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Main water source tank in village
Tangari, Tehsil Abbaspur.
Pictured by: Dr. Fawad



Highlights

- The number of bloody diarrhoea cases increased by 14% from week 21 (W21=496 & W22=580)
- Malaria cases increased by 27% from week 21 (W21=480 & W22=658)
- Acute watery diarrhoea cases increased by 9% from week 21 (W21=8619 & W22=9448)
- This week ARI cases among patients under 5 were 4% higher as compared to same week last year.
- Eight suspected measles cases were reported from Muzaffarabad district in week 22
- Two alerts for suspected acute watery diarrhoea were received from Bagh district in week 22.

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 this week was 306, a 4% increase as compared to the previous week, but reporting timelines of the DEWS system has decreased compared with last week.

See Table 1 for summary statistics.

Table 1. Reported health facilities by district, Earthquake Affected Areas, Pakistan, 5 May – 1 June 2007.

Area	Population	Reporting Health Facilities			
		5-11 May Week-19	12-18 May Week-20	19 – 25 May Week-21	26 May-1 June Week-22
Muzaffarabad	894,364	92	74	81	86
Bagh	452,532	37	38	39	40
Poonch	633,712	66	74	65	77
Mansehra / Balakot	1,154,804	68	70	70	69
Battagram / Shangla	592,256	36	36	36	34
Total	3,727,668	299(89%)	292(87%)	291(87%)	306(91%)

Total number of consultations

In week 22, there was an increase in the number of reporting sites, but the number of consultations has decreased from 92,957 to 92,456. The highest number of consultations by district was from Muzaffarabad, with 29,017, and the lowest was from Battagram, at 7,275. The weekly trend of reporting units participating in the DEWS and the number of consultations is shown in figure 1.

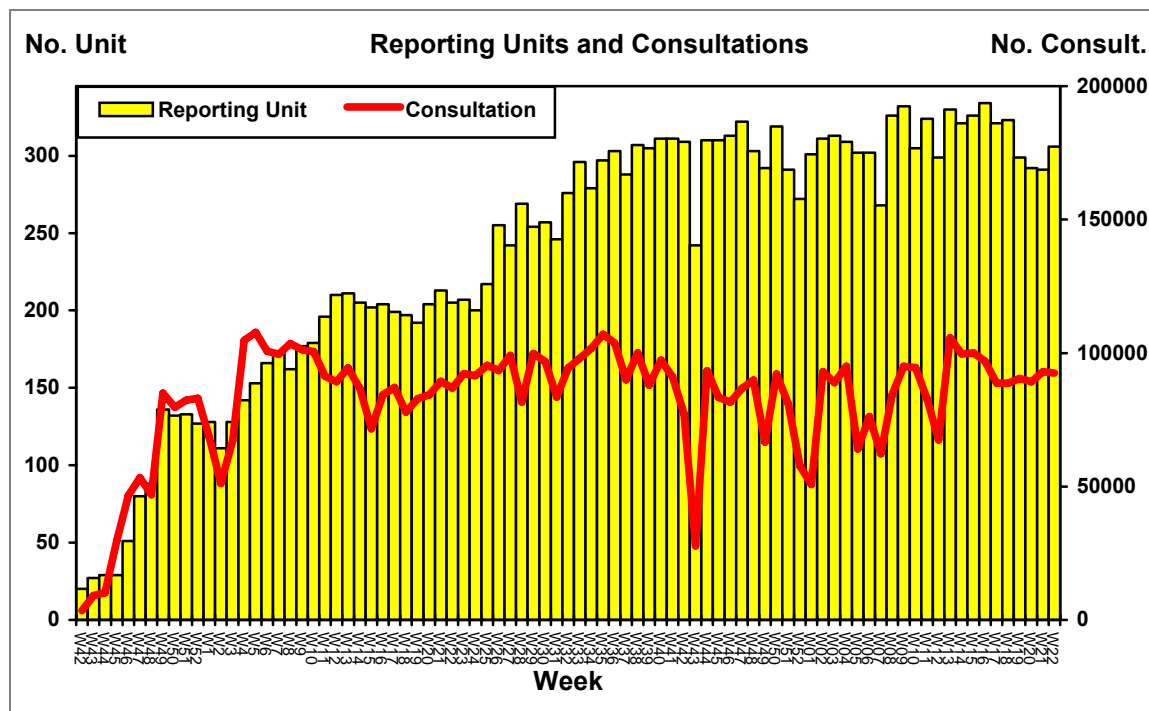


Figure 1. Weekly trend of reporting units and total number of consultations, Earthquake Affected Areas, Pakistan, 15 October 2005 - 1 June 2007.

DEWS Data, Epidemiological Week No. 22, 2007

During the last week (26th May to 1st June, 2007), **92,456** consultations were reported through DEWS. Acute Respiratory Infections (**ARI**) ranked **19%** (17,896), which was 1% higher as compared to the same week last year. Acute Watery Diarrhoea (**AWD**) was **10%** (9,448), **7%** (6,364) were due to Fever of Unknown Origin (**FUO**) and **3%** (2,453) due to Injuries (**INJ**). The ARI cases in patient under five years were 4% higher in week 22 of 2007 as compared to the same week last year. In patients' age five and above, ARI was 17% which was 1% higher than that reported in the same week last year while all other reportable conditions each represented less than 1% of the total consultations in week 22.

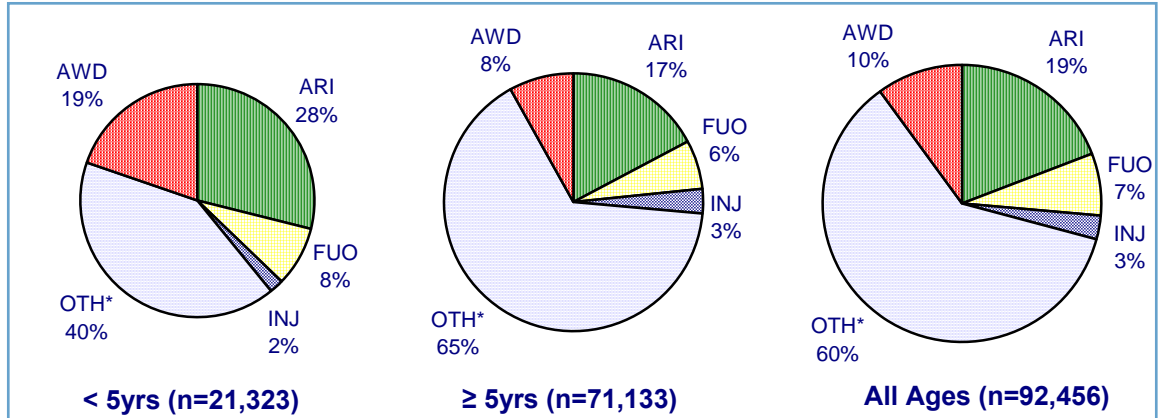


Figure 2. Proportion of primary causes for all reported cases, Earthquake Affected Areas, Pakistan, 26 May – 1 June 2007.

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

DEWS Data, Epidemiological Week No. 22, 2007: Consultations by age

The cases of diarrhoeal diseases start rising with the advent of warmer weather. The percentage of acute watery diarrhoea increased in both age groups since early spring, though the increase has been much larger in patients less than five year age. See figure 3.

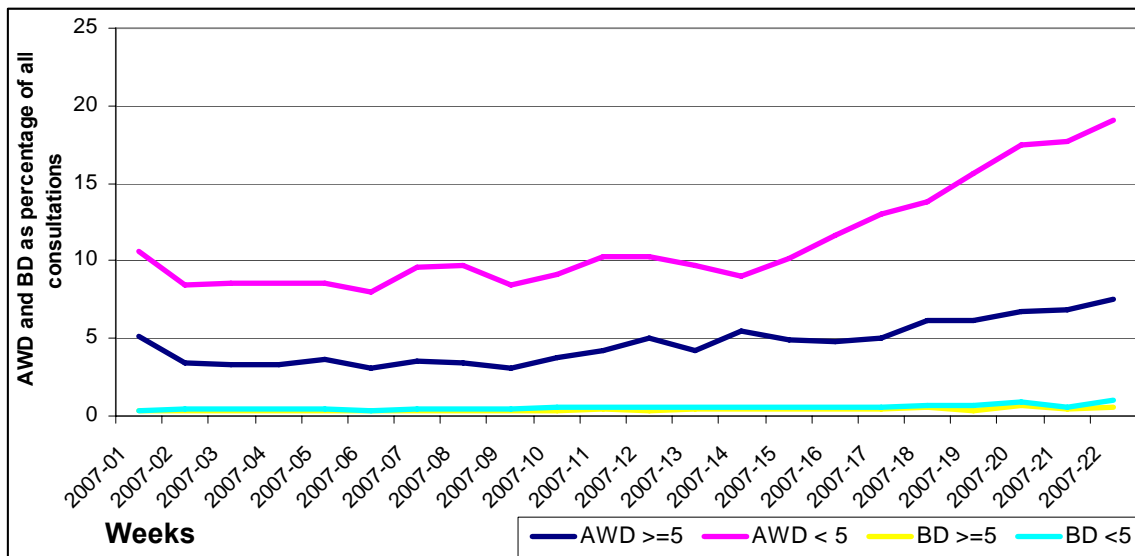


Figure 3: Trend in AWD and bloody diarrhoea as a percent of all consultations, by age group, Earthquake Affected Areas, Pakistan, 30 December 2006 - 1 June 2007

DEWS Data, Monthly Summary (Epidemiological Weeks No. 19-22)

During the period, May 5th to June 1st, 2007 (Epidemiological weeks 19 to 22 inclusive), 143,132 consultations relating to health conditions under surveillance were reported, out of the total of 365,129 consultations. **19%** (70,902) of consultations were due to acute respiratory infection (**ARI**), **9%** (33,840) acute watery diarrhoea (**AWD**), **7%** (24,534) unexplained fever (**FUO**) and **3%** (9,373) Injuries (**INJ**).

Table 2. Comparison of the weekly distribution of reported cases, deaths and monthly Case Fatality Rate (CFR), Earthquake Affected Areas, Pakistan, 5 May – 1 June 2007.

Week	WEEK 19		WEEK 20		WEEK 21		WEEK 22		TOTAL		CFR%
Event	C	D	C	D	C	D	C	D	C	D	
AWD	7478	1	8295	2	8619	0	9448	1	33840	4	0.012
BD	407	0	637	0	496	0	580	0	2120	0	0.000
AFP	1	0	0	0	1	0	1	0	3	0	0.000
MAL	380	0	608	0	480	0	658	0	2126	0	0.000
ARI	18682	2	17739	1	16585	6	17896	3	70902	12	0.017
MES	1	0	1	0	16	0	12	0	30	0	0.000
MEN	0	0	0	1	1	1	3	1	4	3	75.000
JAU	64	1	70	1	35	0	31	0	200	2	1.000
TET	0	0	0	0	0	0	0	0	0	0	0.000
AHF	0	0	0	0	0	0	0	0	0	0	0.000
FUO	6045	0	5447	0	6678	1	6364	1	24534	2	0.008
INJ	2150	0	2669	0	2101	0	2453	1	9373	1	0.011
OTH	55222	9	53820	16	57945	10	55010	14	221997	49	0.022
TOTAL	90430	13	89286	21	92957	18	92456	21	365129	73	
RU	299		292		291		306				

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, **83,507** consultations were reported in children under 5 years age, (23% of the total consultations), of which ARI was 29% (24,371), AWD 18% (14,620), FUO 8% (6,507) and injuries (INJ) was 2% (1,762).

Table 3. Total number of reported cases, deaths and monthly Case Fatality Rate (CFR), less than 5 years old, Earthquake Affected Areas, Pakistan 5 May – 1 June 2007.

Week	WEEK 18		WEEK 19		WEEK 20		WEEK 21		TOTAL		CFR%
Event	C	D	C	D	C	D	C	D	C	D	
AWD	3165	1	3717	2	3668	0	4070	1	14620	4	0.027
BD	134	0	200	0	130	0	212	0	676	0	0.000
AFP	0	0	0	0	0	0	1	0	1	0	0.000
MAL	57	0	156	0	89	0	163	0	465	0	0.000
ARI	6260	2	6425	1	5698	6	5988	3	24371	12	0.049
MES	1	0	1	0	7	0	7	0	16	0	0.000
MEN	0	0	0	1	0	0	1	1	1	2	0.000
JAU	4	1	9	0	4	0	4	0	21	1	4.762
TET	0	0	0	0	0	0	0	0	0	0	0.000
AHF	0	0	0	0	0	0	0	0	0	0	0.000
FUO	1429	0	1454	0	1848	0	1776	0	6507	0	0.000
INJ	381	0	546	0	356	0	479	0	1762	0	0.000
OTH	8748	0	8773	1	8924	4	8622	3	35067	8	0.023
TOTAL	20179	4	21281	5	20724	10	21323	8	83507	27	
RU	299		292		291		306				

There was an increase in the number of AWD cases from 8,619 to 9,448 since last week, and ARI also increased from 16,585 to 17,896 since last week. The weekly proportion of ARI and AWD is shown in figure 4.

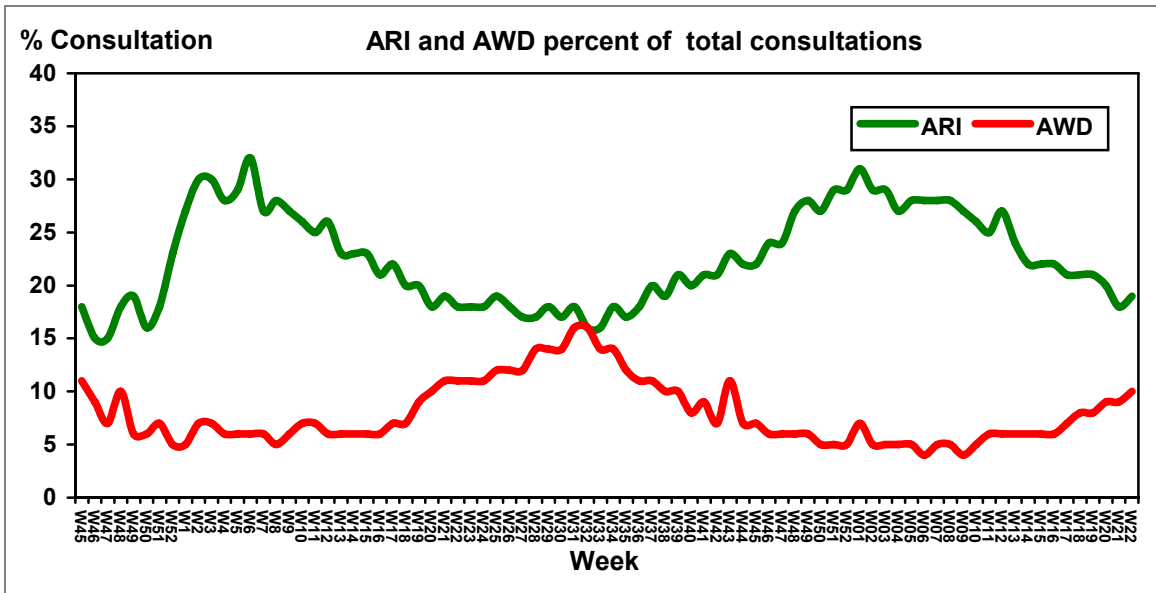


Figure 4. Weekly trend of percent of consultations for ARI and AWD, Earthquake Affected Areas, Pakistan, 15 October 2005 – 1 June 2007.

Acute Watery Diarrhoea

During the week 22, there were 9,448 cases of AWD reported which was 9% higher than week 21. There was one associated death under five years of age reported from Muzaffarabad district. The percentage of AWD in 2007 is almost identical to that of 2006. See figure 5

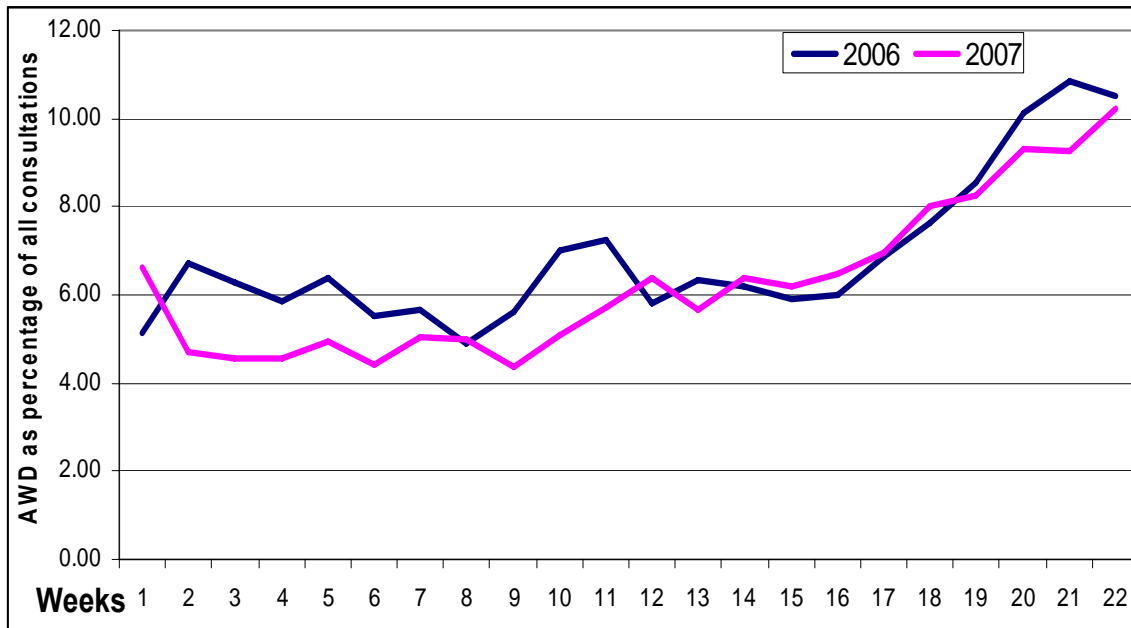


Figure 5: Trend in AWD as a percent of all consultations, 2006 and 2007, Earthquake Affected Areas, Pakistan, 31 Dec 05 – 2 June 2006 and 30 Dec 06 – 1 June 2007

Bloody Diarrhoea

During week 22, there were 580 suspected cases of bloody diarrhoea reported, which was 14% higher than week 21. There were no associated deaths reported from any district. The percentage of BD in 2007 is almost identical to that of 2006. See figure 6

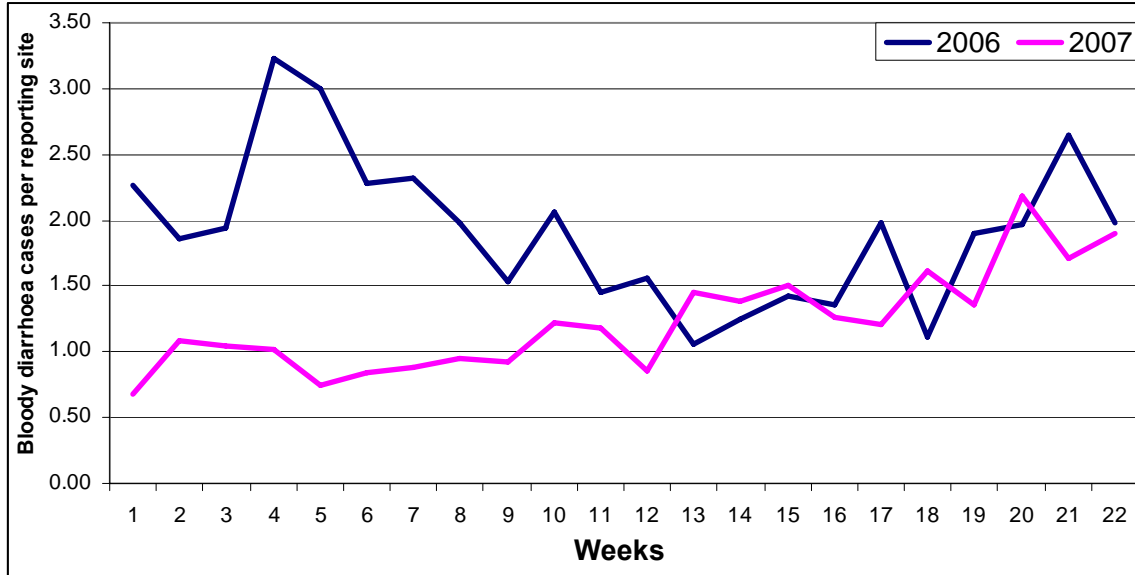


Figure 6: Trend in bloody diarrhoea cases per reporting site, 2006 and 2007, Earthquake Affected Areas, Pakistan, 31 Dec05– 2 June 2006 and 30 Dec06 – 1 June 2007

Acute Jaundice Syndrome

In week 22, there were 31 cases of suspected hepatitis reported. There is no associated death reported from any district. During the past two weeks, there had been a gradual decrease in the percentage of suspected hepatitis. However the rate is still significantly below that of the same period reported during 2006. See figure 7.

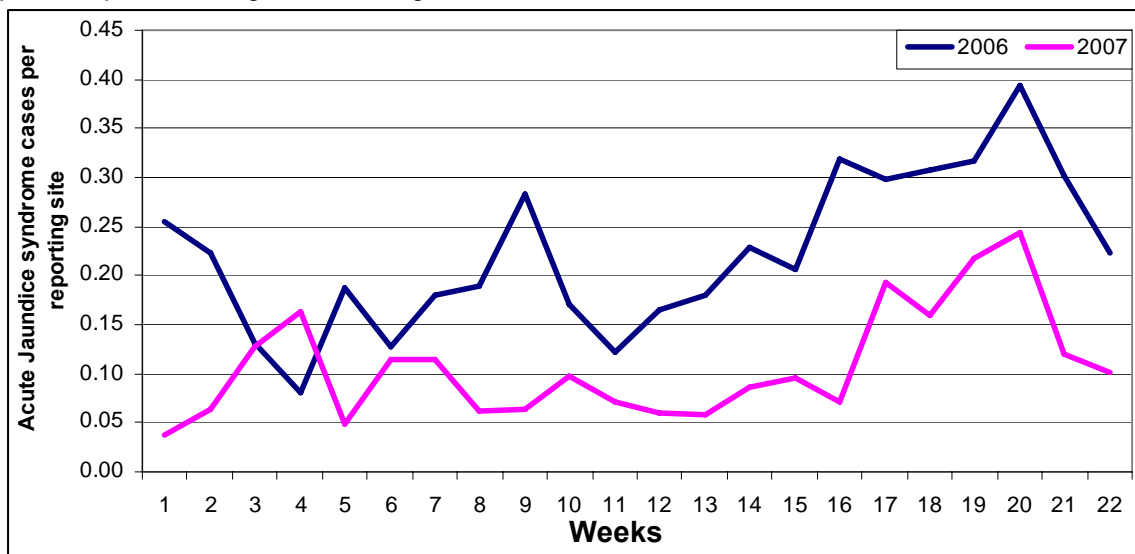


Figure 7: Trend in suspected hepatitis cases per reporting site, Earthquake Affected Areas, Pakistan, 31st Dec, 05 to June 2006 and 30th Dec 06 to 1st June, 2007.

Malaria

In week 22, there were 658 suspected malaria cases reported, 27% higher than week 21. There were no associated deaths reported. The percentage of malaria cases starts increasing since week 12 of 2007. See figure 8.

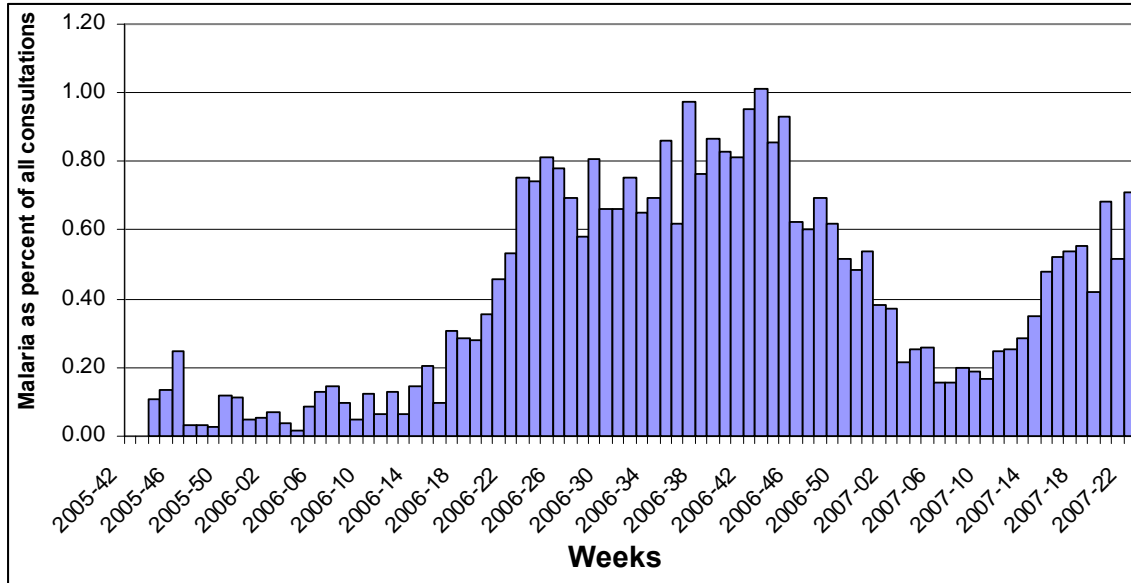


Figure 8: Trend in malaria as a percent of all consultation, Earthquake Affected Areas, Pakistan, 15 October 2005 – 1 June 2007

Measles

There were 12 cases of suspected measles reported in week 22. Eight suspected cases were reported from Muzaffarabad district, two suspected cases reported from Mansehra and two suspected cases reported from Battagram district. Almost no measles cases were reported during the early weeks of 2007, however due to an outbreak, a large number of cases have been reported since week 15. See Figure 9.

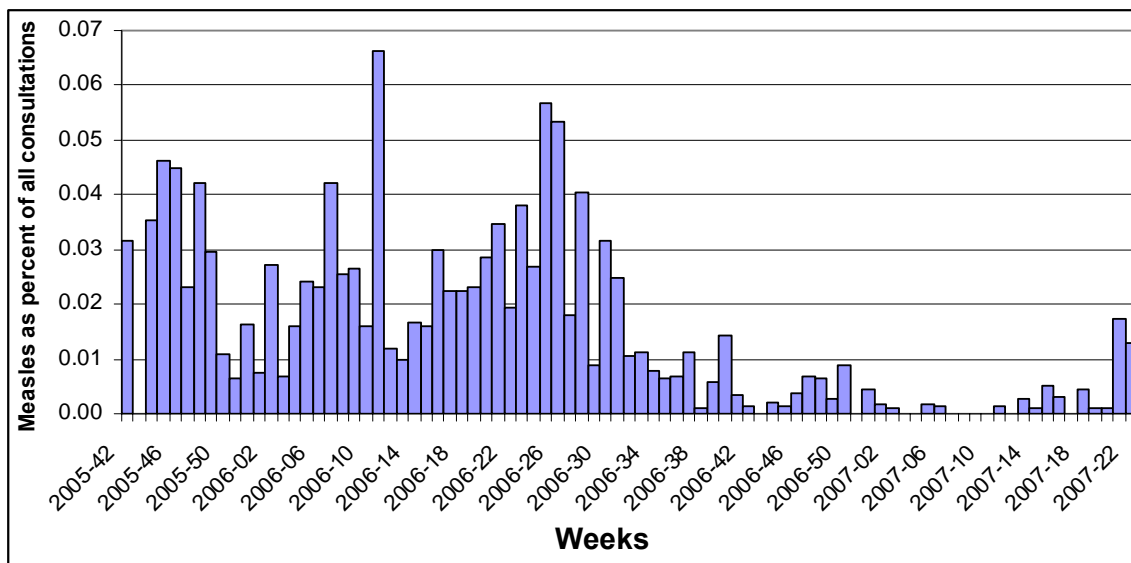


Figure 9: Trend in measles cases, Earthquake Affected Areas, Pakistan, 15 October 2005 – 1st June, 2007

Acute Respiratory Infection

In week 22, there were 17,896 consultations for ARI reported through the DEWS system. There were three deaths in patients under five years of age, out of which two were from Mansehra and one from Muzaffarabad district. In the past four weeks, the trend in the percentage of ARI has been relatively steady in most districts, having small fluctuations. See Figure 10.

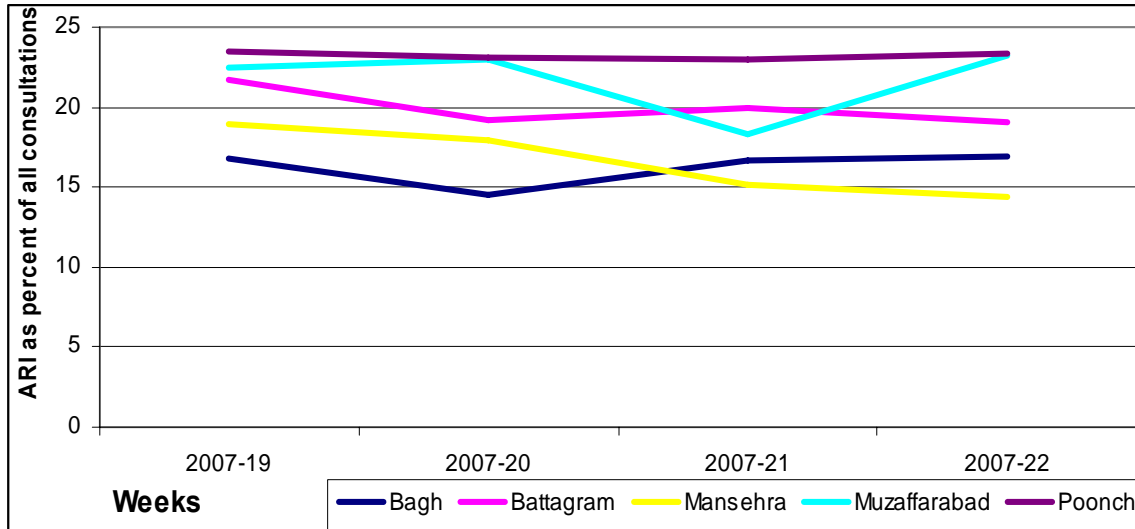


Figure 10: Trend in ARI as a percent of all consultations, Earthquake Affected Areas, Pakistan, 5 May – 1 June 2007

Other Reportable Diseases and Conditions

Three cases of suspected meningitis were reported from Muzaffarabad district in week 22. There were 6,364 cases of Fever of Unknown Origin (FUO) and 2,453 cases of injuries. There were no cases of tetanus or acute hemorrhagic fever. A total of 24 haemorrhagic fever cases have been reported since the system was instituted. Virtually all of the cases were misdiagnoses or were falsely reported. Though one outbreak with four suspected cases was identified in week 20 of 2006. See figure 11.

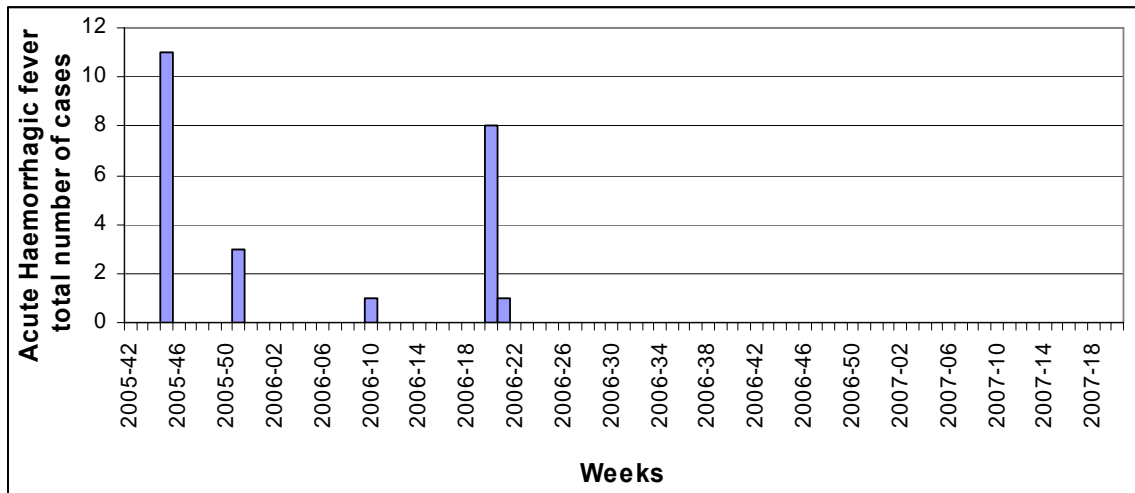


Figure 11: Haemorrhagic fever cases, Earthquake Affected Areas, Pakistan, 15th October 2005 – 1st June 2007

Outbreak Alert and Response¹

Bagh

Acute Diarrhoea

One alert of acute diarrhoea was received from BHU Kharal Abbassian. On investigation while checking the facility record and weekly surveillance reports, it was learnt that all the cases were of simple diarrhoea and the majority cases were under five years of age. No cases attended the facility with severe dehydration. These patients were from different locations and there was no clustering.

Another alert of acute diarrhoea was received from village Kharal Maldyala, BHU Kharal Maldyala. The number of patients with acute diarrhoea increased under Epi. week 22/07. Most of the cases were under 5 years of age. The influx of the patients was due to the rains occurring last week. No patients attended the facility with severe dehydration.

Bagh

Malaria

On analysis of the weekly surveillance data of RHC Dhirkot, it was identified that there was an increase in the number of patients of suspected Malaria in week 22. On investigation it was found that all the patients were from different locations and attended the facility on different days. There was no clustering. The confirmatory blood thick and thin films of all the patients were negative for Malarial parasites. WHO Bagh surveillance team is following up and monitor the situation vigilantly.

Another alert of suspected Malaria was received from RHC Chitratopi. They informed an increase in the number of suspected Malaria cases attended the facility. On investigation the patients were from different locations and there was no clustering.

Measles

Muzaffarabad

On 30th May, WHO Muzaffarabad received measles alert from MERLIN health facility through an IDP camp, Muzaffarabad. WHO surveillance team immediately investigated the alert along with Merlin doctor. In total five new cases were reported. Three of the five were found with sign and symptoms of measles during the investigation while the rest had left for Neelum Valley and could not be investigated.

Regarding these three patients from the IDP camp, one was immunized 3 weeks ago, one had no history of immunization and the third one had just turned 6 months. One blood sample was taken and sent to NIH Islamabad for laboratory confirmation.

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, 5 May – 1 June 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
19	1200	0	32	0	0	0	56	0	2556	0	1	0	0	0	12	0	0	0	0	0	291	0	59	0	10967	4
20	981	1	80	0	0	0	95	0	2135	0	1	0	0	0	24	0	0	0	0	0	312	0	85	0	10959	3
21	800	0	75	0	0	0	32	0	2371	1	0	0	0	0	2	0	0	0	0	0	414	0	2	0	10519	4
22	836	0	19	0	0	0	86	0	2278	0	0	0	0	0	5	0	0	0	0	0	313	0	16	0	9900	2
Total	3817	1	206	0	0	0	269	0	9340	1	2	0	0	0	43	0	0	0	0	0	1330	0	162	0	42345	13

Table 7. Number of reported cases and deaths, **Poonch District***, Earthquake Affected Areas, Pakistan, 5 May – 1 June 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
19	1213	0	36	0	0	0	220	0	3113	0	0	0	0	0	30	0	0	0	0	0	1536	0	593	0	6525	4
20	1465	0	20	0	0	0	273	0	3677	0	0	0	0	0	25	0	0	0	0	0	1795	0	652	0	8041	3
21	1268	0	32	0	0	0	288	0	3188	1	0	0	0	0	6	0	0	0	0	0	1828	0	552	0	6702	2
22	1441	0	40	0	0	0	266	0	3526	0	0	0	0	0	7	0	0	0	0	0	1855	0	628	0	7346	4
Total	5387	0	128	0	0	0	1047	0	13504	1	0	0	0	0	68	0	0	0	0	0	7014	0	2425	0	28614	13

Table 8. Number of reported cases and deaths, **Muzaffarabad District***, Earthquake Affected Areas, Pakistan, 5 May – 1 June 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
19	2599	0	248	0	1	0	82	0	6829	0	0	0	0	0	4	1	0	0	0	0	2495	0	874	0	17277	1
20	2499	1	402	0	0	0	182	0	5950	0	0	0	0	0	3	1	0	0	0	0	1319	0	1218	0	14361	7
21	3315	0	242	0	0	0	124	0	5016	3	10	0	1	1	5	0	0	0	0	0	1960	1	806	0	15969	3
22	4151	1	393	0	0	0	279	0	6725	1	8	0	3	1	5	0	0	0	0	0	1862	1	1099	1	14492	5
Total	12564	2	1285	0	1	0	667	0	24520	4	18	0	4	2	17	2	0	0	0	0	7636	2	3997	1	62099	16

Number of reported cases and deaths per District, NWFPTable 9. Number of reported cases and deaths, **Battagram District***, Earthquake Affected Areas, Pakistan, 5 May – 1 June 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
19	616	0	64	0	0	0	9	0	1565	0	0	0	0	0	4	0	0	0	0	0	379	0	242	0	4314	0
20	654	0	79	0	0	0	37	0	1432	0	0	0	0	0	11	0	0	0	0	0	473	0	220	0	4546	1
21	763	0	51	0	0	0	17	0	1444	0	1	0	0	0	14	0	0	0	0	0	462	0	220	0	4280	0
22	714	0	89	0	0	0	17	0	1384	0	2	0	0	0	9	0	0	0	0	0	375	0	184	0	4501	0
Total	2747	0	283	0	0	0	80	0	5825	0	3	0	0	0	38	0	0	0	0	0	1689	0	866	0	17641	1

Table 10. Number of reported cases and deaths, **Mansehra District***, Earthquake Affected Areas, Pakistan, 5 May – 1 June 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
19	1857	1	27	0	0	0	13	0	4619	2	0	0	0	0	14	0	0	0	0	0	1344	0	382	0	16139	0
20	2696	0	56	0	0	0	21	0	4545	1	0	0	0	1	7	0	0	0	0	0	1548	0	494	0	15913	2
21	2473	0	96	0	1	0	19	0	4566	1	5	0	0	0	8	0	0	0	0	0	2014	0	521	0	20475	1
22	2306	0	39	0	1	0	10	0	3983	2	2	0	0	0	5	0	0	0	0	0	1959	0	526	0	18771	3
Total	9332	1	218	0	2	0	63	0	17713	6	7	0	0	1	34	0	0	0	0	0	6865	0	1923	0	71298	6