PUBLIC HEALTH BULLETIN-PAKISTAN

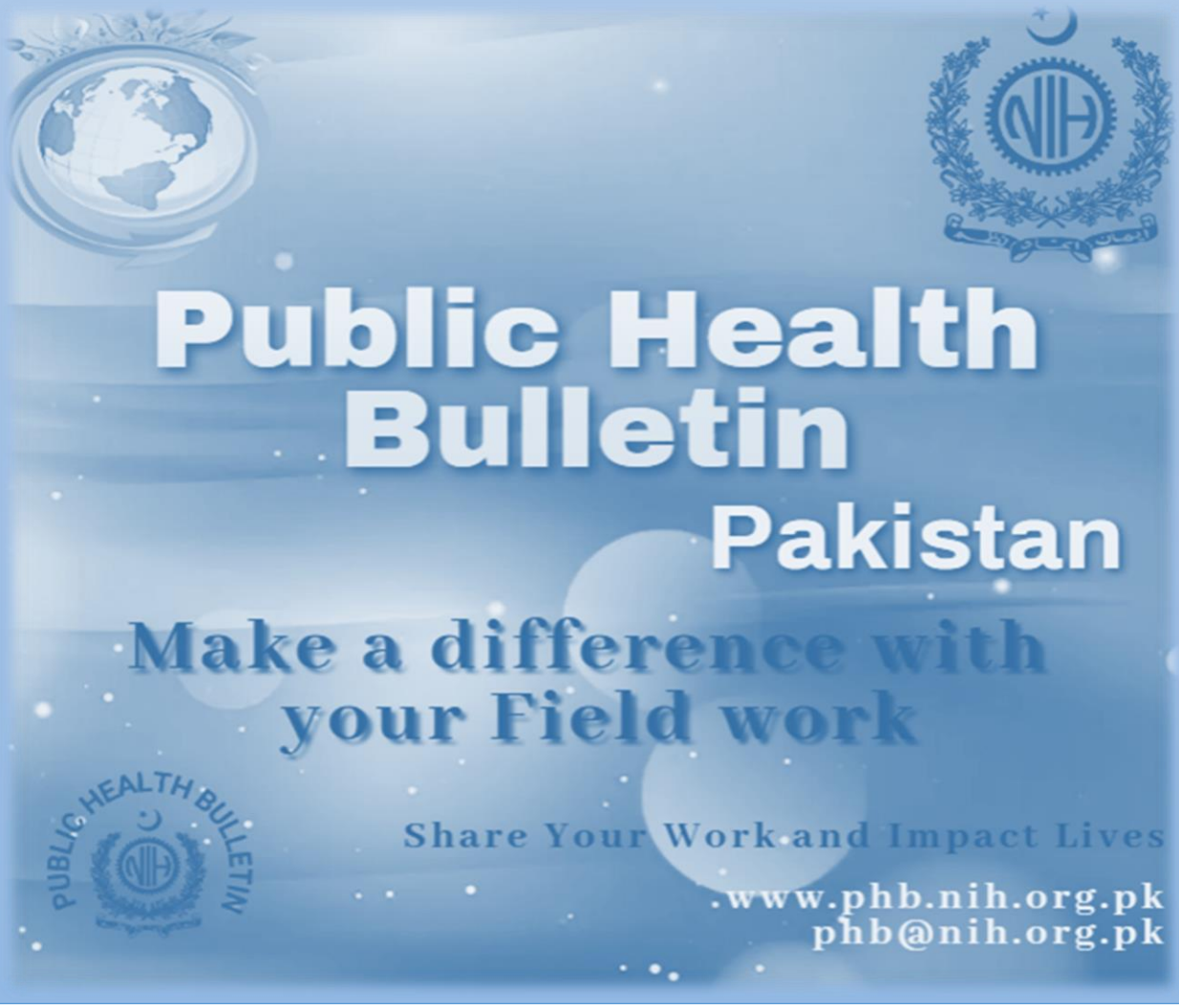
Vol. 3 | Week 41
24th Oct 2023

Integrated Disease Surveillance & Response (IDSR) Report

Center of Disease Control
National Institute of Health, Islamabad

http:/www.phb.nih.org.pk/

Integrated Disease Surveillance & Response (IDSR) Weekly Public Health Bulletin is your go-to resource for disease trends, outbreak alerts, and crucial public health information. By reading and sharing this bulletin, you can help increase awareness and promote preventive measures within your community.



Weekly Public Health Bulletin - Pakistan, Week 41, 2023

This bulletin summarizes the most significant public health events that occurred in Pakistan during Week 41 of 2023.

The most frequently reported cases during Week 41 were acute diarrhea (non-cholera), followed by malaria, influenza-like illness (ILI), acute lower respiratory infection (ALRI) in children under 5 years of age, viral hepatitis (B&C), bloody diarrhea, severe acute respiratory infection (SARI), typhoid, dog bites, and acute viral hepatitis (A&E).

One hundred fifty-seven cases of pertussis were reported this week, primarily from Balochistan and Sindh provinces. All cases are suspected and require field investigation for verification.

A high number of cases of acute hepatitis (B&C) were also reported. Urgent verification of these cases is required to initiate the response in the affected districts.

It is important to note that all reported cases are suspected and require field investigation for verification.

Public health interventions and a multi-sectoral approach are essential to address this ongoing epidemic.

The Public Health Bulletin (PHB) team expresses its sincere gratitude to all healthcare workers who have contributed to the reporting of these cases. Their work is essential in protecting public health. The team also reminds the public to be vigilant and to seek medical attention promptly if they experience any symptoms of the diseases listed above.

By working together, we can safeguard the health of our communities.

.

Sincerely,
The Chief Editor

- *During week 41, most frequent reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, ALRI <5 years, VH (B&C), B. Diarrhea, SARI, Typhoid, dog bite and AVH (A&E).*
- *One hundred and fifty-seven cases of pertussis reported this week mostly from Balochistan and Sindh. All are suspected cases. Field investigation required to verify cases.*
- *Cases of Acute hepatitis (B&C) reported in high numbers. Urgent verification of cases is required to initiate the response in the affected districts*

IDSR compliance attributes

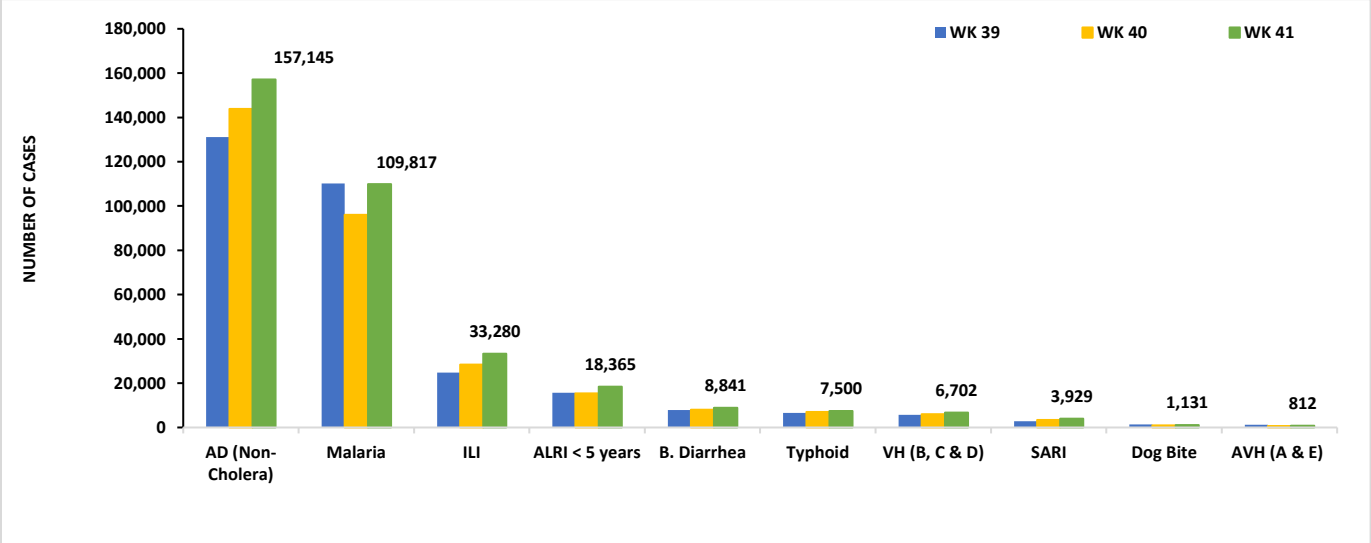
- *The national compliance rate for IDSR reporting in 121 implemented districts* is 79%
- *ICT and Sindh are the top reporting region with a compliance rate of 100% and 96% followed by AJK 88% and Khyber Pakhtunkhwa with 78%*
- *The lowest compliance rate was observed in Gilgit Baltistan.*

Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	1778	1380	78
Azad Jammu Kashmir	377	333	88
Islamabad Capital Territory	27	27	100
Balochistan	1249	843	67
Gilgit Baltistan	479	154	32
Sindh	1949	1871	96
National	5859	4608	79

Table 1: Province/Area wise distribution of most frequently reported cases during week 41, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	1,337	7,333	532	94	18,991	85,800	43,058	157,145
Malaria	58	9,627	1	0	6,151	4,629	89,351	109,817
ILI	2,648	7,433	295	491	5,112	401	16,900	33,280
ALRI < 5 years	968	2,536	309	0	1,912	24	12,616	18,365
VH (B, C & D)	8	153	0	0	223	NR	6,318	6,702
B. Diarrhea	58	1,939	51	0	1,060	2,278	3,455	8,841
SARI	247	1,127	219	0	1,664	NR	672	3,929
Typhoid	37	989	43	0	897	4,113	1,421	7,500
Dog Bite	50	133	0	0	170	NR	778	1,131
AVH (A & E)	33	37	4	0	312	NR	426	812
AWD (S. Cholera)	74	447	33	0	95	NR	54	703
Mumps	83	97	31	0	122	NR	276	609
CL	8	123	0	0	258	38	0	427
Dengue	13	2	0	1	85	NR	352	453
Measles	13	26	4	0	179	NR	93	315
Pertussis	4	114	11	0	11	NR	17	157
Gonorrhea	0	129	1	0	24	NR	40	194
Chickenpox/ Varicella	11	1	18	0	129	177	35	371
AFP	1	12	0	0	15	NR	137	165
Meningitis	3	17	2	0	3	NR	31	56
Syphilis	20	3	1	0	0	NR	12	36
HIV/AIDS	0	4	0	0	0	NR	20	24
VL	0	9	0	0	3	NR	9	21
Leprosy	12	0	0	0	1	NR	0	13
Chikungunya	0	3	0	0	8	NR	0	11
Brucellosis	0	0	0	0	5	NR	0	5
Anthrax	0	0	0	0	0	NR	0	0
NT	1	0	3	0	5	NR	0	9
Diphtheria (Probable)	1	1	0	0	4	NR	0	6
Rubella (CRS)	0	1	0	0	0	NR	2	3
CCHF	0	0	0	0	1	NR	0	1

Figure 1: Most frequently reported suspected cases during week 41, Pakistan



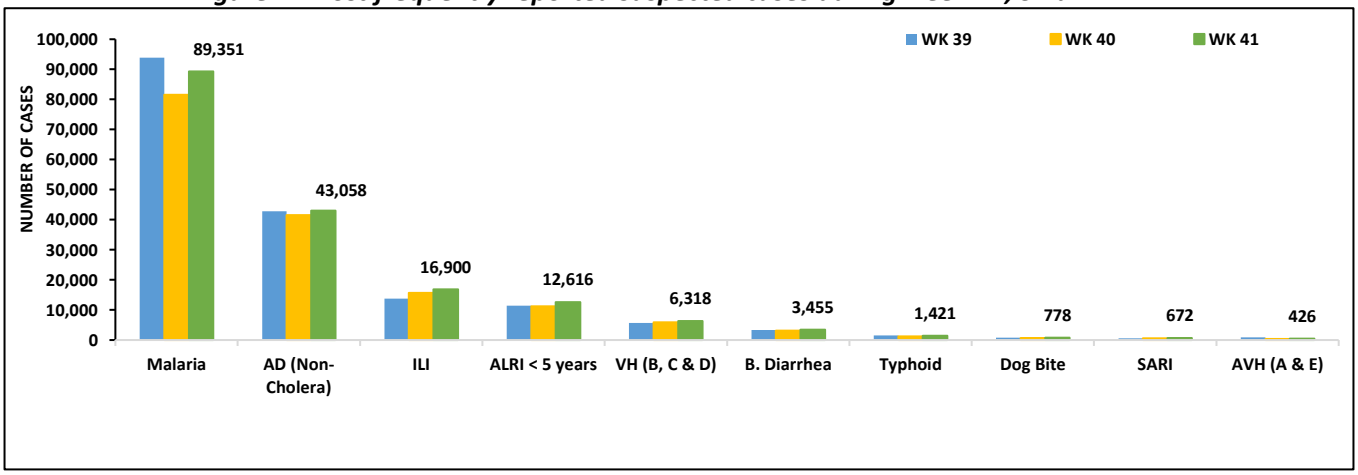
Sindh

- Malaria cases were maximum followed by AD (Non-Cholera), ILI, ALRI<5 Years, VH (B, C, D), B. Diarrhea, Typhoid, dog bite, SARI and AVH (A&E).
- Larkana, Kambar, Badin and Dadu remained the high reporting districts for malaria.
- Typhoid cases are regularly reported mostly from Shaheed Benazirabad, Khairpur, Karachi Central and Sanghar. Field investigation is required to identify the source to control the spread of disease.
- Malaria cases again showed an upward trend in cases this week.

Table 2: District wise distribution of most frequently reported suspected cases during week 41, Sindh

DISTRICTS	Malaria	AD (Non-Cholera)	ILI	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Typhoid	Dog Bite	SARI	AVH (A & E)
Badin	6,869	3,027	358	654	401	242	49	170	12	2
Dadu	4,380	1,764	150	1,408	9	216	88	0	58	1
Ghotki	1,600	749	0	523	416	125	0	0	0	0
Hyderabad	486	1,814	374	63	56	23	19	0	0	0
Jacobabad	2,694	1,384	131	1,449	290	183	14	65	4	0
Jamshoro	1,330	1,629	48	186	106	136	51	6	8	0
Kamber	7,721	2,399	0	450	654	257	29	0	0	0
Karachi Central	190	1,688	2,250	72	156	80	133	0	0	29
Karachi East	124	497	105	19	1	13	11	3	4	2
Karachi Keamari	14	381	233	46	0	2	9	0	0	0
Karachi Korangi	61	291	0	0	0	3	8	0	0	0
Karachi Malir	117	634	1,666	286	27	48	18	6	18	4
Karachi South	46	125	0	0	0	1	1	0	0	4
Karachi West	118	858	619	100	27	32	37	26	34	5
Kashmore	2,723	600	597	237	22	77	12	0	0	0
Khairpur	6,552	3,255	1,408	1,083	648	354	340	63	230	5
Larkana	13,091	2,414	10	485	130	482	21	0	0	0
Matiari	1,898	1,498	9	340	395	69	7	24	0	6
Mirpurkhas	5,805	2,570	3,232	844	161	116	62	33	1	5
Naushero Feroze	1,580	1,078	504	149	86	61	85	61	0	0
Sanghar	3,238	1,900	121	693	1,011	73	104	148	261	3
Shaheed Benazirabad	1,871	1,960	0	515	112	91	181	0	3	1
Shikarpur	3,891	1,132	2	218	140	126	2	107	3	0
Sujawal	2,996	1,019	0	202	0	11	0	0	0	51
Sukkur	4,054	1,766	1,896	528	304	180	12	0	1	0
Tando Allahyar	1,695	1,179	700	413	312	131	11	30	0	11
Tando Muhammad Khan	2,073	1,389	1	304	32	81	5	0	0	0
Tharparkar	4,222	1,198	1,359	598	266	93	44	3	14	39
Thatta	3,444	1,208	853	285	286	77	30	33	17	255
Umerkot	4,468	1,652	274	466	270	72	38	0	4	3
Total	89,351	43,058	16,900	12,616	6,318	3,455	1,421	778	672	426

Figure 2: Most frequently reported suspected cases during week 41, Sindh



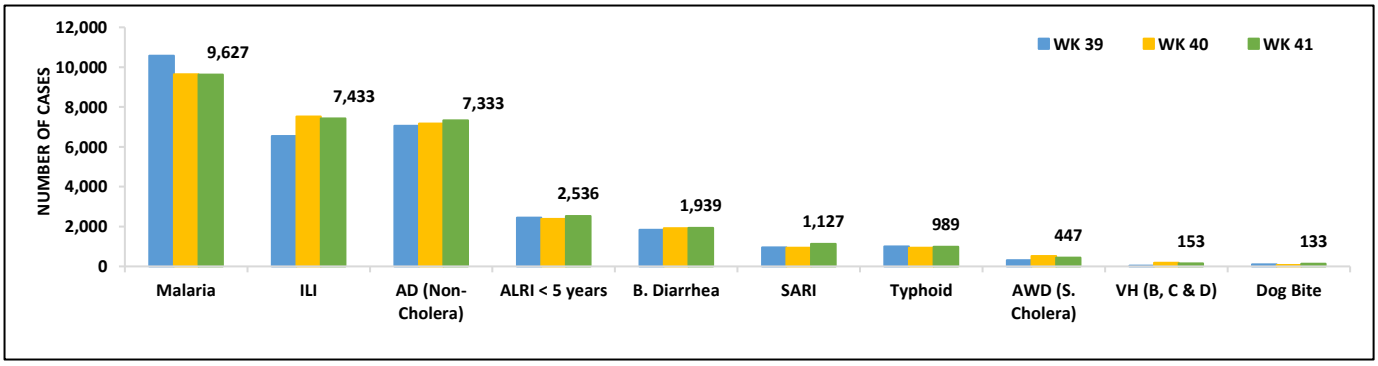
Balochistan

- Malaria, ILI, AD (Non-Cholera), ALRI <5 years, B. Diarrhea, SARI, Typhoid, AWD (S. Cholera), VH (A&E) and dog bite were the most frequently reported diseases from Balochistan province.
- Trend for ILI, AD and Malaria cases remained same this week.
- Ziarat, Sherani, Zhob and Chaman reported AWD (S. Cholera) in high numbers. All are suspected cases and need field investigation to verify the cases. B. Diarrhea cases are also on rise. Multisectoral response is required to prevent the spread of the disease.

Table 3: District wise distribution of most frequently reported suspected cases during week 41, Balochistan

Districts	Malaria	ILI	AD (Non-Cholera)	ALRI < 5 years	B. Diarrhea	SARI	Typhoid	AWD (S. Cholera)	VH (B, C & D)	Dog Bite
Barkhan	182	97	95	23	13	73	57	16	0	4
Chagai	1	314	219	0	51	0	5	15	2	1
Chaman	79	218	132	9	73	32	49	46	1	0
Dera Bugti	343	22	41	36	40	16	12	3	0	0
Duki	81	94	136	24	93	85	19	45	0	0
Gwadar	33	182	72	NR	8	NR	NR	NR	NR	NR
Harnai	135	19	126	208	101	0	3	13	0	2
Hub	374	182	221	39	58	79	9	0	33	0
Jaffarabad	1,708	184	576	44	63	47	18	0	8	14
Jhal Magsi	481	160	355	64	11	0	19	5	0	4
Kachhi (Bolan)	285	216	278	7	32	67	37	26	0	0
Kalat	21	1	18	2	14	2	11	0	0	0
Kech (Turbat)	292	647	319	45	41	12	0	2	0	0
Kharan	52	347	117	5	68	0	6	8	0	0
Khuzdar	185	192	128	0	46	12	15	0	1	11
Killa Abdullah	0	24	13	0	3	17	3	0	0	0
Killa Saifullah	270	4	181	171	54	15	35	5	0	0
Kohlu	153	390	107	31	118	57	53	14	4	1
Lasbella	620	27	427	641	30	22	13	0	0	7
Loralai	84	388	221	83	74	116	34	3	0	0
Mastung	167	181	506	53	144	90	119	6	14	8
Musa Khail	472	0	321	13	14	2	84	0	50	50
Naseerabad	70	3	245	0	112	14	1	10	0	0
Nushki	174	71	129	26	28	8	59	20	0	0
Panjgur	6	159	75	26	51	2	8	0	0	3
Pishin	45	1,347	487	19	125	67	46	44	5	0
Quetta	11	31	19	0	10	0	0	0	0	0
Sherani	359	792	279	55	54	38	39	90	0	1
Sibi	1,248	45	362	189	143	94	72	3	9	0
Sohbat pur	99	193	24	0	3	12	95	0	0	15
Surab	1,139	189	597	191	63	37	9	1	26	5
Usta Muhammad	100	244	224	0	69	29	8	1	0	0
Washuk	262	171	161	458	56	62	24	11	0	0
Zhob	96	299	122	74	76	20	27	60	0	7
Ziarat	9,627	7,433	7,333	2,536	1,939	1,127	989	447	153	133
Total	182	97	95	23	13	73	57	16	0	4

Figure 3: Most frequently reported suspected cases during week 41, Balochistan



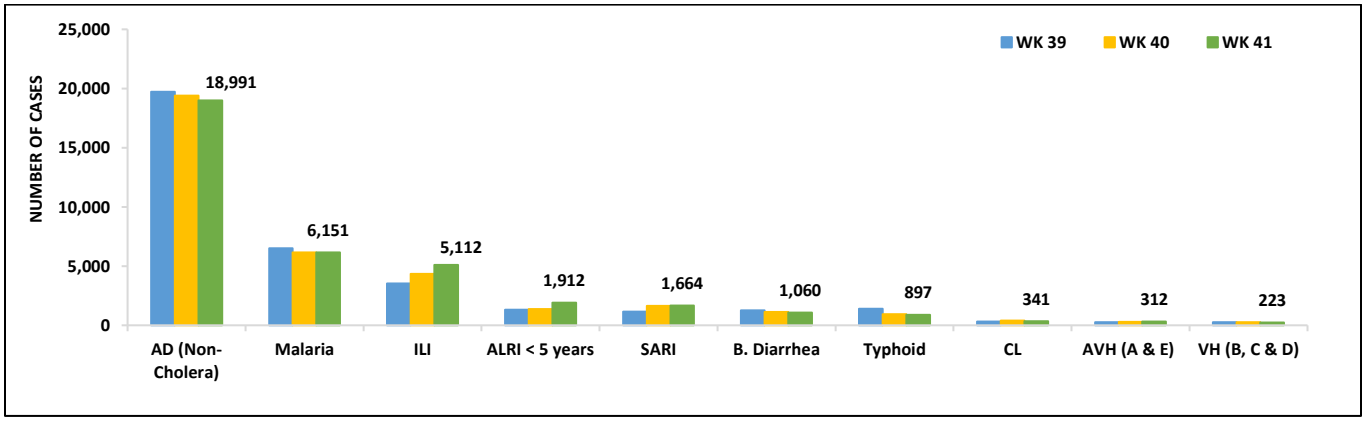
Khyber Pakhtunkhwa

- Cases of AD (Non-Cholera) were maximum followed by Malaria, ILI, ALRI<5 Years, SARI, B. Diarrhea, Typhoid, CL, AVH (A&E) and VH (B&D) cases.
- ILI cases showed a slight rise in cases this week.
- Malaria cases reported in high numbers from Bannu, Dir Lower, D.I.Khan and charsada districts. These are suspected cases and a field investigation is required to verify cases. Also vector surveillance will be beneficial to identify high burden vector areas for target action.

Table 4: District wise distribution of most frequently reported suspected cases during week 41, KP

Districts	AD (Non-Cholera)	Malaria	ILI	ALRI <5 Years	SARI	B. Diarrhea	Typhoid	CL	AVH (A & E)	VH (B,C & D)
Abbottabad	424	3	34	17	18	1	14	0	0	0
Bajaur	259	97	69	25	4	22	0	0	0	0
Bannu	598	795	23	18	0	2	62	0	5	0
Battagram	192	328	619	0	0	0	0	3	5	0
Buner	278	298	0	36	0	1	8	0	0	0
Charsadda	1,143	375	234	58	438	45	20	6	0	0
Chitral Lower	200	19	117	17	87	17	5	12	6	5
Chitral Upper	101	5	9	22	1	4	23	1	2	0
D.I. Khan	786	369	9	9	32	20	4	8	0	0
Dir Lower	1,390	711	6	198	0	137	59	14	34	0
Dir Upper	419	12	18	15	0	11	29	5	8	0
Hangu	200	634	104	14	76	32	15	29	17	6
Haripur	1,068	69	595	484	1	7	75	0	46	20
Karak	260	286	65	5	0	0	4	41	0	0
Khyber	88	288	98	4	2	23	6	13	3	5
Kohat	89	21	0	1	1	0	0	4	0	0
Kohistan Lower	129	0	0	9	0	16	1	0	0	0
Kohistan Upper	311	18	40	3	4	3	45	0	0	0
Kolai Palas	54	11	0	0	4	1	0	0	0	0
L & C Kurram	30	13	175	0	0	18	8	0	0	0
Lakki Marwat	318	277	0	61	0	12	10	6	0	0
Malakand	498	54	0	25	4	62	30	9	31	0
Mansehra	541	4	666	63	59	23	7	3	6	4
Mardan	921	151	148	301	0	35	0	4	9	1
Mohmand	143	131	32	9	4	17	11	66	0	2
Nowshera	0	5	0	2	0	0	1	1	0	0
Peshawar	1,776	126	12	2	22	33	25	47	6	12
Shangla	2,324	116	629	112	188	136	110	23	55	14
SWA	427	184	0	11	6	0	67	0	3	121
Swabi	142	104	115	134	149	63	15	21	18	22
Swat	1,181	49	493	128	63	18	20	0	20	3
Tank	1,887	53	273	46	0	47	0	0	13	3
Tor Ghar	527	401	0	29	0	1	51	19	0	0
Upper Kurram	75	117	0	2	9	13	28	6	3	0
Total	212	27	529	52	492	240	144	0	22	5

Figure 4: Most frequently reported suspected cases during week 41, KP



ICT, AJK & GB

ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and Malaria. ILI cases showed a downward trend in cases this week.

AJK: ILI cases were maximum followed by AD (Non-Cholera), ALRI <5 years, SARI, Mumps, AWD (S. Cholera), Malaria, B. Diarrhea, dog bite and Typhoid. Trend for ILI showed an upward trend in cases this week.

GB: AD (Non. Cholera) cases were the most frequently reported diseases followed by ALRI<5 years, ILI, SARI, B. Diarrhea, Typhoid, AWD (S. cholera) and Mumps. There is a slight incline trend in AD (Non Cholera) cases this week.

Figure 6: Week wise reported suspected cases of ILI, ICT

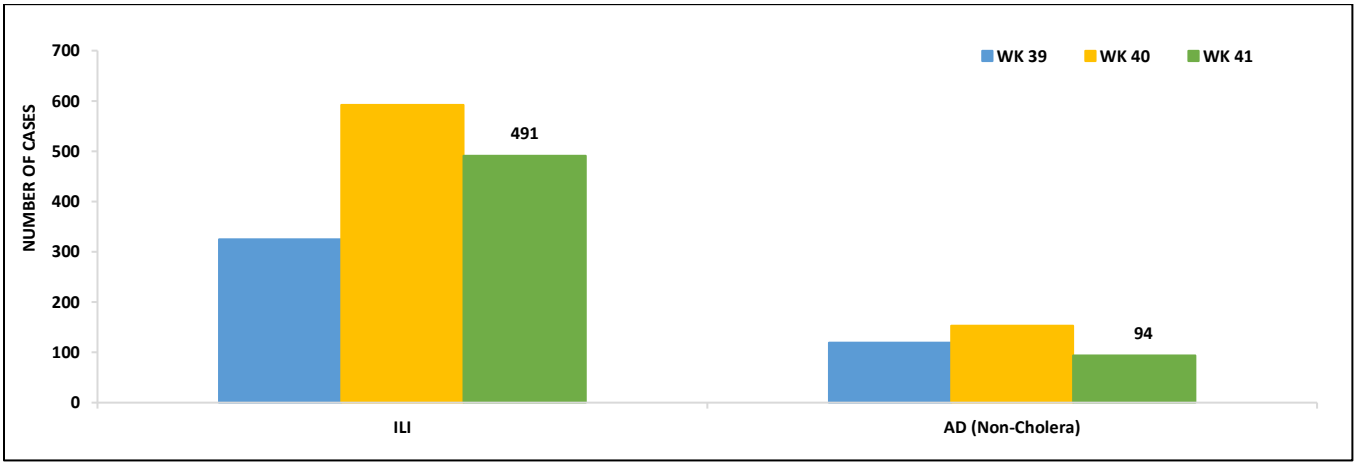


Figure 6: Week wise reported suspected cases of ILI, ICT

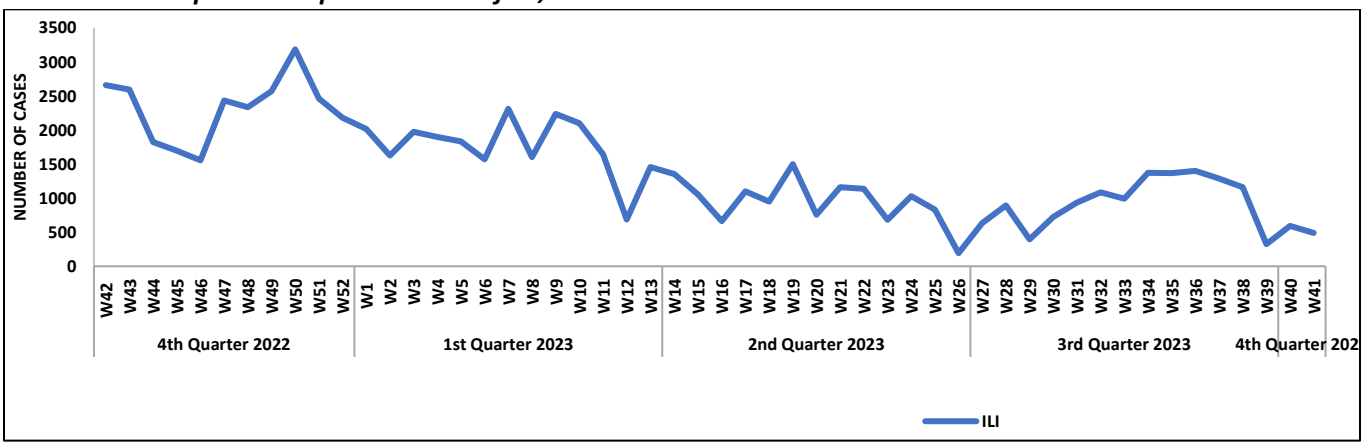


Figure 7: Most frequently reported suspected cases during week 41, AJK

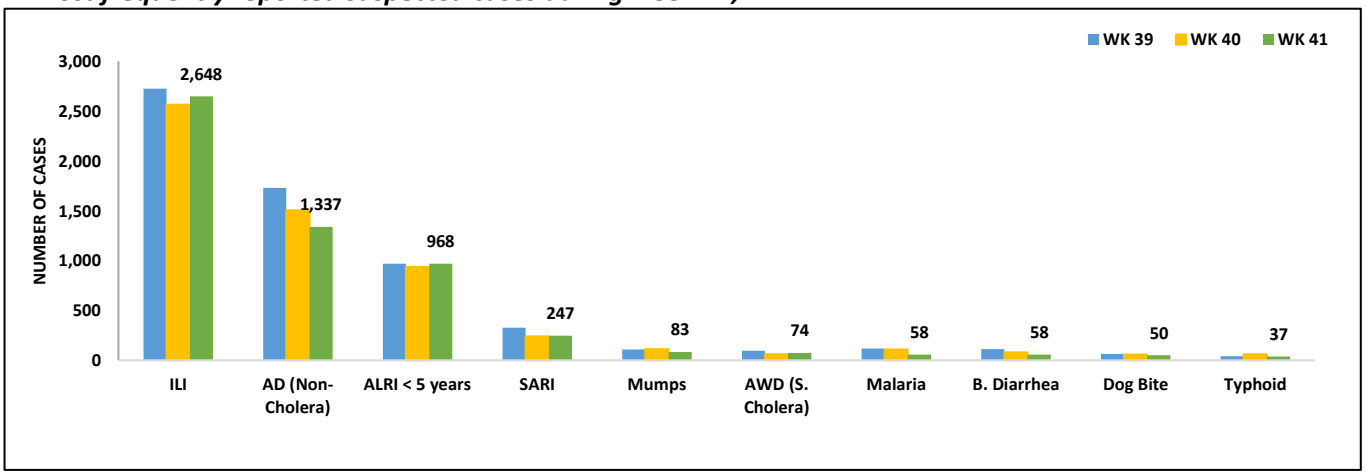


Figure 8: Week wise reported suspected cases of AD (Non-Cholera) and ILI, AJK

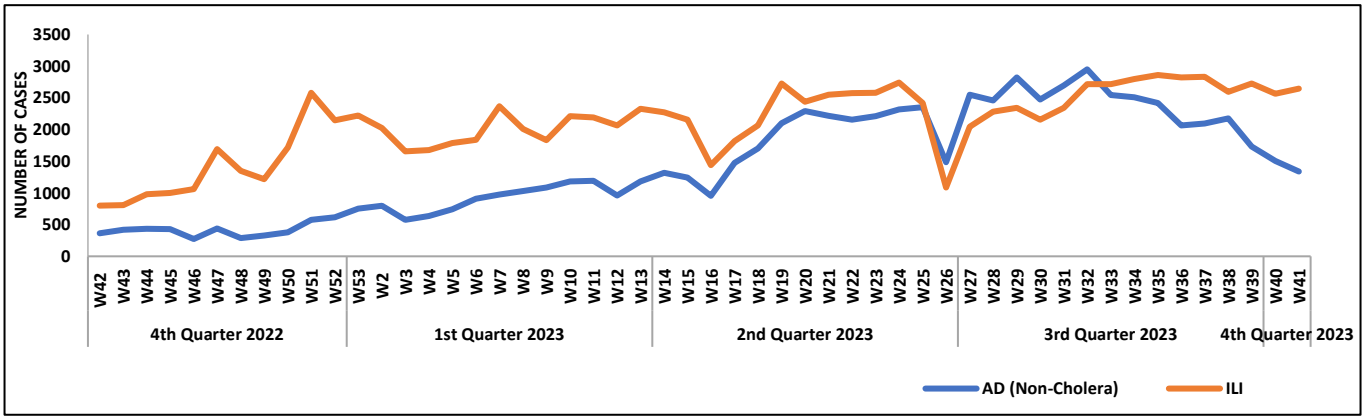


Figure 9: Most frequent cases reported during WK 41, GB

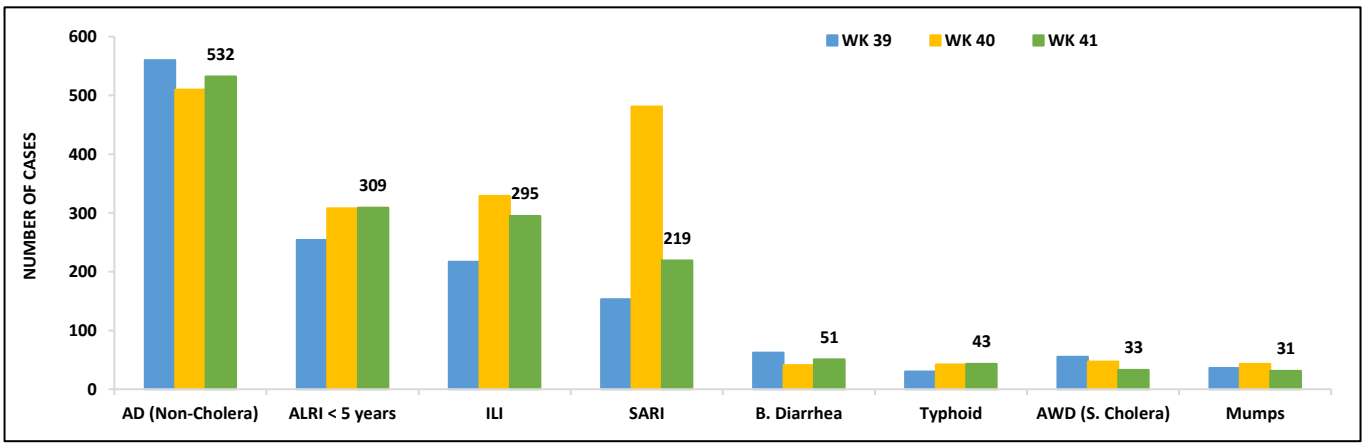
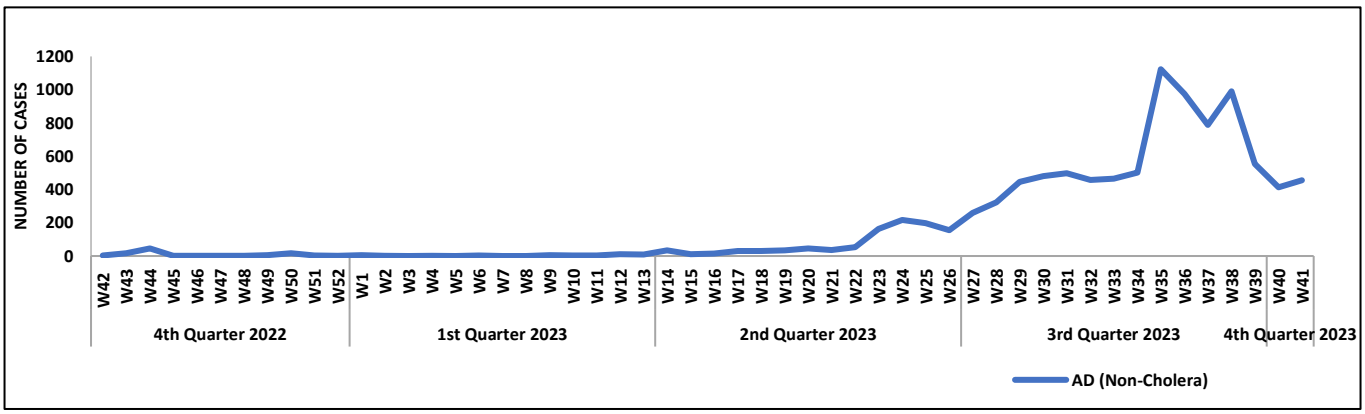


Figure 10: Week wise reported suspected cases of AD (Non-Cholera), GB



Punjab

- Cases of AD (Non-Cholera) were maximum followed by Malaria, Typhoid and B. Diarrhea.
- AD cases showed a slight upward trend this week.

Figure 11: District wise distribution of most frequently reported suspected cases during week 41, Punjab

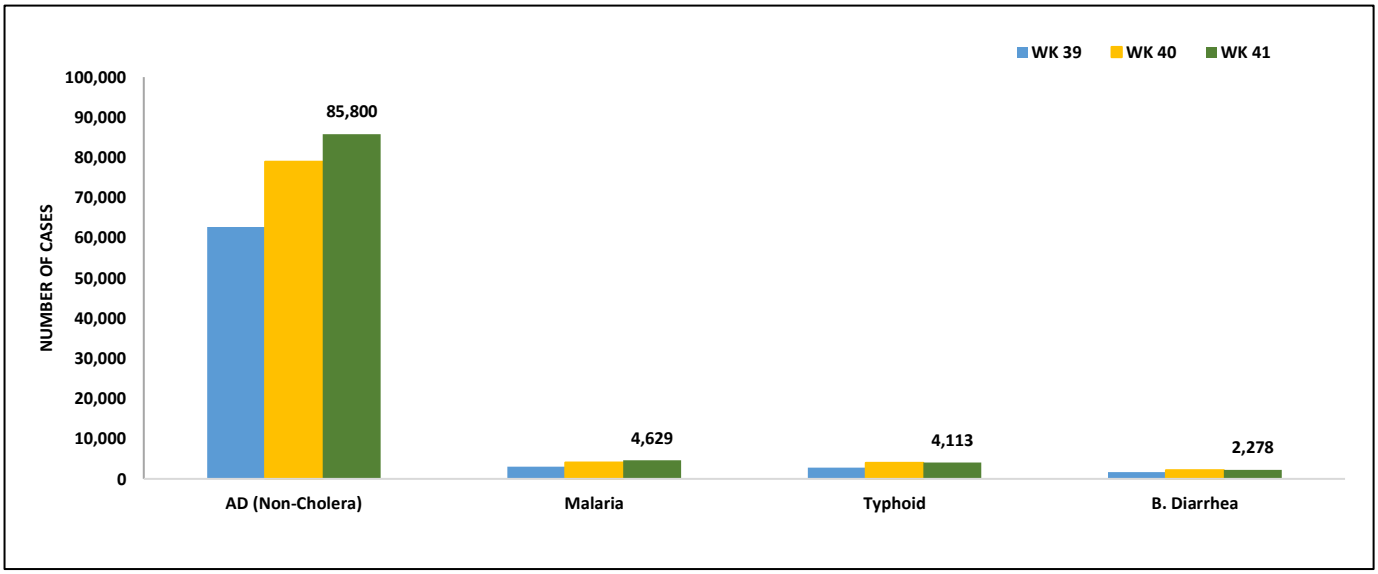


Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 41

Diseases	Sindh	Balochistan	Punjab	KPK	Gilgit	ICT
Acute Watery Diarrhoea (S. Cholera)	0	-	-	0	--	-
Acute diarrhea(non-cholera)	0	-	0	-	-	-
Malaria	193	-	-	0	0	-
CCHF		2	--	2	--	
Dengue	13	0	-	0	-	98
MPOX	0		-	0	-	-
Acute Viral Hepatitis(B)	58	0			2	
Acute Viral Hepatitis(A)		-	--	1		--
Acute Viral Hepatitis(C)	263	28	0	0	1	3
Acute Viral Hepatitis(E)	0	-	-		--	-
Typhoid	1	-	-	0	-	4
Covid 19	0	0	-	0	-	1
Tb		-	14	--	-	

IDSR Reports Compliance

- Out OF 120 IDSR implemented districts, compliance is low from Gilgit Baltistan districts. Green color showing >50% compliance while red color is <50% compliance

Table 6: IDSR reporting districts Week 41

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Agreed Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	110	110	100	89%
	Bannu	92	92	75	79%
	Battagram	43	43	25	77%
	Buner	34	34	26	85%
	Bajaur	44	44	29	48%
	Charsadda	61	61	50	90%
	Chitral Upper	33	33	28	94%
	Chitral Lower	35	35	34	74%
	D.I. Khan	89	89	73	81%
	Dir Lower	75	75	72	96%
	Dir Upper	55	55	39	75%
	Hangu	22	22	22	100%
	Haripur	69	69	60	97%
	Karak	34	36	35	97%
	Khyber	40	40	0	3%
	Kohat	59	59	60	100%
	Kohistan Lower	11	11	11	100%
	Kohistan Upper	20	20	20	95%
	Kolai Palas	10	10	10	100%
	Lakki Marwat	49	49	49	100%
	Lower & Central Kurram	40	40	9	33%
	Upper Kurram	42	42	15	36%
	Malakand	42	42	34	79%
	Mansehra	133	133	65	55%
	Mardan	84	84	60	58%
	Nowshera	52	52	52	98%
	North Waziristan	21	21	0	24%
	Peshawar	101	101	120	100%
	Shangla	36	36	6	17%
	Swabi	60	60	64	100%
	Swat	77	77	60	88%
	South Waziristan	58	58	36	66%
	Tank	34	34	30	85%
	Torghar	11	11	11	100%
Azad Jammu Kashmir	Mirpur	37	37	37	100%
	Bhimber	20	20	19	95%
	Kotli	60	60	60	100%
	Muzaffarabad	43	45	43	96%
	Poonch	46	46	46	100%
	Haveli	34	34	11	32%
	Bagh	40	40	32	80%
	Neelum	39	39	29	74%
	Jhelum Vellay	29	29	29	100%
	Sudhnooti	27	27	27	100%

Islamabad Capital Territory	ICT	18	18	18	100%
	CDA	9	9	9	100%
Balochistan	Gwadar	24	24	8	33%
	Kech	78	44	22	50%
	Khuzdar	136	20	20	100%
	Killa Abdullah	50	32	0	0%
	Lasbella	85	85	55	65%
	Pishin	118	23	8	35%
	Quetta	77	22	20	91%
	Sibi	42	36	36	100%
	Zhob	37	37	33	89%
	Jaffarabad	47	47	15	32
	Naserabad	37	37	34	92%
	Kharan	32	32	29	91%
	Sherani	32	32	4	13%
	Kohlu	75	75	39	52%
	Chagi	35	35	25	71%
	Kalat	65	65	10	15%
	Harnai	18	18	17	94%
	Kachhi (Bolan)	35	35	35	100%
	Jhal Magsi	39	39	22	56%
	Sohbat pur	25	25	25	100%
	Surab	33	33	32	97%
	Mastung	45	45	45	100%
	Loralai	33	33	28	85%
	Killa Saifullah	31	31	27	87%
	Ziarat	42	42	27	64%
	Duki	31	31	29	94%
	Nushki	32	32	30	94%
	Dera Bugti	45	45	28	62%
	Washuk	25	25	25	100%
	Panjgur	38	38	10	32%
	Awaran	23	23	0	0%
	Chaman	22	22	19	86%
	Barkhan	19	19	19	100%
	Hub	33	33	33	100%
	Usta Muhammad	34	34	34	100%
Gilgit Baltistan	Hunza	31	31	30	97%
	Nagar	6	6	0	0%
	Ghizer	62	62	5	8%
	Gilgit	48	48	40	83%
	Diamer	79	79	24	30%
	Astore	53	53	2	4%
	Shigar	24	24	17	71%
	Skardu	51	51	19	37%
	Ganche	79	79	10	13%
	Kharmang	46	46	7	15%
	Hyderabad	71	71	60	35%

Sindh	Ghotki	65	65	64	98%
	Umerkot	98	43	41	95%
	Naushahro Feroze	68	68	60	88%
	Tharparkar	278	100	98	98%
	Shikarpur	60	60	60	100%
	Thatta	53	53	52	98%
	Larkana	67	67	66	99%
	Kamber Shadadkot	71	71	71	100%
	Karachi-East	14	14	13	93%
	Karachi-West	20	20	20	100%
	Karachi-Malir	37	37	35	95%
	Karachi-Kemari	18	18	12	67%
	Karachi-Central	11	11	11	100%
	Karachi-Korangi	18	18	18	100%
	Karachi-South	4	4	4	100%
	Sujawal	54	54	42	78%
	Mirpur Khas	104	104	102	98%
	Badin	124	124	107	86%
	Sukkur	64	64	64	100%
	Dadu	90	90	88	98%
	Sanghar	101	101	100	100%
	Jacobabad	43	43	43	100%
	Khairpur	168	168	164	99%
	Kashmore	59	59	59	100%
	Matiari	42	42	42	100%
	Jamshoro	70	70	68	96%
	Tando Allahyar	54	54	52	94%
	Tando Muhammad Khan	41	41	40	98%
	Shaheed Benazirabad	124	124	124	100%
Punjab	Bahalwalpur	91	91	91	100%

A note from Field Activities.

Outbreak Investigation Of Suspected Pertussis Cases in UC-Mubarki, Tehsil Koh Suleman, District DG Khan August 2023

Source: DHIS-2 Reports
https://dhis2.nih.org.pk/dhis-web-event-reports/

On August 25, 2023, a healthcare worker from a health clinic in UC-Mubarki, Tehsil Koh Suleman, District DG Khan, Pakistan, reported suspected cases of pertussis. A team of investigators visited the health clinic to identify suspected cases of pertussis in three different villages in UC-Mubarki and take appropriate public health actions.

To determine the cause of the outbreak and recommend measures to control the further spread of the disease, a case-control study was conducted. The case group consisted of all suspected cases of pertussis reported to the health clinic between August 25 and August 30, 2023. The control group consisted of a random sample of individuals from the same community who did not have any signs or symptoms of pertussis.

Preliminary results of the case-control study suggest that the pertussis outbreak in UC-Mubarki was likely due to low vaccination coverage among children under the age of 5 years. The majority of cases had not been vaccinated against pertussis, and of the controls who had been vaccinated, did not receive the full course of vaccinations.

Public Health Action Taken

The pertussis outbreak in UC-Mubarki highlights the importance of vaccination in preventing this disease. It is also important to note that pertussis can be a serious illness, especially in infants. The District Health Authority DG Khan has taken appropriate steps to control the outbreak, but it is important for the community to be aware of the risks and to take steps to protect themselves, such as getting vaccinated.

Vaccination campaign: The District Health Authority DG Khan has initiated a medical camp in UC-Mubarki as part of an urgent case response to this suspected outbreak. Targeted vaccination campaigns are being implemented, prioritizing infants, pregnant women, and individuals in close contact with the infected.

Enhanced surveillance: Pertussis surveillance is strengthened to promptly identify and confirm cases, allowing for timely intervention. Health care providers are encouraged to consider pertussis in the differential diagnosis for coughing illness.

Health education: Health education is being provided to the general population on the importance of vaccination and general hygiene conditions.

Improved access to vaccination services: Efforts are made to improve access to vaccination services, especially in hard-to-reach areas like UC-Mubarki.

Letter to the Editor:

Dengue Surveillance Activities in District Rawalpindi.

Dr. Sajjad Mahmood
Surveillance coordinator, (EP&C) Rawalpindi
Dr. Ehsan Ghani
DHO (Preventive Services)
Adnan Rafi
District Entomologist

Dengue is a mosquito-borne viral infection that is endemic in many tropical and subtropical countries. It is caused by four distinct serotypes of the dengue virus (DENV-1, DENV-2, DENV-3, and DENV-4). Dengue can cause a range of clinical manifestations, from mild febrile illness to severe and potentially fatal complications such as dengue hemorrhagic fever and dengue shock syndrome.

I

n 2023, Rawalpindi, Pakistan experienced a dengue outbreak with over 2,100 cases reported. This represents a significant decrease compared to the

previous year, when over 3,900 cases were reported during the same period. The highest single-day count this season was 61 cases, versus 108 cases on the peak day in 2022.

The District Health Authority Rawalpindi, in coordination with the district administration, has implemented robust prevention and control measures aligned with the Provincial Dengue SOPs 2023. These measures include widespread insecticide spraying and fogging, elimination of mosquito breeding sites, and public awareness campaigns. Strict enforcement of these measures has been ensured, with over 4,200 FIRs registered and Rs 8.8 million in fines issued for SOP violations.

The Union Councils of Dhoke Munshi and Kotha Kalan have been worst affected by the outbreak, with over 380 and 200 cases reported, respectively. The majority of Union Councils (202 out of 216) have registered fewer than 10 cases each this season.

To determine the most prevalent serotypes of dengue virus circulating in Rawalpindi, Pakistan, district health management team in coordination with teaching hospitals of Rawalpindi randomly selected 100 samples from hospitalized dengue cases. PCR sequencing was performed on 43 randomly selected samples to identify the serotypes of the virus. The results showed that DENV-1 was the most prevalent serotype, accounting for 47% of the samples. DENV-2 was the second most prevalent serotype, accounting for 18% of the samples. The remaining serotypes, DENV-3 and DENV-4, were not detected in any of the samples.

While the data signals an improving situation, it is important to note that the post-peak period historically sees more severe manifestations of the disease. The public is advised to take precautions against mosquito bites to mitigate the risk of complicated dengue. These precautions include using mosquito repellents, wearing long sleeves and pants, and avoiding areas where mosquitoes are prevalent.
The declining transmission period of mid-November onwards provides a crucial window for definitive vector control measures. Eliminating mosquito breeding sites now will substantially curb mosquito populations and reduce disease burden during next year's season from July to November.

In summary, concerted prevention and control efforts have successfully contained the 2023 dengue outbreak in Rawalpindi to manageable levels. Sustained interventions during the low transmission period, in addition to continued vigilance, can help mitigate future seasonal outbreaks.

Knowledge Hub

Protecting Ourselves from Antibiotic Resistance.

Antibiotics and Antimicrobial Resistance

Antibiotics are medications that kill or slow the growth of bacteria. They have saved millions of lives since their discovery in the early 20th century. However, the overuse and misuse of antibiotics has led to the rise of antimicrobial resistance (AMR). AMR is the ability of bacteria to develop resistance to antibiotics, making them difficult or impossible to treat.

AMR is a serious threat to global health. It can lead to longer hospital stays, higher healthcare costs, more deaths, and difficulty in treating common infections. It can also lead to the emergence of new and more dangerous strains of bacteria.

Factors that Contribute to AMR

There are a number of factors that contribute to AMR, including:

- The overuse of antibiotics in healthcare settings, such as hospitals and clinics.
- The use of antibiotics in agriculture and livestock farming.
- The incomplete or incorrect course of antibiotic treatment.
- The lack of access to clean water and sanitation.

Preventing AMR

The theme for World Antimicrobial Awareness Week (WAAW) 2023 is ***"Preventing antimicrobial resistance together"***. This is because AMR is a threat to humans, animals, plants, and the

environment. It affects us all. That is why this year's theme calls for cross-sectoral collaboration to preserve the efficacy of antimicrobials.

To effectively reduce AMR, all sectors must use antimicrobials prudently and appropriately, and take preventive measures to decrease the incidence of infections. The following actions can help reduce the need for antimicrobials and minimize the emergence of AMR:

- Strengthen infection prevention and control in health facilities, farms, and food industry premises.
- Ensure access to clean water, sanitation, and hygiene, and vaccines.
- Minimize pollution and ensure proper waste and sanitation management.
- Provide access to quality assured healthcare for all.
- Provide access to advice from experts during animal, food, and agricultural production.

Human Health Messages

- Always take antimicrobial medicines like antibiotics, antivirals, antifungals, and anti parasitics, with proper medical oversight.
- Antimicrobial resistance leads to longer hospital stays, higher medical costs, and increased mortality.
- Good hand hygiene can help limit the spread of infections.
- Without effective antimicrobials, the success of modern medicine in treating infections, including during major surgery and cancer chemotherapy, would be at increased risk.
- Access to safe water, sanitation, and hygiene (WASH) in homes and health facilities can reduce the need for antibiotics to treat diarrhea by up to 60 percent. WASH helps prevent drug-resistant infections, saves lives, and reduces healthcare costs.
- Investing in water, sanitation, and hygiene (WASH) and infection prevention and control (IPC) in healthcare facilities can prevent an over-reliance on antibiotics, a key driver of antimicrobial resistance (AMR).
- Vaccines and the correct use of antibiotics and other antimicrobial medicines help preserve the effectiveness of vital medical treatments.

Judicious Use of Antibiotics

The judicious use of antibiotics is essential to reduce the spread of AMR and protect public health. This means using antibiotics only when necessary and following the instructions of a doctor. It is also important to be aware of the risks of AMR and to take steps to protect yourself, such as getting vaccinated and practicing good hygiene.

By following these tips, you can help to ensure that antibiotics remain effective for treating bacterial infections in the future.

CALLING ALL CREATIVE KIDS

World Antimicrobial Resistance Awareness Week 2023
"Preventing antimicrobial resistance together"

As part of World Antimicrobial Resistance Awareness Week (Nov 18-24, 2023), the National Institute of Health Islamabad invites children between the ages of 6 and 15 to showcase their creativity for a worthy cause. We would like you to create a poster that embodies this year's WAAW theme: "Preventing Antimicrobial Resistance Together."

To participate, get your creative juices flowing and illustrate your ideas about antibiotics and preventing antimicrobial resistance. You may consider the following prompts for inspiration:

- "What are your thoughts on antibiotics?"
- "Learn how to use antibiotics responsibly."
- "Let's Prevent Antimicrobial Resistance Together."
- "Understand how germs develop resistance against antibiotics."

After you've drawn your picture, please scan it and send it in pdf, JPEG, or JPG format via email to pakamr-ipc@nih.org.pk. Don't forget that the submission deadline is November 10th, 2023.

We can't wait to see your creative ideas!

	https://phb.nih.org.pk/		https://twitter.com/NIH_Pakistan
	phb@nih.org.pk		https://www.facebook.com/NIH.PK/

UK Health Security Agency
World Health Organization
USAID
safetynet