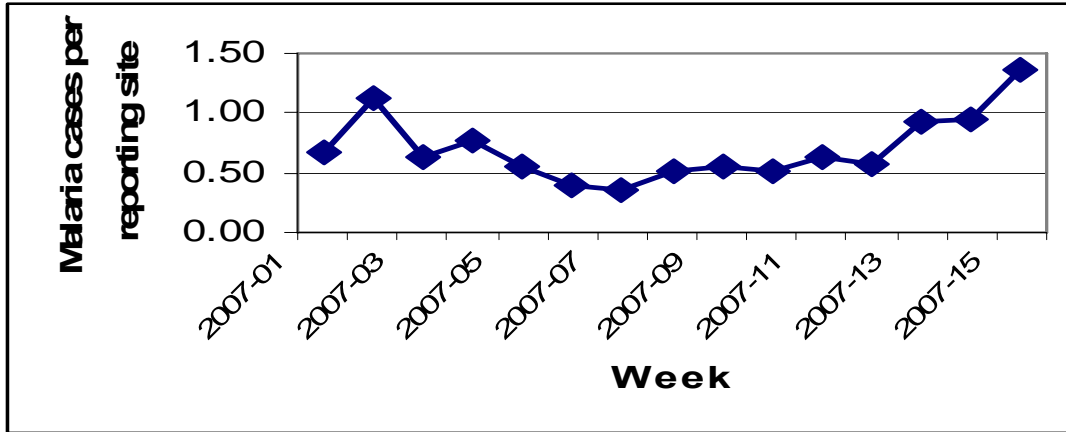


Figure 8: Trend in malaria cases per reporting site, Earthquake Affected Areas, Pakistan, 30 December 2006 – 13 April 2007

Measles

There were five cases of suspected measles reported in week 15, four cases less than 5 years of age reported from Rawalakot and one less than five years old case reported from Bagh district. In the first 15 weeks of 2006, there were 259 cases of measles, with the majority equally split between Battagram and Muzaffarabad. In contrast, in the first 15 weeks of 2007, there have been only 14 cases of measles, the majority of which have been reported from Poonch district (and four of which were reported this week). See figure 9.

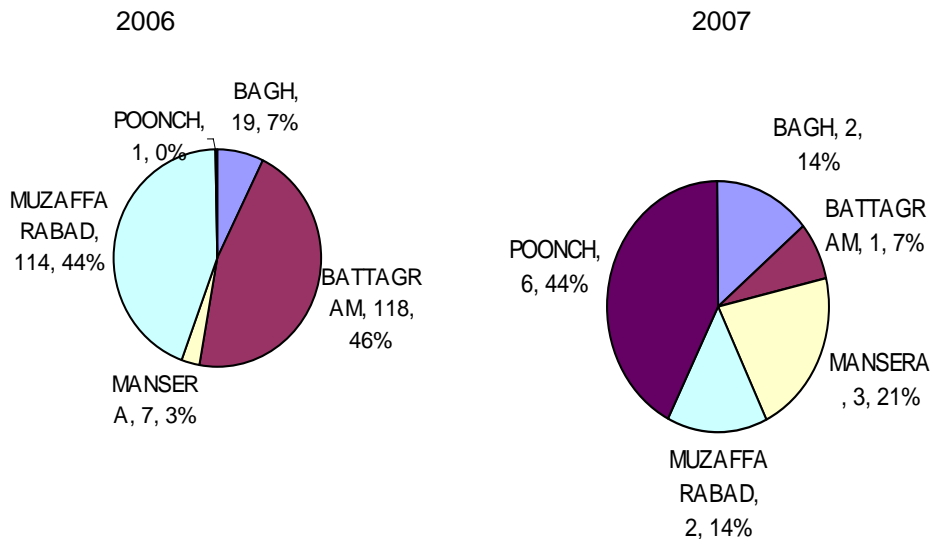


Figure 9: Measles cases and proportions, by district, 31 December 2005 – 14 April 2006 and 30 December 2006 – 13 April 2007

Acute Respiratory Infection

In week 15, there were 22,346 consultations for ARI reported through the DEWS. There were three associated deaths 2 under five one case reported from Bagh and other case reported from Mansehra, and 1 over five from Muzaffarabad district.. With warmer weather, the rate of ARI could be expected to decline. The rate in the past four weeks has declined in almost all of the districts, with the exception of Poonch, where it has increased very slightly. See Figure 10.

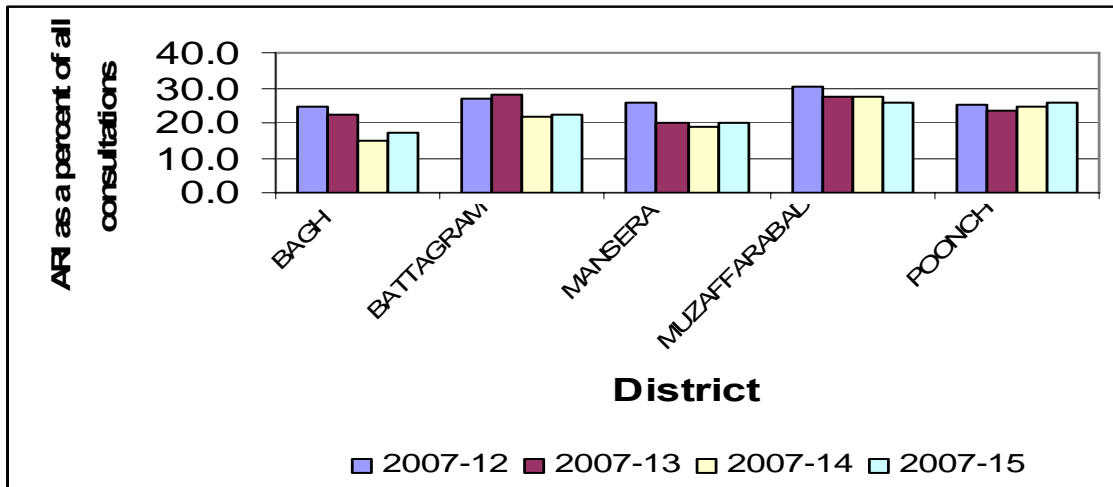


Figure 10: Trend in ARI as a percent of all consultations, by district, Earthquake Affected Areas, Pakistan, 17 March–13 April 2007.

Other Reportable Diseases and Conditions

There were 4 cases of suspected meningitis reported in week 15, 2 cases over five years of age reported from Muzaffarabad and 1 case over five years of age reported from Bagh district, and one case less than five years of age reported from Mansehra district. There were 7,015 cases of fever of unknown origin, and 4,130 cases of injuries. There were two suspected cases of tetanus less than five years of age reported from Mansehra district.

Fever of unknown origin is a diagnosis of last resort. However, one might expect to see seasonal fluctuations if it was associated with seasonal illnesses such as respiratory infections or malaria. However, when the trend is plotted for 2007, the rate of fever is relatively stable throughout the winter and into the spring. See figure 11.

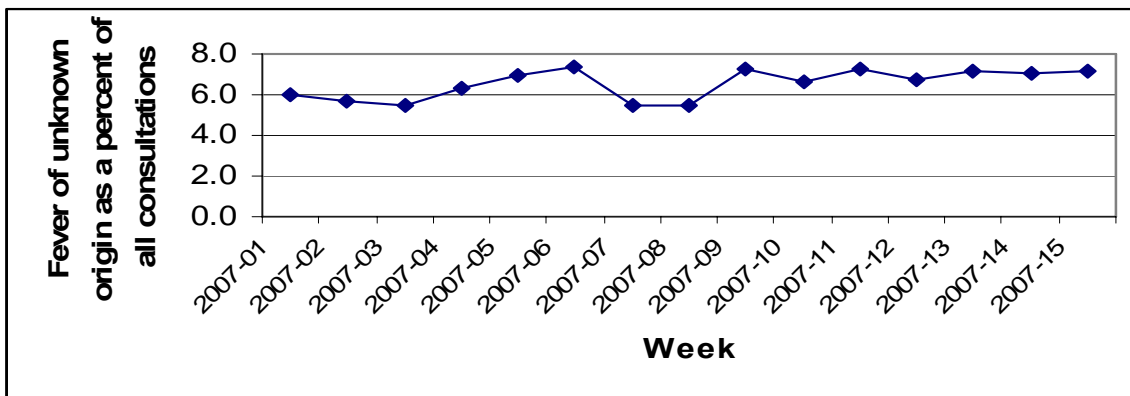


Figure 11: Trend in fever of unknown origin as a percentage of all consultations, Earthquake Affected Areas, Pakistan, 15 October 2005 – 13 April 2007

Outbreak Alert and Response¹

Acute Jaundice:

Poonch

In week 15, 9 cases of suspected hepatitis were reported from village Tangara. The team contacted Abbaspur RHC for verification and collected blood samples on the 9th of April. On the 18th, the team returned as reports in the media suggested that the situation had worsened. At that time, RHC Abbaspur had records of 19 individuals seeking medical treatment for suspected hepatitis in the previous 4 weeks (most in week 14 and 15), but on active surveillance a further 26 cases were identified. Water sampling was done, and the tank used by the community drained and cleaned, and the water chlorinated. Hygiene education messages were provided to Lady Health Workers, and a community hygiene promotion session held. Water purification tablets and soap were distributed to the community, and mosque announcements on personal hygiene were made.

Measles:

Poonch

Four cases of measles were reported from BHU Rehara (3) and CMH (1). Two were male children under five, and two were female children under five. By the time the cases were reported, all of the children had recovered. Under active surveillance no other cases were identified in the vicinity.

Bagh

One case of measles was reported from BHU Juglari. On investigation it was found to be a false report.

Neonatal Tetanus

Mansehra

Two cases of neonatal tetanus were reported in Mansehra district. The first was reported from village Kaneer Darband. The child was 12 days old at death, and had been delivered at home by an untrained birth attendant. The umbilical cord had been cut with a kitchen knife, and circumcision had been done when he was seven days old by a local barber. His mother was not vaccinated against tetanus. Health education messages were provided to the family and the mother was encouraged to go for vaccination. Clean delivery kits are already provided through Lady Health Workers in the area, however an assessment is being undertaken to be sure that any gaps in coverage are identified and a plan for filling them developed.

The second case was reported from CH Nawazabad. The patient was a girl, nine days old at death. No further details are available at this time.

Meningitis

Mansehra

One case of suspected meningitis was reported from Talhatta, Balakot, in an 18 month old girl. A sample was taken and the illness was diagnosed as streptococcal pneumonia.

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)

Bagh

A case of suspected meningitis was reported from BHU Julgari. On investigation it proved to be a false report.

**Acute Flaccid Paralysis
Mansehra**

One case of acute flaccid paralysis was reported in a 3 year old boy from Baffa Doraha. The polio team was contacted for further investigation and a sample was sent for confirmation. The child's vaccination status was incomplete.

A second case of acute flaccid paralysis was reported from DHQ hospital. The patient was a 12 year old boy. The polio team investigated, and a sample was taken for confirmation. The child's vaccination status was complete.

**Acute Respiratory Infection
Bagh**

An unusually large increase in the number of reported cases of acute respiratory infection from Chamankot resulted in an investigation by the Bagh team. On investigation it was found that the vast majority of cases were upper respiratory tract infections, such as common cold and tonsillitis, and only three cases of pneumonia were reported, all from different areas.

A second investigation of ARI as a result of a large increase of ARI cases, this time from DHQ Bagh, was undertaken in week 15. In this case the majority of cases were for chronic obstructive pulmonary disease, with only a small number of pneumonia cases. No intervention was necessary.

Number of reported cases and deaths per District, AJKTable 6. Number of reported cases and deaths, **Bagh District**, Earthquake Affected Areas, Pakistan, 17 Mar -13 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
12	578	0	21	0	0	0	9	0	2815	0	0	0	0	0	0	0	0	0	0	0	187	0	626	0	7007	2
13	937	0	68	0	2	0	21	0	3324	1	1	0	0	0	0	0	0	0	0	0	299	0	657	0	9686	1
14	499	0	38	0	0	0	14	0	2237	0	0	0	0	0	2	0	0	0	0	0	254	0	593	0	11344	1
15	466	0	38	0	0	0	16	0	2427	1	1	0	1	0	3	0	0	0	0	0	256	0	612	0	10209	3
Total	2480	0	165	0	2	0	60	0	10803	2	2	0	1	0	5	0	0	0	0	0	996	0	2488	0	38246	7

Table 7. Number of reported cases and deaths, **Poonch District**, Earthquake Affected Areas, Pakistan, 17 Mar -13 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
12	1283	0	42	0	0	0	100	0	3229	0	0	0	1	1	5	0	0	0	0	0	1498	0	526	0	6136	0
13	1210	0	46	0	0	0	166	0	3861	0	1	0	0	0	2	0	0	0	0	0	1881	0	735	0	8728	5
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
Total	5011	0	173	0	0	0	722	0	14966	1	5	0	1	1	21	0	0	0	0	0	7344	0	2625	0	29884	9

Table 8. Number of reported cases and deaths, **Muzaffarabad District**, Earthquake Affected Areas, Pakistan, 17 Mar -13 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
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
13	1936	0	237	0	0	0	90	0	9809	4	0	0	3	0	6	0	0	0	0	0	2694	0	1803	1	19350	7
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
Total	7702	0	977	0	0	0	366	0	34800	8	0	0	9	1	15	0	0	0	0	0	9167	0	6952	2	66963	16

Number of reported cases and deaths per District, NWFPTable 9. Number of reported cases and deaths, **Battagram District**, Earthquake Affected Areas, Pakistan, 17 Mar -13 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
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
13	528	0	58	0	0	0	26	0	2401	0	0	0	0	0	3	0	0	0	0	0	501	0	236	0	4893	1
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	388	0	28	0	0	0	3	0	1536	0	0	0	0	0	5	0	0	0	0	0	574	0	189	0	4182	0
Total	2177	0	151	0	0	0	48	0	6776	0	0	0	0	0	18	0	0	0	0	0	1758	0	750	0	15979	2

Table 10. Number of reported cases and deaths, **Mansehra District***, Earthquake Affected Areas, Pakistan, 17 Mar -13 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
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
13	1347	0	38	0	0	0	3	0	5865	1	1	0	0	0	8	0	0	0	0	0	2189	0	541	0	19464	3
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
Total	5178	0	163	0	2	0	30	0	20439	6	2	0	2	0	37	0	2	1	0	0	6761	0	1949	0	64555	9