

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.

Public Health Bulletin Pakistan

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Overview

IDSR Reports

Ongoing Events

Field Reports

Public Health Bulletin - Pakistan, Week 39, 2024

The Pakistan Public Health Bulletin, initially conceived as a simple disease registry, has evolved into a vital instrument for safeguarding the nation's health. By meticulously monitoring disease trends, the Bulletin serves as a sentinel, providing early warnings that enable swift and effective interventions to avert outbreaks.

This week's Bulletin offers a comprehensive overview of public health issues. In addition to the regular compilation of data, it features a thought-provoking letter to the editor on the concerning resurgence of polio in Pakistan. Furthermore, the Bulletin highlights the achievements of the Advanced Field Epidemiology Training Program (FETP) 14th cohort, features an outbreak investigation into cutaneous leishmaniasis in South Waziristan, and presents a comprehensive knowledge review on Typhoid fever.

By staying informed about public health matters through the Weekly Bulletin, Pakistanis can play an active role in building a healthier nation. The Bulletin empowers individuals with knowledge, enabling them to make informed decisions and contribute to the overall well-being of their communities.

*Sincerely,
The Chief Editor*

- During week 39, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, TB, ALRI <5 years, B. Diarrhea, dog bite, VH (B, C & D), Typhoid and Dengue.
- Thirty-three cases of AFP reported from KP, twenty-three from Sindh, thirteen from Punjab, eight from AJK, and four from Balochistan and one from GB. All are suspected cases and need field verification.
- Twenty-four suspected cases of HIV/ AIDS reported from Punjab, seven from Sindh, four from KP and one each from Balochistan and ICT. Field investigation required to verify the cases.
- Eight suspected cases of Brucellosis reported from GB, two from Balochistan and one from KP. Field investigation required to verify the cases.
- There is an increasing trend observed for Acute Diarrhea (Non-Cholera), Malaria, ILI, TB, ALRI <5 years, dog bite, VH (B, C & D), Typhoid and Dengue cases this week.

IDSR compliance attributes

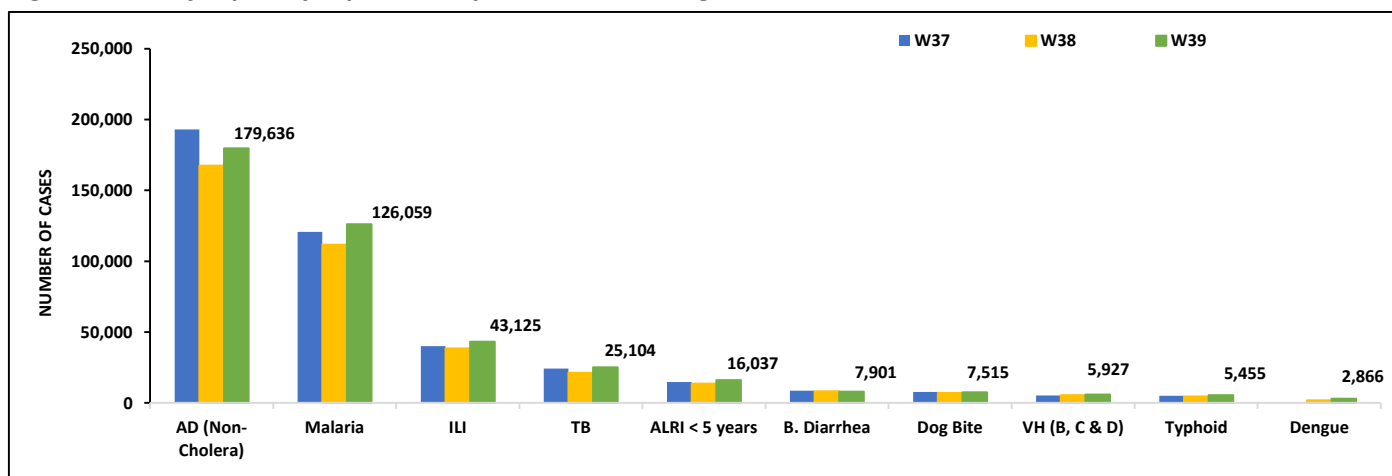
- The national compliance rate for IDSR reporting in 158 implemented districts is 82%
- Gilgit Baltistan and AJK are the top reporting regions with a compliance rate of 98% and 99%, followed by Sindh 95% and ICT 77%
- The lowest compliance rate of 70% was observed in Balochistan.

Region	Expected Reports	Received Reports	Compliance (%)
<i>Khyber Pakhtunkhwa</i>	2330	1691	72
<i>Azad Jammu Kashmir</i>	382	377	99
<i>Islamabad Capital Territory</i>	36	28	77
<i>Balochistan</i>	1291	896	70
<i>Gilgit Baltistan</i>	374	368	98
<i>Sindh</i>	2086	1974	95
<i>National</i>	6499	5328	82

Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 39, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	1,780	6,581	1,752	383	23,688	90,662	54,790	179,636
Malaria	20	6,845	0	4	8,861	3,645	106,684	126,059
ILI	1,915	5,983	276	1,239	4,427	13	29,272	43,125
TB	56	159	106	11	359	9,970	14,443	25,104
ALRI < 5 years	942	1,588	686	8	1,318	822	10,673	16,037
B.Diarrhea	55	1,542	110	2	1,069	931	4,192	7,901
Dog Bite	110	158	2	1	447	4,352	2,445	7,515
VH (B, C & D)	6	201	0	1	100	0	5,619	5,927
Typhoid	26	722	87	1	812	2,426	1,381	5,455
Dengue	6	1	0	91	351	2,048	369	2,866
SARI	213	643	287	1	874	0	279	2,297
AWD (S. Cholera)	24	282	52	0	131	1,575	140	2,204
AVH (A&E)	19	32	1	0	294	0	455	801
Measles	17	31	1	0	170	231	194	644
Chikungunya	0	0	0	0	5	0	496	501
CL	0	97	0	0	163	4	56	320
Mumps	12	50	6	0	84	0	114	266
Meningitis	1	1	0	0	1	104	20	127
Chickenpox/ Varicella	8	2	16	0	52	4	22	104
Gonorrhoea	0	81	0	0	4	0	11	96
AFP	8	4	1	0	33	13	23	82
Pertussis	0	45	2	0	19	0	5	71
HIV/AIDS	0	1	0	1	4	24	7	37
Diphtheria (Probable)	0	10	0	0	4	7	1	22
Rubella (CRS)	0	10	0	0	0	0	9	19
Syphilis	0	4	0	0	0	2	13	19
Brucellosis	0	2	0	0	1	0	0	3
NT	0	1	0	0	5	0	1	7
Leprosy	0	1	0	0	0	0	1	2

Figure 1: Most frequently reported suspected cases during Week 39, Pakistan.

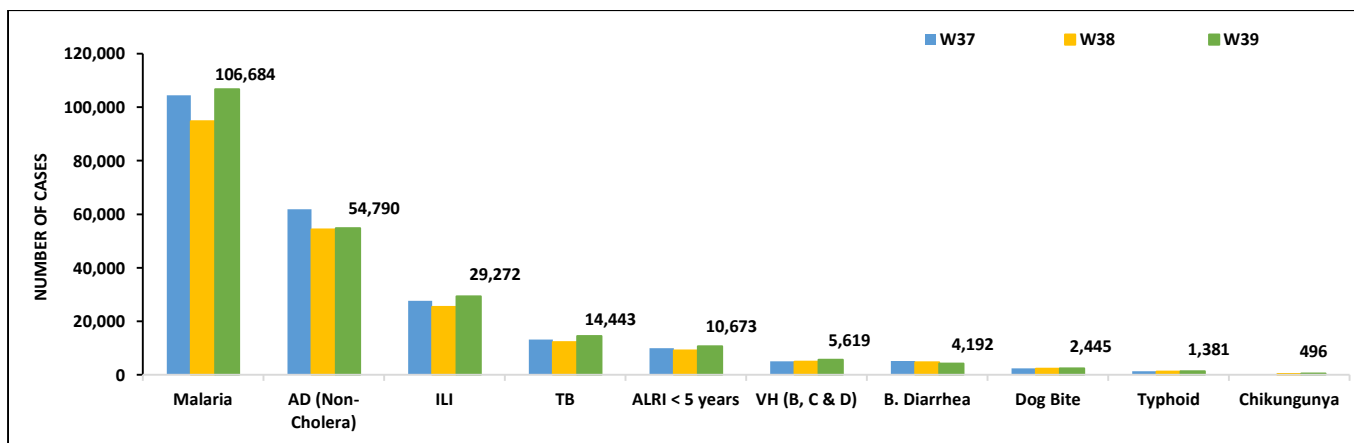


- Malaria cases were maximum followed by AD (Non-Cholera), ILI, TB, ALRI<5 Years, VH (B, C, D), B. Diarrhea, dog bite, Typhoid and Chikungunya.
- Malaria cases are mostly from Larkana, Khairpur and Kamber whereas AD (Non-Cholera) cases are from Khairpur, Tharparkar and Dadu.
- Twenty-three cases of AFP, Seven cases of HIV/ AIDS reported from Sindh. All are suspected cases and need field verification.
- There is an increasing trend observed for Malaria, AD (Non-Cholera), ILI, TB, ALRI<5 Years, VH (B, C, D), dog bite and Typhoid cases this week.

Table 2: District wise distribution of most frequently reported suspected cases during Week 39, Sindh

Districts	Malaria	AD (Non-Cholera)	ILI	TB	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Dog Bite	Typhoid	AVH (A&E)
Badin	5,984	2,642	1,378	994	595	343	273	109	104	0
Dadu	6,045	3,283	376	540	950	49	503	243	129	0
Ghotki	3,628	1,724	167	303	509	400	118	149	0	0
Hyderabad	975	1,544	1,336	120	104	42	0	7	20	0
Jacobabad	1,323	1,063	555	161	403	220	121	147	47	0
Jamshoro	3,680	2,331	126	572	295	125	112	63	71	0
Kamber	7,998	2,472	10	927	351	130	213	134	23	0
Karachi Central	135	1,497	2,070	253	26	34	14	24	169	330
Karachi East	124	508	432	15	38	5	9	10	2	6
Karachi Keamari	6	407	293	9	92	0	8	1	22	0
Karachi Korangi	82	423	0	32	1	3	3	1	4	58
Karachi Malir	779	1,982	3,865	222	374	96	74	40	54	91
Karachi South	52	87	1	0	0	0	0	0	0	10
Karachi West	155	961	1,291	153	252	129	40	52	29	0
Kashmore	2,273	706	621	350	236	15	89	144	10	0
Khairpur	10,681	3,537	5,873	1,386	991	277	455	177	242	1
Larkana	11,588	2,544	5	1,231	385	97	412	44	29	0
Matlari	2,911	1,862	3	674	270	200	80	53	19	0
Mirpurkhas	7,230	3,053	3,490	868	653	191	141	54	8	0
Naushero Feroze	4,590	2,026	1,267	699	461	48	196	231	171	0
Sanghar	5,703	1,731	14	1,233	452	1,143	68	174	39	0
Shaheed Benazirabad	3,001	2,328	8	402	201	103	131	132	70	0
Shikarpur	3,970	1,631	0	329	186	1,079	244	169	3	0
Sujawal	1,754	2,457	0	199	361	73	94	19	16	0
Sukkur	4,673	1,597	1,614	616	342	130	213	110	6	0
Tando Allahyar	4,809	1,354	360	530	183	426	122	46	7	0
Tando Muhammad Khan	2,028	1,498	0	661	197	19	121	0	1	0
Tharparkar	5,126	3,332	1,771	549	769	93	163	1	46	0
Thatta	1,835	2,071	2,346	47	542	103	99	111	10	0
Umerkot	3,546	2,139	0	368	454	46	76	0	30	0
Total	106,684	54,790	29,272	14,443	10,673	5,619	4,192	2,445	1,381	496

Figure 2: Most frequently reported suspected cases during Week 39 Sindh

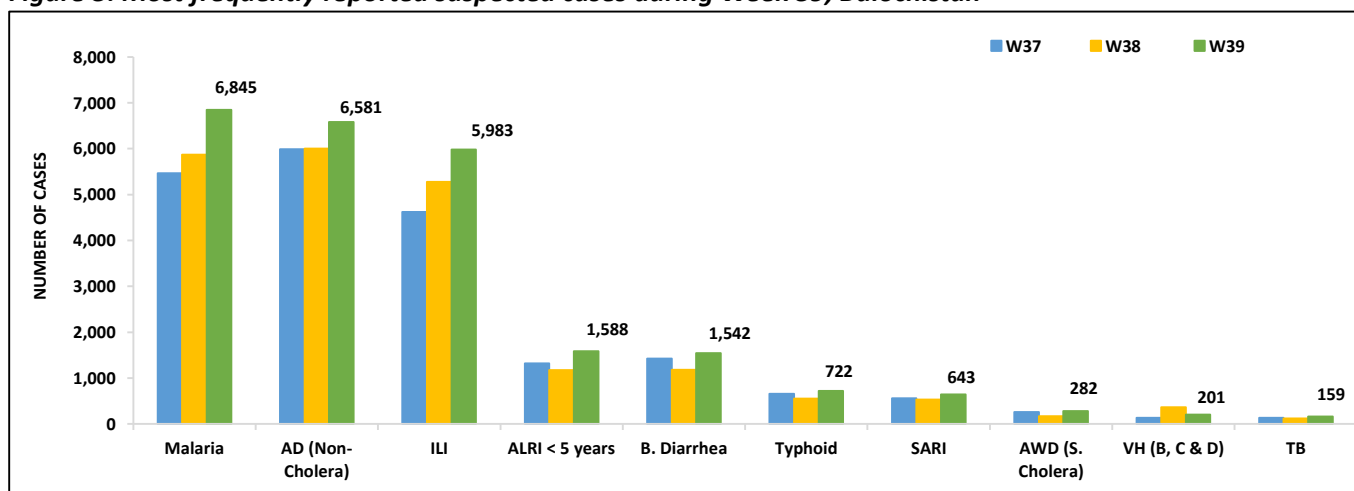


- Malaria, AD (Non-Cholera), ILI, ALRI <5 years, B. Diarrhea, Typhoid, SARI, AWD (S. Cholera), VH (B, C & D) and TB cases were the most frequently reported diseases from Balochistan province.
- Malaria cases are mostly reported from Jaffarabad, Lesbella and Sohbat Pur while AD (Non-Cholera) cases are mostly reported from Usta Muhammad, Jaffarabad and Lesbella.
- Four cases of AFP, One case of HIV/ AIDS, Two cases of Brucellosis reported from Balochistan. All are suspected case and needs field verification.

Table 3: District wise distribution of most frequently reported suspected cases during Week 39, Balochistan

Districts	AD (Non-Cholera)	Malaria	ILI	B. Diarrhea	ALRI < 5 years	Typhoid	SARI	AWD (S.Cholera)	TB	CL
Barkhan	147	110	75	25	8	44	3	19	2	8
Chagai	87	182	340	3	77	29	8	16	0	0
Dera Bugti	154	61	14	18	30	14	2	0	0	0
Duki	38	31	26	4	17	0	8	0	7	0
Gwadar	250	299	951	14	57	7	0	0	0	2
Harnai	107	100	12	197	77	1	0	16	4	1
Hub	120	92	39	0	13	1	0	0	0	0
Jaffarabad	1,071	499	86	34	63	9	11	1	59	58
Jhal Magsi	193	183	303	0	1	23	0	0	0	13
Kalat	67	39	4	22	11	41	2	0	0	0
Kech (Turbat)	118	75	117	18	10	NR	NR	NR	NR	NR
Kharan	152	210	422	0	61	3	3	2	0	0
Khuzdar	212	243	303	2	99	38	27	6	0	0
Killa Abdullah	19	139	74	2	39	29	63	9	1	0
Killa Saifullah	188	175	2	117	56	24	0	0	0	0
Kohlu	192	229	370	8	98	71	92	2	4	1
Lasbella	715	401	48	83	26	4	2	0	10	1
Loralai	73	276	402	67	41	22	91	0	0	0
Mastung	169	224	125	74	47	27	36	1	53	35
Musakhel	252	77	56	24	21	20	24	27	4	4
Naseerabad	328	303	6	12	14	77	4	9	19	23
Nushki	8	204	20	0	56	0	0	0	0	0
Panjgur	356	285	129	132	68	11	15	35	3	0
Pishin	66	206	325	40	121	26	26	68	0	0
Quetta	70	355	619	74	88	43	33	41	6	4
Sherani	6	19	37	1	26	1	9	0	0	0
Sibi	247	146	199	79	48	48	97	3	1	0
Sohbat pur	644	257	17	126	57	33	10	3	5	7
Surab	57	49	82	2	1	3	8	0	6	1
Usta Muhammad	399	739	137	148	70	6	11	16	17	1
Washuk	186	241	430	12	115	17	13	8	0	0
Zhob	154	132	213	250	26	50	45	0	0	0
Total	6,845	6,581	5,983	1,588	1,542	722	643	282	201	159

Figure 3: Most frequently reported suspected cases during Week 39, Balochistan

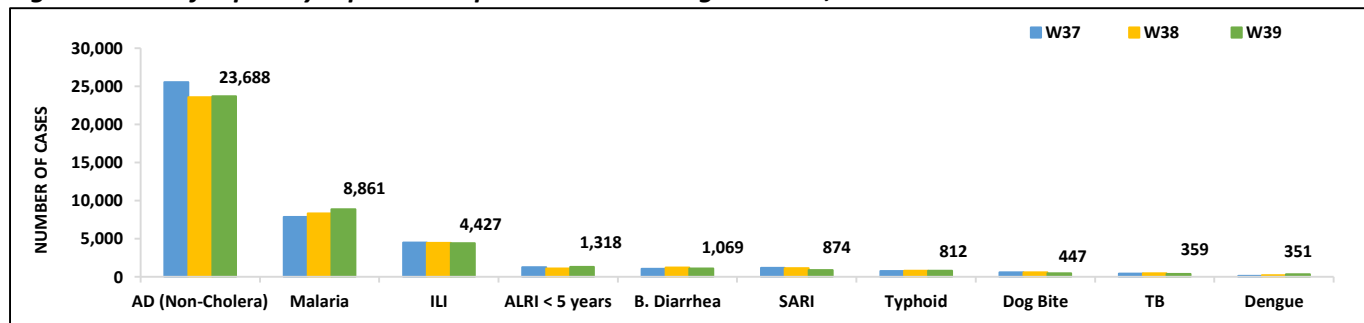


- Cases of AD (Non-Cholera) were highest followed by Malaria, ILI, ALRI<5 Years, B. Diarrhea, SARI, Typhoid, dog bite, TB and Dengue cases.
- AD (Non-Cholera), Malaria, ALRI<5 Years, Typhoid and Dengue cases showed an increasing trend while ILI, B. Diarrhea, SARI, dog bite and TB cases showed a decreasing trend this week.
- Thirty-three cases of AFP, Four cases of HIV/ AIDS, One case of Brucellosis reported from KP. All are suspected cases and need verification.

Table 4: District wise distribution of most frequently reported suspected cases during Week 39, KP

Districts	AD (Non-Cholera)	Malaria	ILI	B.Diarrhea	SARI	ALRI <5 Years	Typhoid	Dog Bite	TB	AVH (A&E)
Abbottabad	644	2	48	25	8	0	49	3	11	0
Bajaur	1,461	411	46	419	130	47	6	50	13	6
Bannu	846	1,834	7	27	28	11	98	8	33	12
Battagram	236	134	554	0	0	0	0	0	0	0
Buner	262	376	0	12	0	0	6	19	1	0
Charsadda	848	405	501	65	27	0	60	0	3	0
Chitral Lower	299	24	73	14	44	33	9	5	5	0
Chitral Upper	177	5	9	7	3	2	14	2	0	0
D.I. Khan	1,112	878	0	5	24	0	0	23	42	1
Dir Lower	1,528	346	4	110	119	0	42	36	12	3
Dir Upper	871	12	81	15	6	0	8	0	11	0
Hangu	101	114	0	0	11	0	0	0	3	61
Haripur	953	61	131	65	13	3	17	1	70	28
Karak	393	351	61	12	25	66	14	9	7	0
Khyber	450	399	43	10	124	35	51	29	11	2
Kohat	81	17	2	0	6	0	2	0	0	0
Kohistan Lower	101	8	7	0	12	7	0	0	0	28
Kohistan Upper	309	13	0	5	16	0	3	1	17	0
Kolai Palas	108	4	16	3	5	4	3	0	2	0
L & C Kurram	40	15	81	0	12	2	2	1	2	0
Lakki Marwat	731	444	1	12	20	0	17	38	4	3
Malakand	892	60	0	41	29	14	24	0	4	1
Mansehra	584	6	302	22	7	47	22	0	5	58
Mardan	768	60	0	113	11	0	0	19	7	16
Mohmand	134	496	149	3	58	181	8	16	4	0
North Waziristan	37	32	0	44	7	22	13	0	0	0
Nowshera	1,565	336	11	5	42	6	18	10	8	28
Orakzai	24	12	10	0	7	0	0	0	0	0
Peshawar	3,210	95	928	58	149	75	81	2	11	72
SD Peshawar	10	0	0	0	0	0	0	0	0	0
SD Tank	22	46	2	0	5	0	1	0	0	0
Shangla	1,158	1,007	2	18	15	0	39	24	11	21
SWA	83	55	68	5	6	23	11	0	0	0
Swabi	1,347	82	708	95	16	81	52	55	39	11
Swat	1,699	86	226	61	12	0	47	79	7	0
Tank	420	494	102	29	10	0	78	0	12	0
Tor Ghar	73	115	6	0	35	14	1	0	1	0
Upper Kurram	111	26	248	18	27	201	16	17	3	0
Total	23,688	8,861	4,427	1,318	1,069	874	812	447	359	351

Figure 4: Most frequently reported suspected cases during Week 39, KP



ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and Dengue. ILI and AD (Non-Cholera) cases showed a decreasing trend while Dengue cases showed an increasing trend this week.

AJK: ILI cases were maximum followed by AD (Non-Cholera), ALRI <5 years, SARI, dog bite, TB, B. Diarrhea, Typhoid, AWD (S. Cholera) and Malaria cases. An increasing trend observed for ILI, ALRI <5 years and SARI cases while a decreasing trend observed for AD (Non-Cholera), TB, B. Diarrhea, Typhoid and AWD (S. Cholera) cases this week. Eight suspected cases of AFP reported from AJK. Field investigation required to verify the cases.

GB: AD (non-cholera) cases were the most frequently reported diseases followed by ALRI <5 Years, SARI, ILI, B. Diarrhea, TB and Typhoid cases. An increasing trend observed for AD (Non-Cholera), ALRI <5 Years, SARI and TB cases while a decreasing trend observed for ILI, B. Diarrhea and Typhoid cases this week. Eight cases of Brucellosis, One case of AFP reported from GB. These are suspected case and need field verification.

Figure 5: Most frequently reported suspected cases during Week 39, ICT

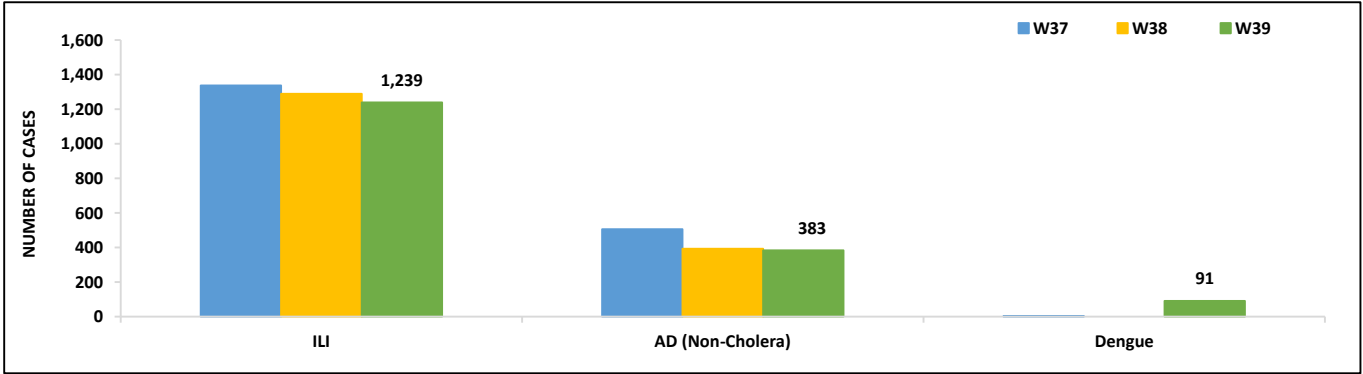


Figure 6: Week wise reported suspected cases of ILI, ICT

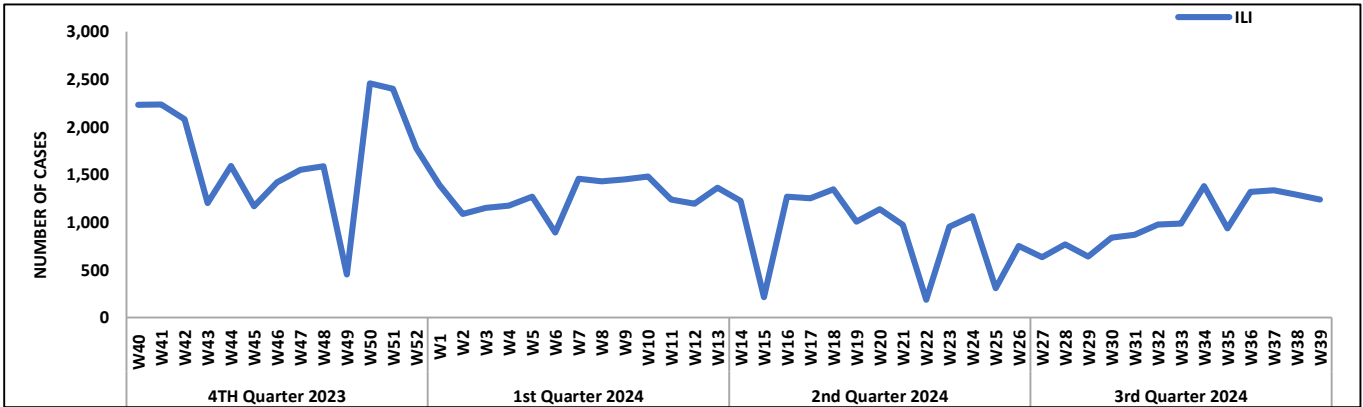


Figure 7: Most frequently reported suspected cases during Week 39, AJK

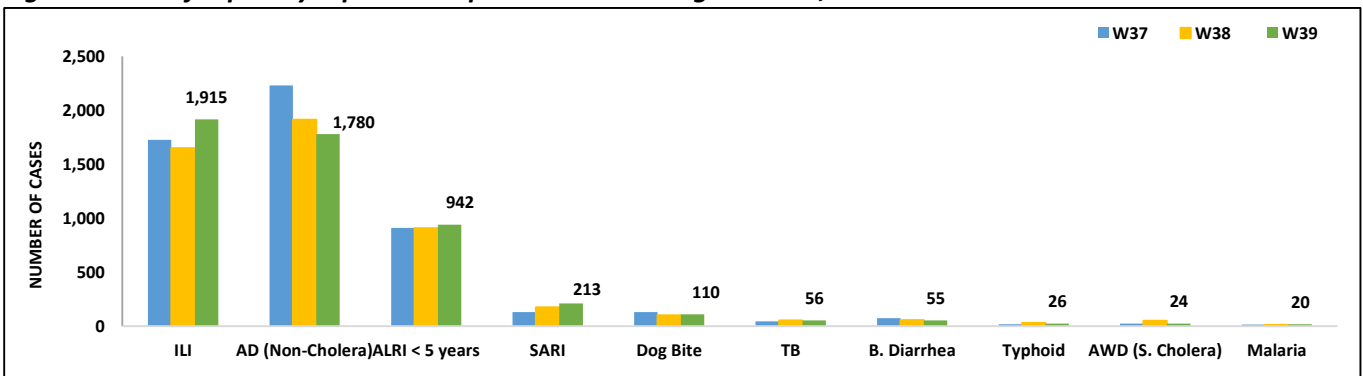


Figure 8: Week wise reported suspected cases of ILI and AD (Non-Cholera) AJK

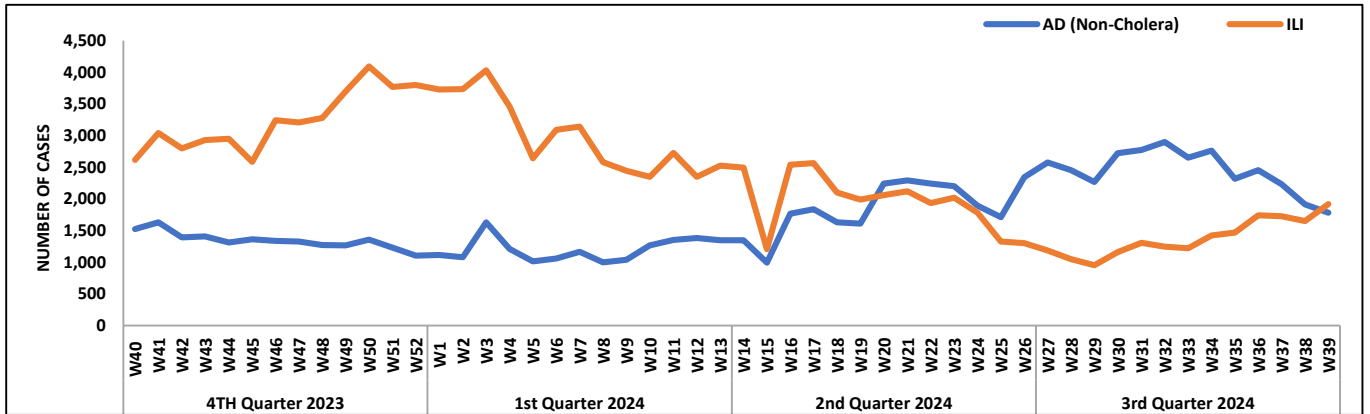


Figure 9: Most frequent cases reported during Week 39, GB

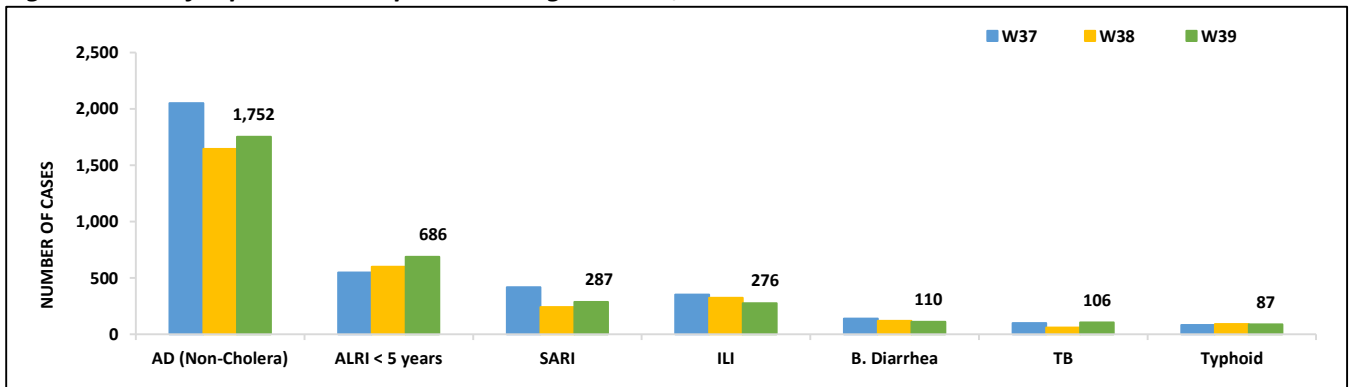
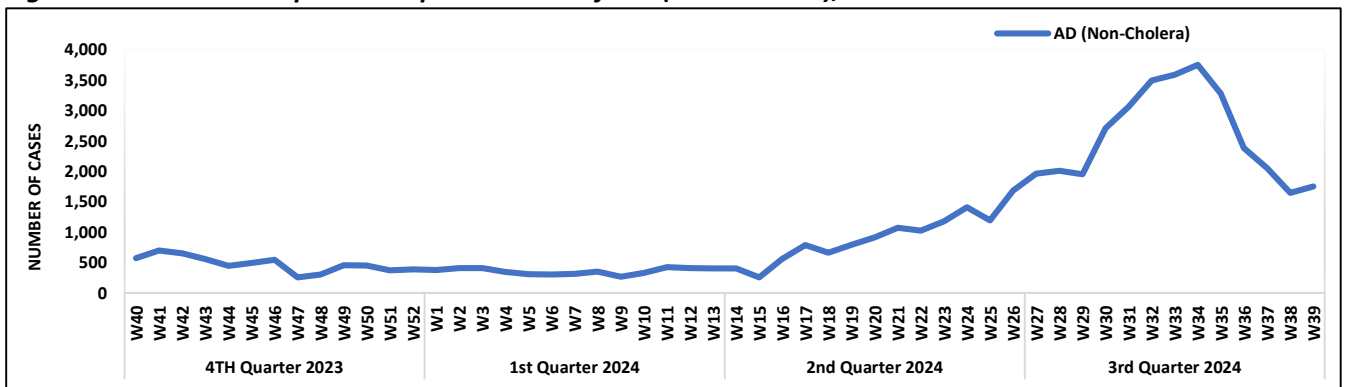


Figure 10: Week wise reported suspected cases of AD (Non-Cholera), GB



- AD (Non-Cholera) cases were highest followed by TB, dog bite, Malaria, Typhoid, Dengue, AWD (S. Cholera), B. Diarrhea, ALRI<5 Years and Measles cases
- AD (Non-Cholera), TB, Malaria, Typhoid, Dengue and AWD (S. Cholera) cases showed an increasing trend while B. Diarrhea, ALRI<5 Years and Measles cases showed a decreasing trend this week.
- Twenty-four cases of HIV/ AIDS, Thirteen cases of AFP reported from Punjab. All are suspected cases and need field verification.

Figure 11: Most frequently reported suspected cases during Week 39, Punjab.

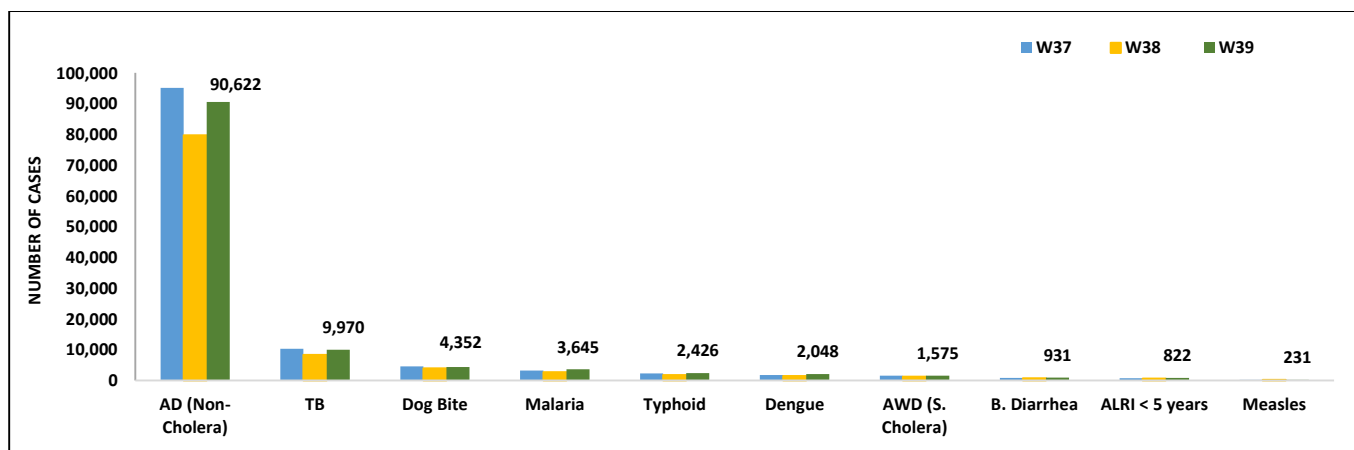


Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 39

Diseases	Sindh		Balochistan		KPK		ISL		GB		Punjab		AJK	
	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos
AWD (S. Cholera)	19	0	-	-	-	-	0	0	-	-	-	-	7	0
AD (Non-Cholera)	98	0	-	-	2	0	0	0	-	-	-	-	22	0
Malaria	1,779	139	-	-	-	-	-	-	-	-	-	-	198	2
CCHF	-	-	9	0	-	-	0	0	-	-	-	-	0	0
Dengue	1,543	43	5	1	4	1	197	47	-	-	-	-	29	1
VH (B)	3,177	93	86	71	-	-	-	-	167	4	-	-	842	7
VH (C)	3,207	259	90	34	-	-	-	-	138	0	-	-	838	14
VH (A&E)	-	-	-	-	-	-	-	-	-	-	-	-	27	0
Covid-19	-	-	12	0	7	0	4	0	-	-	-	-	14	0
HIV	-	-	-	-	-	-	-	-	-	-	-	-	779	0
TB	-	-	-	-	-	-	-	-	-	-	-	-	36	9
Syphilis	-	-	-	-	-	-	-	-	-	-	-	-	4	0
Typhoid	683	7	-	-	-	-	14	0	-	-	-	-	4	0
Diphtheria (Probabale)	-	-	-	-	1	0	42	0	-	-	-	-	0	0
Pertussis	-	-	-	-	-	-	2	0	-	-	-	-	0	0
M-POX	-	-	-	-	-	-	8	0	-	-	-	-	0	0
Chickenpox/ Varicella	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Chikungunya	-	-	5	2	-	-	-	-	-	-	-	-	0	0
Measles	64	26	17	13	245	118	9	6	1	0	175	68	22	9
Rubella	64	2	17	1	245	2	9	0	1	0	175	4	22	0
B.Diarrhea	-	-	-	-	-	-	-	-	-	-	-	-	12	0
Leishmaniasis (cutaneous)	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Leishmaniasis (Visceral)	-	-	-	-	-	-	-	-	-	-	-	-	0	0

The National Influenza Centre (NIC) comprises twelve Laboratory-Based sentinel surveillance sites strategically located at major tertiary care hospitals across Pakistan providing comprehensive geographical coverage. These sites collect samples from individuals with Influenza-Like Illness (ILI) and Severe Acute Respiratory Infections (SARI), which are then analyzed for high-impact Respiratory pathogens with epidemic and pandemic potential, including Influenza, SARS-CoV-2, and Respiratory Syncytial Virus.

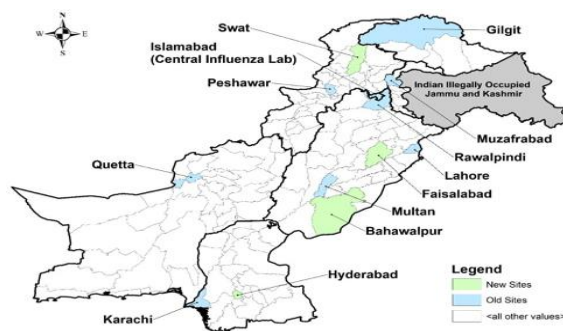
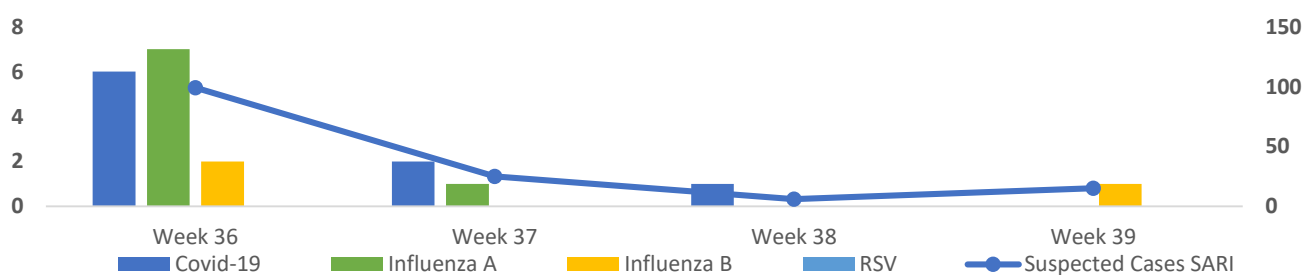


Table 6: National Influenza Center, Sentinel Surveillance Site Confirmed cases during Epid Week 39

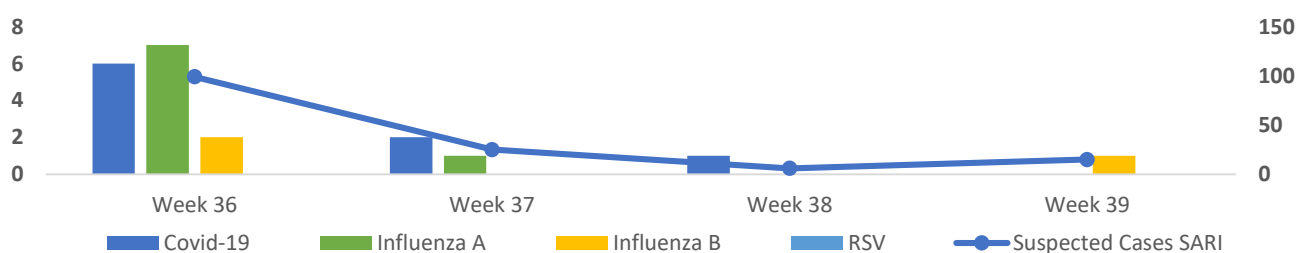
	Sentinel Surveillance Site	Total Tests	Inf-A	Inf-B	Covid-19	RSV
Week 39	National Influenza Center, NIH,,Islamabad	75	2	3	1	0
	Saidu Teaching Hospital, Swat, KPK	16	0	1	2	0
	AFIP Rawalpindi, Punjab	243	17	12	15	0
	Dr. Ruth K. M. Pfau Civil Hospital, Karachi, Sindh	3	0	0	0	0
	Khyber teaching Hospital, University, Peshawar	18	4	0	0	0

Figure 12: Week wise reported suspected cases of Influenza like illness, Paksitan



From weeks 36-39, 2024, a total of 256 ILI samples were collected, out of which 16 positive for Covid 19, 14 Positive for Influenza types A, 7 for Inf-B and 219 tested negative. No Sample was Positive for RSV.

Figure 13: Week wise reported suspected cases of severe acute respiratory infections, Pakistan



For SARI Cases total of 145 samples were collected 125 tested negative, 9 were positive for Covid-19, 8 Positive for Influenza Types A, 3 positive for Inf-B. No Sample was Positive for RSV.

IDSR Reports Compliance

- Out of 158 IDSR implemented districts, compliance is low from districts of KP and Balochistan. Green color highlights >50% compliance while red color highlights <50% compliance

Table 6: IDSR reporting districts Week 39, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	103	93%
	Bannu	239	133	56%
	Battagram	63	18	29%
	Buner	34	26	76%
	Bajaur	44	35	80%
	Charsadda	59	55	93%
	Chitral Upper	34	28	82%
	Chitral Lower	35	35	100%
	D.I. Khan	114	113	99%
	Dir Lower	74	74	100%
	Dir Upper	53	41	77%
	Hangu	22	14	64%
	Haripur	72	69	96%
	Karak	35	35	100%
	Khyber	52	21	40%
	Kohat	61	14	23%
	Kohistan Lower	11	11	100%
	Kohistan Upper	20	20	100%
	Kolai Palas	10	10	100%
	Lakki Marwat	70	69	99%
	Lower & Central Kurram	42	17	40%
	Upper Kurram	41	33	80%
	Malakand	42	31	74%
	Mansehra	136	94	69%
	Mardan	80	75	94%
	Nowshera	55	53	96%
	North Waziristan	12	5	42%
	Peshawar	151	115	76%
	Shangla	37	33	89%
	Swabi	63	61	97%
	Swat	77	71	92%
	South Waziristan	134	52	39%
	Tank	34	31	91%
	Torghar	14	13	93%
	Mohmand	68	65	96%
	SD Peshawar	5	1	20%
SD Tank	58	7	12%	
Orakzai	68	10	15%	
FATA	Mirpur	37	37	100%
	Bhimber	20	20	100%
	Kotli	60	60	100%
	Muzaffarabad	45	43	96%
	Poonch	46	46	100%
	Haveli	39	39	100%
	Bagh	40	39	98%

Azad Jammu Kashmir	Neelum	39	39	100%
	Jhelum Vellay	29	27	93%
	Sudhnooti	27	27	100%
Islamabad Capital Territory	ICT	21	20	95%
	CDA	15	8	53%
Balochistan	Gwadar	25	22	88%
	Kech	44	5	11%
	Khuzdar	74	46	62%
	Killa Abdullah	26	15	58%
	Lasbella	55	55	100%
	Pishin	69	40	58%
	Quetta	39	19	49%
	Sibi	36	32	89%
	Zhob	39	27	69%
	Jaffarabad	16	16	100%
	Naserabad	32	32	100%
	Kharan	30	29	97%
	Sherani	15	4	27%
	Kohlu	75	54	72%
	Chagi	35	28	80%
	Kalat	41	40	98%
	Harnai	17	17	100%
	Kachhi (Bolan)	35	34	97%
	Jhal Magsi	28	15	54%
	Sohbat pur	25	25	100%
	Surab	32	19	59%
	Mastung	45	43	96%
	Loralai	33	29	88%
	Killa Saifullah	28	27	96%
	Ziarat	29	0	0%
	Duki	31	7	23%
	Nushki	32	28	88%
	Dera Bugti	45	30	67%
	Washuk	46	35	76%
	Panjgur	38	25	66%
	Awaran	23	0	0%
	Chaman	25	0	0%
	Barkhan	20	20	100%
Hub	33	14	42%	
Musakhel	41	24	59%	
Usta Muhammad	34	34	100%	
Gilgit Baltistan	Hunza	32	32	100%
	Nagar	20	20	100%
	Ghizer	40	40	100%
	Gilgit	40	40	100%
	Diamer	62	58	94%
	Astore	54	52	96%
	Shigar	27	27	100%
	Skardu	52	52	100%
	Ganche	29	29	100%
	Kharmang	18	18	100%
	Hyderabad	73	43	59%
	Ghotki	64	64	100%

Sindh	Umerkot	43	43	100%
	Naushahro Feroze	107	92	86%
	Tharparkar	282	251	89%
	Shikarpur	59	59	100%
	Thatta	52	52	100%
	Larkana	67	67	100%
	Kamber Shadadkot	71	71	100%
	Karachi-East	23	20	87%
	Karachi-West	20	20	100%
	Karachi-Malir	37	33	89%
	Karachi-Kemari	18	15	83%
	Karachi-Central	11	11	100%
	Karachi-Korangi	18	18	100%
	Karachi-South	4	4	100%
	Sujawal	54	54	100%
	Mirpur Khas	106	104	98%
	Badin	124	120	97%
	Sukkur	63	59	94%
	Dadu	88	88	100%
	Sanghar	100	95	95%
	Jacobabad	44	44	100%
	Khairpur	169	160	95%
	Kashmore	59	59	100%
	Matlari	42	40	95%
	Jamshoro	72	72	100%
	Tando Allahyar	54	54	100%
Tando Muhammad Khan	40	40	100%	
Shaheed Benazirabad	122	122	100%	

Table 7: IDSR reporting Tertiary care hospital Week 39, 2024

AJK	Mirpur	2	2	100%
	Bhimber	1	1	100%
	Kotli	1	1	100%
	Muzaffarabad	2	2	100%
	Poonch	2	2	100%
	Haveli	1	1	100%
	Bagh	1	1	100%
	Neelum	1	1	100%
	Jhelum Vellay	1	1	100%
	Sudhnooti	1	1	100%
	Sindh	Karachi-South	1	1
Sukkur		1	0	0%
Shaheed Benazirabad		1	1	100%
Karachi East		1	1	100%

Letter to Editor

Resurgence of Polio in Pakistan: A Call for Comprehensive Action

Dr Maryam Tanveer
Scientific Officer
N.I.H

Dear Editor,

The recent resurgence of polio cases in Pakistan is a cause of great national concern. The country's poliovirus tally for the year reached 32 as eight more children were paralyzed by the viral disease amid a continuous increase in the cases.⁽¹⁾ Despite significant progress made in polio eradication efforts in recent years, the emergence of new cases highlights the ongoing challenges and the urgent need for strengthened public health interventions.

Pakistan is facing a significant challenge in its ongoing battle against polio. The recent detection of Wild Poliovirus (WPV1) in multiple locations across the country has highlighted the urgency of the situation.⁽²⁾ This virus strain, originating from Afghanistan, has re-entered Pakistan and is spreading rapidly, posing a serious threat to public health.

Pakistan is currently struggling with a concerning resurgence of polio cases. Despite ongoing efforts to eradicate the disease, the country remains one of the few regions in the world where polio remains endemic.⁽³⁾ This resurgence poses a significant threat to public health, particularly for young children who are most vulnerable to the disease.⁽¹⁾

Polio is a highly contagious viral infection that can cause paralysis and even death.⁽⁵⁾ The recent spike in cases is a major setback for Pakistan's eradication efforts, which have been ongoing for many years. The disease primarily affects children under the age of five, especially those who are

malnourished or have weakened immune systems due to incomplete or no vaccination.

Pakistan, along with Afghanistan, is one of the last countries worldwide where polio remains endemic. Despite ongoing efforts, polio cases have recently surged, primarily affecting young children. The government is working to eradicate polio through vaccination campaigns, but challenges persist. A report by the Institute for Disease Modeling (IDM) has raised alarms about the escalating situation, predicting that the total number of cases could reach between 55 and 65 by the end of 2024.⁽⁴⁾

To effectively combat the polio crisis, a comprehensive strategy is essential. This strategy should include:

- **Enhanced surveillance:** Improved laboratory capabilities, expanded environmental sampling, and timely reporting of suspected cases are crucial for early detection and response.
- **Improved immunization coverage:** Targeted outreach programs, addressing vaccine hesitancy, and ensuring equitable access to vaccination services are necessary to achieve herd immunity.
- **Risk-based interventions:** Targeted vaccination campaigns and the use of oral poliovirus vaccine (OPV) in high-risk areas can help interrupt virus transmission.
- **Strengthened public health infrastructure:** Investing in trained healthcare workers, adequate health facilities, and reliable supply chains is vital for effective polio eradication.
- **Community engagement:** Building trust, promoting vaccine acceptance, and ensuring the success of eradication efforts through community-based initiatives, community health workers, and cultural sensitivity.

The resurgence of polio in Pakistan is a serious challenge that requires immediate attention. The government, in collaboration with international

health organizations, must continue to intensify its efforts to eradicate the disease and protect the health of the country's children. This will require a sustained commitment to vaccination, improved surveillance, and community engagement.

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NIH Islamabad's Advanced FETP Program Graduates 14th Cohort; Workforce Development



The National Institute of Health (NIH) Islamabad celebrated the graduation of its fourteenth cohort of the Advanced Course in Field Epidemiology Training Program on October 3, 2024. These dedicated public health professionals successfully completed a rigorous two-year program, equipping them with advanced competencies in applied epidemiology. The graduation ceremony marked a significant milestone in their academic and professional journeys, as they transition into their roles in public health.

The Advanced Course in FETP Program at NIH Islamabad is a prestigious program that attracts top talent from across the country. The curriculum is designed to provide comprehensive training in epidemiology, biostatistics, and research methods. Throughout the two-year program, students engage in a variety of learning experiences, including classroom lectures, fieldwork assignments, and research milestones.

The graduation ceremony was attended by distinguished guests, including NIH officers, public health experts and FETP pioneers. The ceremony featured several addresses by esteemed guests who highlighted the critical importance of field epidemiology in addressing public health challenges. Several graduating students were also recognized for their outstanding academic achievements and contributions to the program.

As the graduates embark on their careers, they are well-prepared to make a significant impact on public health in Pakistan. Their advanced training in field epidemiology will enable them to identify, investigate, and respond to outbreaks and other public health emergencies. They will also be able to contribute to the development and implementation of effective public health programs and policies.

The graduation of the fourteenth cohort of the Advanced Course in Field Epidemiology Training Program is a testament to the success of this program in producing highly skilled public health professionals. NIH Islamabad is committed to continuing to offer this program and other training opportunities to meet the evolving needs of the public health sector in Pakistan.



Outbreak Investigation of Cutaneous Leishmaniasis at village Qabristan Kalay, UC Barwand, District South Waziristan Upper from Epid Week 24-37, 2024

Dr. Asma Nida
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Fellow 22nd Cohort FETP-Frontline

Introduction:

Leishmaniasis, a parasitic disease transmitted by infected female phlebotomine sandflies, poses a significant global health threat. Cutaneous leishmaniasis (CL), the most prevalent form, manifests as skin lesions, primarily ulcers, on exposed body parts. These lesions can result in lifelong scars, severe disability, and social stigma. Globally, the estimated annual incidence of leishmaniasis ranges from 700,000 to 1.2 million cases. In Pakistan, the incidence of leishmaniasis in Khyber Pakhtunkhwa and South Waziristan Upper has been steadily increasing, with recorded cases reaching 25,273 and 1,560, respectively, in 2023. The continuous and escalating trend of reported cases necessitated an investigation into this public health concern.

Objectives:

- To confirm the occurrence of a cutaneous leishmaniasis (CL) outbreak in Qabristan Kalay village.
- To characterize the outbreak in terms of affected individuals, geographic distribution, and temporal patterns.
- To identify the underlying causes of the outbreak.
- To provide recommendations for future prevention and response efforts.

Methods:

A case-control study was conducted for this outbreak investigation in Qabristan Kalay village, located within the UC Barwand union council with a

population of 820. The data collection and analysis for this study took place between June and September 2024. A questionnaire was developed to capture relevant information about the participants' demographics, lifestyle, and potential risk factors. Cases were defined as individuals who had been clinically diagnosed with cutaneous leishmaniasis. The following case definitions were developed to define the cases in the investigation:

Suspected case

- Any person, resident of "Qabristan Kalay" UC Barwand, District South Waziristan Upper, having one or more skin lesion/s, typically on uncovered parts of body from Epid Week 24, 2024 to Week 37, 2024.

Confirmed case

- A person showing clinical signs (skin lesions) with parasitological confirmation of the diagnosis (positive smear or culture from the skin lesion).

Whereas controls were defined as individuals who were similar in terms of demographic characteristics but did not have the disease. Individuals who did not reside within the Qabristan Kallay village were excluded from the study. Descriptive analyses based on demographics was done followed by calculation of attack rate of disease. Risk factor analysis was then conducted using odds ratios. Data collection and analysis were performed in Microsoft Excel and EPI Info.

Results:

A total of 43 cases of cutaneous leishmaniasis (CL) were identified among residents of Qabristan Kalay village, UC Barwand. Males were disproportionately affected, accounting for 60.4% (n=26) of the total cases. All cases were clinically diagnosed as cutaneous leishmaniasis, indicating the absence of other disease manifestations.

The age range of affected individuals spanned from 1 to 60 years, highlighting the susceptibility of individuals across various age groups to the disease. The outbreak primarily affected individuals aged 11-20 years, with 39% (n=17) of cases falling within this age group. The attack rate for the outbreak was calculated to be 5%, suggesting a relatively high incidence of CL within the study population.



Residents of sand houses demonstrated a significantly higher risk of leishmaniasis than those living in concrete houses (OR = 3.1, 95% CI: 1.4-6.8, $p < 0.05$). Individuals with hygienic lifestyles had a significantly lower risk of leishmaniasis compared to those with unhygienic practices (OR = 0.5, 95% CI: 0.2-0.9, $p < 0.05$). Consistent use of insect repellents was associated with a significantly lower risk of leishmaniasis (OR = 0.2, 95% CI: 0.1-0.4, $p < 0.05$). This corresponds to an estimated 84% protective effect. Individuals who frequently slept outdoors were at a significantly higher risk of leishmaniasis than those who primarily slept indoors (OR = 2.5, 95% CI: 1.2-5.2, $p < 0.05$). Using bed nets was associated with a significantly lower risk of leishmaniasis (OR = 0.4, 95% CI: 0.2-0.8, $p < 0.05$).

Discussion:

The outbreak investigation conducted in Qabrisan Kalay village revealed cutaneous leishmaniasis (CL) as a significant public health concern within the community. Several risk factors were identified that contribute to the transmission of CL, highlighting the need for targeted interventions to mitigate its spread.

Housing type emerged as a strong predictor of CL risk, with individuals residing in sand-made structures exhibiting significantly higher susceptibility to the disease. Similar findings have been reported in previous studies. (1) (2) this suggests that improving housing conditions, particularly in rural areas, could play a crucial role in reducing CL transmission. For instance, studies have shown that constructing houses with mud or brick, which are less conducive to sandfly breeding, can significantly lower the risk of leishmaniasis (3).

Poor hygiene practices were also identified as a risk factor for CL, aligning with previous research. (4) (5) this emphasizes the importance of promoting proper sanitation and personal hygiene within the community. Implementing public health campaigns to educate residents about effective hygiene practices, such as washing hands regularly, disposing of waste properly, and keeping living spaces clean, can contribute to disease prevention.

The use of insect repellents and bed nets was found to be associated with a lower risk of CL, consistent with existing literature (6) (7) These simple yet effective measures can significantly reduce the

likelihood of sand-fly bites, thereby preventing disease transmission. Encouraging the widespread adoption of insect repellents and bed nets among the population is essential. Public health initiatives can promote the use of these preventive tools through education campaigns, distribution programs, and affordable pricing.

Conclusion:

The findings of this investigation highlight the need for a multi-faceted approach to address the CL outbreak in Qabrisan Kalay village. Strategies should focus on improving housing conditions, promoting hygiene practices, and increasing access to preventive measures. Additionally, strengthening healthcare services and surveillance systems will be crucial for early detection and management of cases.

By implementing comprehensive interventions that address these risk factors, it is possible to reduce the burden of CL in the community and improve the overall health and well-being of its residents.

Recommendations

Based on the findings, the following recommendations were made:

- **Enhanced Surveillance:** Strengthen surveillance activities to monitor for new cases and identify emerging trends
- **Indoor Residual Spraying (IRS):** Conduct IRS in areas with high transmission rates to reduce the sandfly population.
- **Bed Nets and Repellants:** Distribute bed nets and insect repellants to residents to prevent sandfly bites.
- **Community Awareness:** Conduct awareness campaigns to educate the community about CL prevention and control measures.

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Knowledge hub

Typhoid Fever: A Persistent Public Health Challenge

Typhoid fever, a serious bacterial infection caused by *Salmonella enterica* serotype Typhi, remains a significant public health concern worldwide, including in Pakistan. Millions of cases occur globally each year, with typhoid fever estimated to cause 110,000 deaths annually. Children and populations lacking access to safe water and sanitation are particularly vulnerable. The emergence of antibiotic-resistant *Salmonella* strains complicates treatment options. Addressing the root causes – sanitation, water quality, and hygiene practices – is vital for long-term control.

Causes and Transmission

Typhoid fever is primarily transmitted through contaminated food and water. The bacteria can enter the body through the ingestion of contaminated food or water, often due to poor sanitation practices or inadequate water treatment. Travelers visiting endemic areas in Asia, Africa, and Latin America hold the highest risk.

Symptoms

Typhoid fever can present with a variety of symptoms, often developing gradually over several days. Common symptoms include:

- High fever
- Headache
- Fatigue
- Loss of appetite
- Abdominal pain
- Constipation or diarrhea

- Rash (rose spots) on the chest and abdomen

In severe cases, typhoid fever can lead to complications such as intestinal bleeding, perforation, and pneumonia.

Prevention

Effective prevention of typhoid fever involves a combination of measures:

- **Safe drinking water:** Ensure access to clean and safe drinking water.
- **Proper food handling:** Practice good food hygiene, including thorough cooking and storage of food.
- **Vaccination:** Typhoid conjugate vaccine, consisting of the purified Vi antigen linked to a carrier protein, is given as a single injectable dose in children from 6 months of age and in adults up to 45 years or 65 years (depending on the vaccine). They are particularly recommended for travelers to areas with high rates of typhoid fever.
- **Improved sanitation:** Promote proper sanitation practices, including safe disposal of sewage and waste. To ensure safety while traveling in areas where typhoid and paratyphoid fever are prevalent, it's essential to prioritize food and water hygiene. Ensure that food is thoroughly cooked and served hot. Avoid consuming raw milk or products made from it, and opt for pasteurized or boiled milk. Exercise caution with ice, ensuring it's made from safe water. If the safety of drinking water is uncertain, boil it or use a reliable disinfectant. Maintain good hand hygiene, especially after contact with animals or using the bathroom. Thoroughly wash fruits and vegetables, especially those consumed raw, to reduce the risk of bacterial contamination.

Treatment

Typhoid fever is treated with antibiotics. Early diagnosis and treatment are crucial to prevent complications and improve outcomes. In severe cases, hospitalization may be necessary.

Conclusion

Typhoid fever remains a persistent public health challenge in many parts of the world, including Pakistan. By understanding the causes, symptoms, prevention, and treatment of typhoid fever, individuals and communities can take steps to reduce the burden of this disease.





Typhoid Prevention

Typhoid fever is a serious bacterial infection that can be prevented by taking simple steps.

1



Safe Water and Proper Food handling

Always drink clean and purified water to avoid getting infected. Practice good food hygiene, including thorough cooking and storage of food.

2



Good Hygiene and Sanitation

Wash your hands frequently with soap and water, especially after using the bathroom. Prioritize good hygiene practices while travelling to areas where typhoid and paratyphoid is prevalent.

3



Vaccination

Get vaccinated against typhoid fever, especially if traveling to areas where the disease is common.

Stay Healthy

Preventing typhoid is easy! By following these simple tips, you can keep yourself and your loved ones safe from this serious disease.

