

# 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

Make a difference with  
your Field work

Share Your Work and Impact Lives

[www.phb.nih.org.pk](http://www.phb.nih.org.pk)  
[phb@nih.org.pk](mailto:phb@nih.org.pk)





---

## Overview

---

### Public Health Bulletin - Pakistan, Week 44, 2024

---

## IDSR Reports

---

---

## Ongoing Events

---

*Evolving from a basic disease registry, Pakistan's Public Health Bulletin has become an indispensable tool for safeguarding public health. By meticulously tracking disease trends, the Bulletin serves as an early warning system, enabling timely interventions to prevent outbreaks.*

---

## Field Reports

---

*Beyond data compilation, this week's bulletin also includes updates on a five day Consultative Workshop on Implementing the Mosaic Respiratory Virus Surveillance Framework in Pakistan by NIH and WHO, an Outbreak Investigation of Malaria and a knowledge review on impacts of smog on human health*

*Stay well-informed about public health matters. Subscribe to the Weekly Bulletin today! By equipping everyone with knowledge, the Public Health Bulletin empowers Pakistanis to build a healthier nation.*

*Sincerely,  
The Chief Editor*



- During week 44, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, TB, ALRI <5 years, dog bite, B. Diarrhea, VH (B, C & D), Typhoid and SARI.
- Twenty-nine cases of AFP reported from KP, ten each from Punjab and Sindh, and five from AJK. All are suspected cases and need field verification.
- Five suspected cases of HIV/ AIDS reported from Sindh, four from KP and two from Punjab. Field investigation required to verify the cases.
- Twelve suspected cases of Brucellosis reported from KP. Field investigation required to verify the cases.
- There is a decrease in number of cases reported for Acute Diarrhea (Non-Cholera), Malaria, ILI, TB, ALRI <5 years, dog bite, B. Diarrhea, VH (B, C & D), Typhoid and SARI cases this week.

## IDSR compliance attributes

- The national compliance rate for IDSR reporting in 158 implemented districts is 81%
- Gilgit Baltistan and Sindh are the top reporting regions with a compliance rate of 95% and 94%, followed by AJK 93% and ICT 81%
- The lowest compliance rate was observed in KPK 75% and Balochistan 70%.

<b>Region</b>	<b>Expected Reports</b>	<b>Received Reports</b>	<b>Compliance (%)</b>
<b>Khyber Pakhtunkhwa</b>	<b>2319</b>	<b>1749</b>	<b>75</b>
<b>Azad Jammu Kashmir</b>	<b>405</b>	<b>378</b>	<b>93</b>
<b>Islamabad Capital Territory</b>	<b>36</b>	<b>29</b>	<b>81</b>
<b>Balochistan</b>	<b>1308</b>	<b>835</b>	<b>70</b>
<b>Gilgit Baltistan</b>	<b>407</b>	<b>385</b>	<b>95</b>
<b>Sindh</b>	<b>2094</b>	<b>1974</b>	<b>94</b>
<b>National</b>	<b>6569</b>	<b>5350</b>	<b>81</b>



## Public Health Actions

Federal, Provincial, Regional Health Departments and relevant programs may consider following Public Health Actions to prevent and control diseases.

### Influenza-Like Illness (ILI)

- **Enhance Surveillance:** Strengthen the surveillance of ILI cases at health facilities, especially during flu seasons.
- **Promote Hygiene Practices:** Launch health education campaigns on proper respiratory hygiene (covering coughs, frequent hand washing).
- **Strengthen Lab Systems:** Enhance the capacity of laboratory systems to easily detect the circulating strains in the population.
- **Enhance vaccination:** Vaccination in high risk groups (elderly, asthmatics, children < 5) for ILI is advised.

### HIV/AIDS

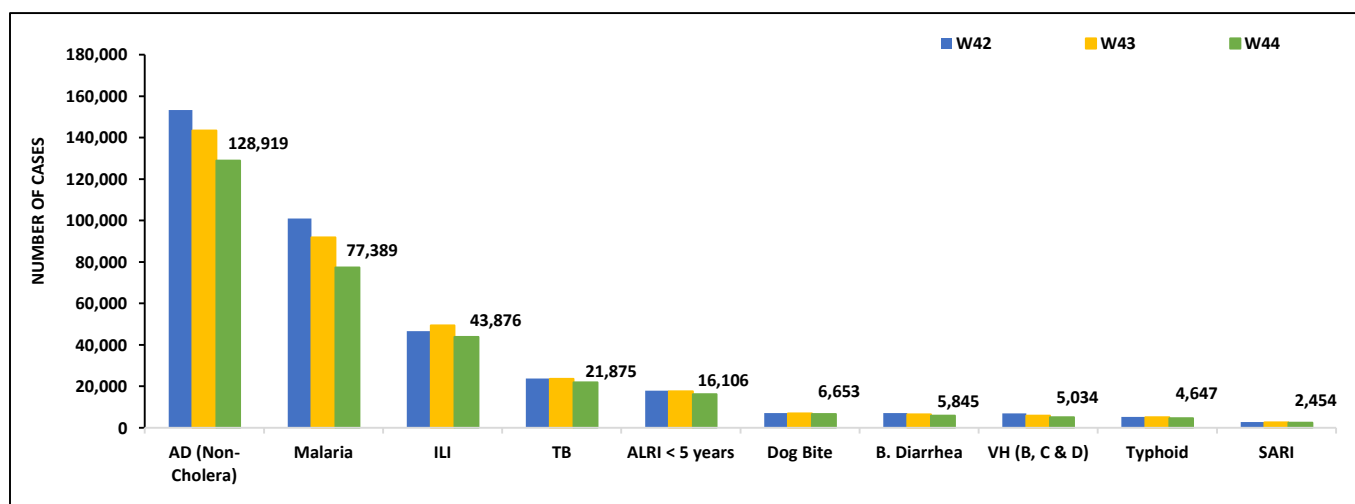
- **Expand HIV Screening and Testing:** Increase access to screening and testing, particularly in high risk populations.
- **Ensure Access to ART:** Provide immediate access to antiretroviral therapy (ART) for individuals living with HIV.
- **Strengthen Community Awareness Programs:** Continue community awareness and health education programs, focusing on high-risk populations and areas for prevention of HIV/AIDS, including counseling regarding stigmatization associated with the disease.



**Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 44, Pakistan.**

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	1,245	5,855	855	355	16,964	68,944	34,701	128,919
Malaria	15	5,873	0	6	6,398	3,075	62,022	77,389
ILI	2,284	7,684	374	1,902	5,049	71	26,512	43,876
TB	55	144	87	5	351	9,745	11,488	21,875
ALRI < 5 years	1,217	1,634	801	6	965	1,165	10,318	16,106
Dog Bite	81	98	7	0	492	3,880	2,095	6,653
B.Diarrhea	49	1,317	56	0	802	729	2,892	5,845
VH (B, C & D)	13	97	4	0	60	0	4,860	5,034
Typhoid	27	598	35	1	610	2,341	1,035	4,647
Dengue	8	3	52	12	409	2,490	206	3,180
SARI	273	641	304	1	1,033	0	202	2,454
AWD (S. Cholera)	71	155	5	0	89	925	0	1,245
Measles	12	52	3	0	203	237	78	585
AVH (A&E)	17	10	4	0	296	0	198	525
Chikungunya	0	1	0	0	0	0	373	374
CL	1	99	0	0	161	1	64	326
Mumps	6	42	1	0	84	1	75	209
Chickenpox/ Varicella	8	6	9	1	62	4	5	95
Gonorrhoea	0	60	0	0	15	0	5	80
Meningitis	1	0	0	0	3	60	6	70
AFP	5	0	0	0	29	10	10	54
Pertussis	0	31	3	0	8	0	1	43
Diphtheria (Probable)	0	9	0	0	8	10	9	36
Brucellosis	0	0	0	0	12	0	0	12
HIV/AIDS	0	0	0	0	4	2	5	11
Syphilis	0	1	0	0	0	0	9	10
NT	0	0	0	0	4	0	0	4
Rubella (CRS)	0	3	0	0	0	0	0	3

**Figure 1: Most frequently reported suspected cases during Week 44, Pakistan.**

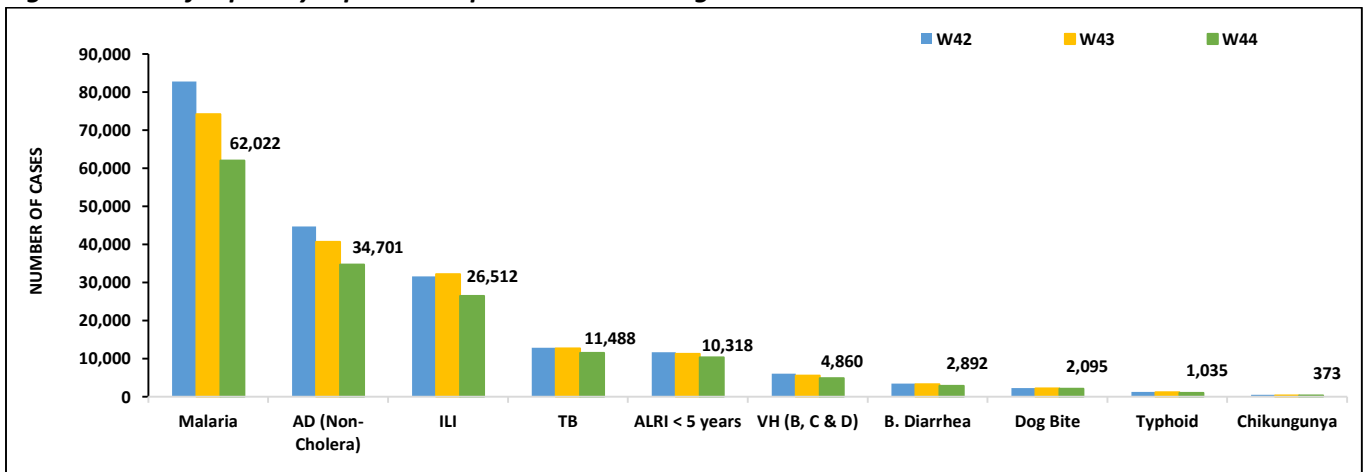


- Malaria cases were maximum followed by AD (Non-Cholera), ILI, TB, ALRI<5 Years, VH (B, C, D), B. Diarrhea, dog bite, Typhoid and Chikungunya.
- Malaria cases are mostly from Larkana, Khairpur and Kamber whereas AD (Non-Cholera) cases are from Khairpur, Badin and Mirpurkhas.
- Ten cases of AFP and Five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

**Table 2: District wise distribution of most frequently reported suspected cases during Week 44, Sindh**

Districts	Malaria	AD (Non-Cholera)	ILI	TB	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Dog Bite	Typhoid	AVH (A&E)
Badin	2,988	1,999	902	1027	638	430	170	88	40	0
Dadu	4,027	1,822	607	402	740	45	348	253	94	1
Ghotki	1,758	855	15	343	269	261	59	139	6	0
Hyderabad	693	1,194	1,720	180	115	36	0	0	24	0
Jacobabad	1,379	710	880	118	428	218	136	146	36	0
Jamshoro	2,849	1,618	168	549	330	335	81	56	50	0
Kamber	4,746	1,731	0	786	244	115	100	170	18	0
Karachi Central	38	758	1,816	30	29	6	11	0	137	320
Karachi East	47	344	312	12	22	11	6	10	3	1
Karachi Keamari	5	446	257	9	75	0	6	1	11	25
Karachi Korangi	49	325	0	28	7	0	6	0	0	0
Karachi Malir	597	1,386	3,546	149	316	69	41	46	48	21
Karachi South	48	77	2	0	0	2	0	8	0	5
Karachi West	226	881	1,252	161	219	119	40	44	30	0
Kashmore	2,061	381	553	194	152	21	49	49	4	0
Khairpur	5,346	2,180	5,583	948	870	163	273	126	168	0
Larkana	7,364	1,751	10	944	466	123	388	42	16	0
Matiali	1,954	1,235	0	534	358	330	58	69	8	0
Mirpurkhas	2,754	1,843	3,495	604	802	168	83	43	38	0
Naushero Feroze	2,536	1,238	738	547	414	22	131	162	85	0
Sanghar	3,506	1,555	59	1121	407	1,088	57	201	31	0
Shaheed Benazirabad	1,635	1,404	10	339	200	49	51	95	84	0
Shikarpur	3,083	1,179	3	310	235	674	147	171	9	0
Sujawal	1,408	1,617	0	166	437	60	178	34	8	0
Sukkur	3,739	969	1,864	501	290	15	120	93	16	0
Tando Allahyar	2,093	973	987	424	223	314	98	28	8	0
Tando Muhammad Khan	915	824	0	431	153	52	80	0	0	0
Tharparkar	2,028	1,471	1,421	330	855	50	63	1	21	0
Thatta	581	689	312	11	584	36	56	20	13	0
Umerkot	1,569	1,246	0	290	440	48	56	0	29	0
<b>Total</b>	<b>62,022</b>	<b>34,701</b>	<b>26,512</b>	<b>11,488</b>	<b>10,318</b>	<b>4,860</b>	<b>2,892</b>	<b>2,095</b>	<b>1,035</b>	<b>373</b>

**Figure 2: Most frequently reported suspected cases during Week 44 Sindh**



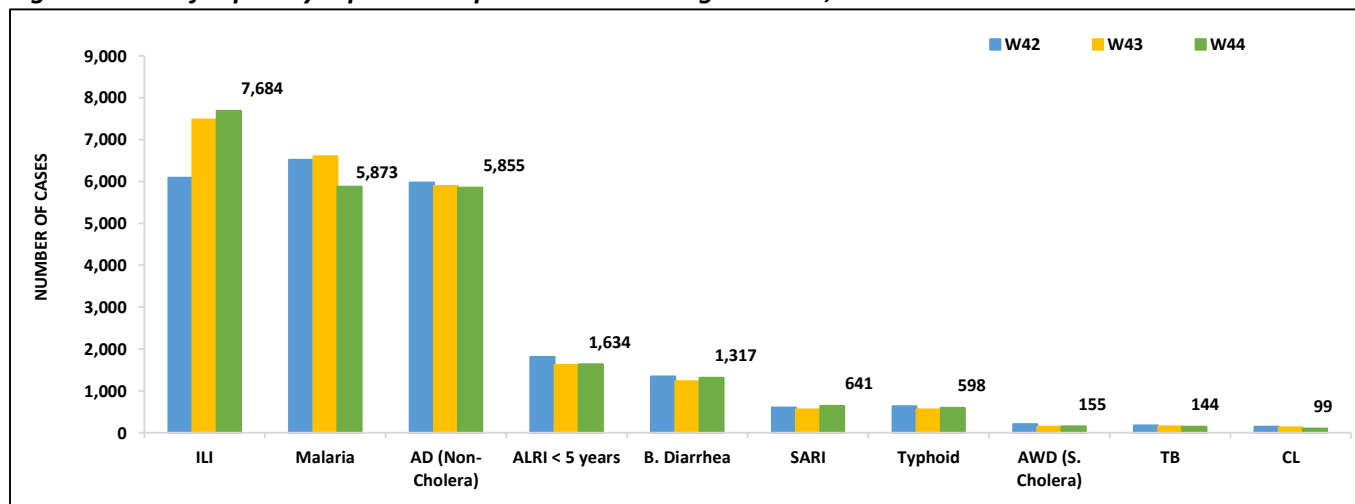


- ILI, Malaria, AD (Non-Cholera), ALRI <5 years, B. Diarrhea, SARI, Typhoid, AWD (S. Cholera), TB and CL cases were the most frequently reported diseases from Balochistan province.
- ILI cases are mostly reported from Gwadar, Quetta and Sibi while Malaria cases are mostly reported from Jaffarabad, Jhal Magsi and Lasbella.
- ILI, ALRI <5 years, B. Diarrhea, SARI, Typhoid and AWD (S. Cholera) cases showed an increasing trend while Malaria, AD (Non-Cholera), TB and CL cases showed a decreasing trend this week.

**Table 3: District wise distribution of most frequently reported suspected cases during Week 44, Balochistan**

Districts	AD (Non-Cholera)	Malaria	ILI	B. Diarrhea	ALRI < 5 years	Typhoid	SARI	AWD (S.Cholera)	TB	CL
Barkhan	49	72	67	27	4	1	35	0	3	0
Chagai	424	179	195	0	76	0	29	14	0	0
Chaman	32	0	11	0	3	15	9	0	0	0
Dera Bugti	59	175	65	35	32	0	14	0	0	0
Duki	64	20	72	15	33	11	3	0	0	0
Gwadar	1,389	224	540	36	129	0	36	0	1	0
Hub	10	101	88	2	9	0	0	0	0	0
Jaffarabad	94	1,093	524	34	42	21	7	0	70	26
Jhal Magsi	280	564	270	15	3	1	0	0	4	0
Kalat	0	30	18	13	3	8	20	1	2	3
Kech (Turbat)	583	266	132	5	29	NR	NR	1	NR	1
Kharan	414	96	142	0	47	0	6	0	0	0
Khuzdar	379	254	255	2	132	22	72	19	0	11
Killa Saifullah	0	171	133	127	63	0	8	0	0	0
Kohlu	274	105	145	5	46	45	33	NR	1	NR
Lasbella	56	521	307	73	36	2	10	8	0	6
Loralai	287	64	160	49	25	96	25	0	0	0
Mastung	192	137	230	86	26	41	51	2	2	0
Musakhel	38	99	29	10	10	8	7	7	1	0
Naseerabad	37	202	253	47	18	1	60	0	0	18
Panjgur	151	192	239	130	63	11	12	19	0	0
Pishin	462	210	282	68	171	66	28	7	1	4
Quetta	856	28	411	288	62	59	35	50	0	9
Sherani	45	11	7	2	3	24	3	3	0	9
Sibi	712	160	286	97	43	96	39	15	7	6
Sohbat pur	13	353	211	112	39	12	27	0	6	6
Surab	112	29	42	0	0	0	0	0	0	0
Usta Muhammad	218	254	483	172	59	20	10	8	0	0
Washuk	283	180	170	0	87	6	10	1	0	0
Zhob	171	83	88	184	24	75	9	0	46	0
<b>Total</b>	<b>7,684</b>	<b>5,873</b>	<b>5,855</b>	<b>1,634</b>	<b>1,317</b>	<b>641</b>	<b>598</b>	<b>155</b>	<b>144</b>	<b>99</b>

**Figure 3: Most frequently reported suspected cases during Week 44, Balochistan**

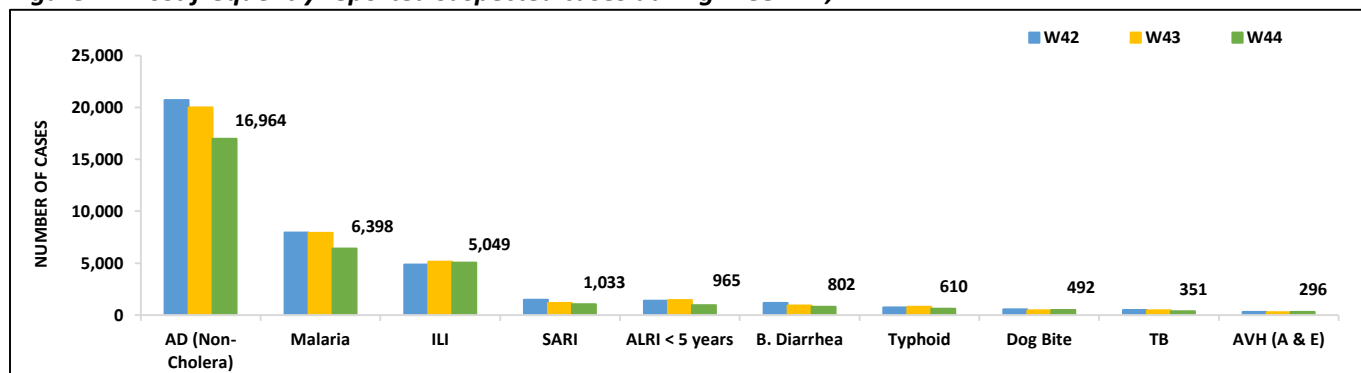


- Cases of AD (Non-Cholera) were maximum followed by Malaria, ILI, SARI, ALRI<5 Years, B. Diarrhea, Typhoid, dog bite, TB and AVH (A & E).
- AD (Non-Cholera), Malaria, ILI, SARI, ALRI<5 Years, B. Diarrhea, Typhoid and TB cases showed a decreasing trend this week.
- Twenty-nine cases of AFP, Four cases of HIV/ AIDS and Twelve suspected cases of Brucellosis reported from KP. All are suspected cases and need field verification.

**Table 4: District wise distribution of most frequently reported suspected cases during Week 44, KP**

Districts	AD (Non-Cholera)	Malaria	ILI	B.Diarrhea	SARI	ALRI <5 Years	Typhoid	Dog Bite	TB	AVH (A&E)
Abbottabad	360	3	75	0	32	3	38	3	20	0
Bajaur	704	220	52	86	66	91	6	31	12	53
Bannu	579	1,312	11	10	28	31	81	4	14	9
Battagram	79	57	361	NR	NR	NR	0	16	NR	NR
Buner	97	194	25	0	2	0	2	8	5	0
Charsadda	862	309	566	0	93	29	68	1	3	12
Chitral Lower	216	21	94	27	21	12	10	14	17	3
Chitral Upper	133	1	9	11	7	2	14	1	0	2
D.I. Khan	902	611	0	0	13	18	0	19	32	0
Dir Lower	1,205	294	1	0	36	68	46	21	9	28
Dir Upper	738	22	92	0	7	9	5	4	17	6
Hangu	49	48	0	0	0	5	0	0	0	0
Haripur	612	32	306	28	79	6	7	0	12	28
Karak	272	288	82	144	14	13	7	15	4	3
Khyber	238	95	0	28	33	67	27	0	0	1
Kohat	311	166	121	37	3	7	0	6	0	0
Kohistan Lower	94	5	0	0	0	8	0	0	0	0
Kohistan Upper	316	22	25	0	6	5	1	0	0	0
Kolai Palas	56	3	10	9	3	3	2	0	0	0
L & C Kurram	26	39	53	0	0	17	3	0	0	0
Lakki Marwat	690	470	2	0	12	33	8	44	6	0
Malakand	558	28	40	15	49	66	26	0	3	36
Mansehra	239	0	165	44	10	1	9	0	1	0
Mardan	379	20	0	0	44	4	0	10	5	0
Mohmand	120	290	173	158	0	40	3	18	1	0
North Waziristan	51	7	0	7	0	10	4	0	1	0
Nowshera	1,202	196	58	15	3	32	7	15	11	7
Orakzai	130	22	18	0	0	3	1	1	1	0
Peshawar	2,312	66	970	116	67	118	60	8	23	34
SD Peshawar	4	1	0	0	0	0	0	0	0	0
SD Tank	25	43	3	0	0	4	1	0	0	0
Shangla	836	619	0	15	37	4	50	56	95	1
SWA	64	39	219	66	21	15	14	8	3	0
Swabi	912	99	870	67	144	6	51	111	29	28
Swat	1,055	68	152	0	98	23	7	61	10	39
Tank	327	604	205	0	11	3	39	0	16	0
Tor Ghar	31	56	4	4	4	10	0	9	1	6
Upper Kurram	180	28	287	146	22	36	13	8	0	0
Total	16,964	6,398	5,049	1,033	965	802	610	492	351	296

**Figure 4: Most frequently reported suspected cases during Week 44, KP**



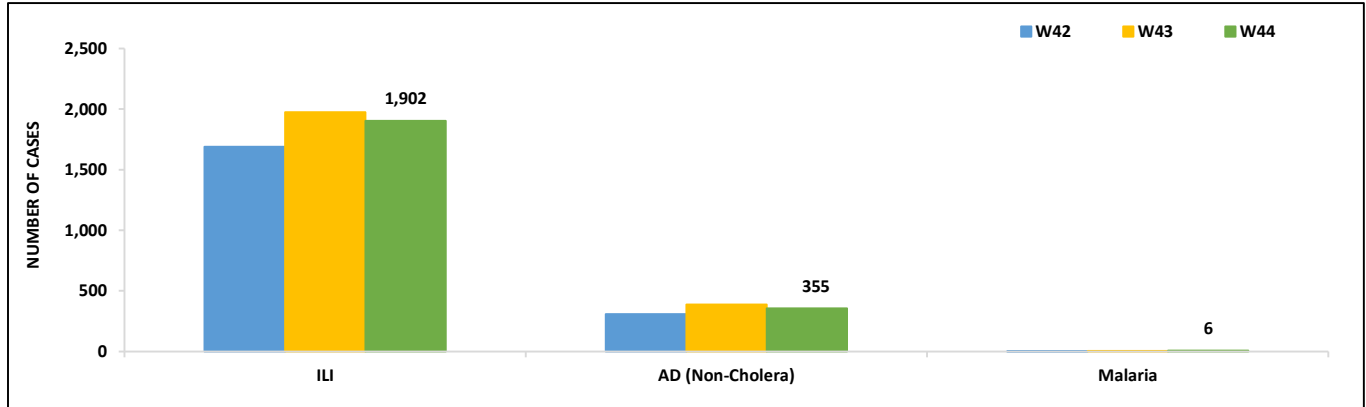


**ICT:** The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and Malaria. ILI and AD (Non-Cholera) cases showed a decreasing trend this week.

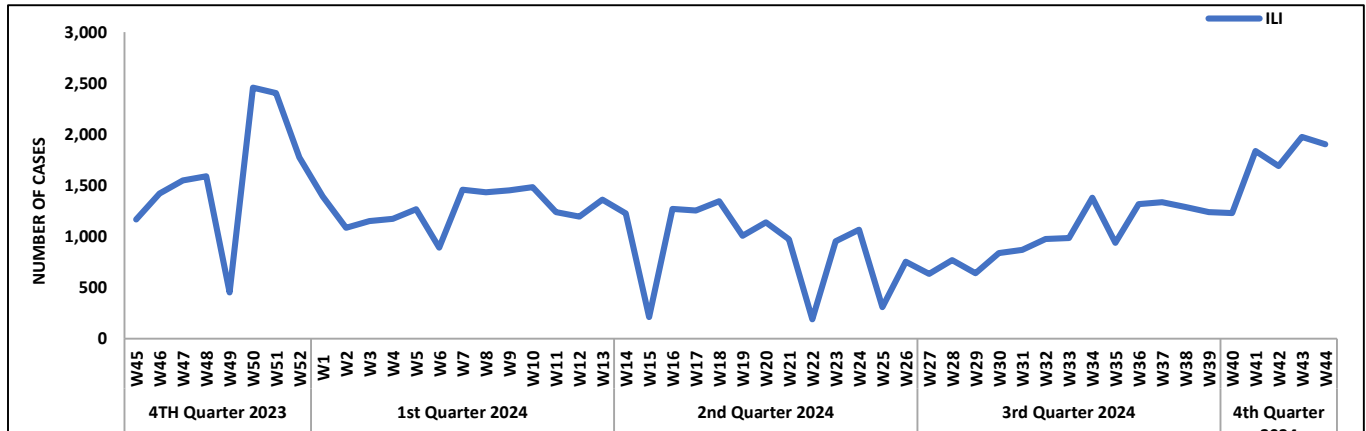
**AJK:** ILI cases were maximum followed by AD (Non-Cholera), ALRI <5 years, SARI, dog bite, AWD (S. Cholera), TB, B. Diarrhea, Typhoid and AVH (A & E) cases. A decreasing trend observed for AD (Non-Cholera), SARI, dog bite, AWD (S. Cholera), B. Diarrhea and AVH (A & E) cases while an increasing trend observed for ILI, ALRI <5 years, Typhoid and TB cases this week. Five 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, ILI, SARI, TB, B. Diarrhea and Typhoid cases. A decreasing trend observed for AD (Non-Cholera), ILI, SARI, TB, B. Diarrhea and Typhoid cases this week.

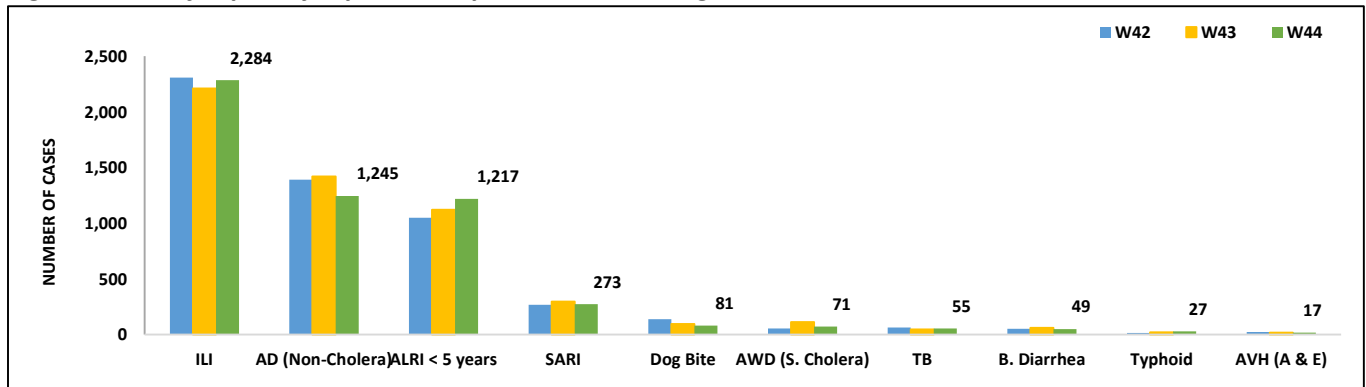
**Figure 5: Most frequently reported suspected cases during Week 44, ICT**



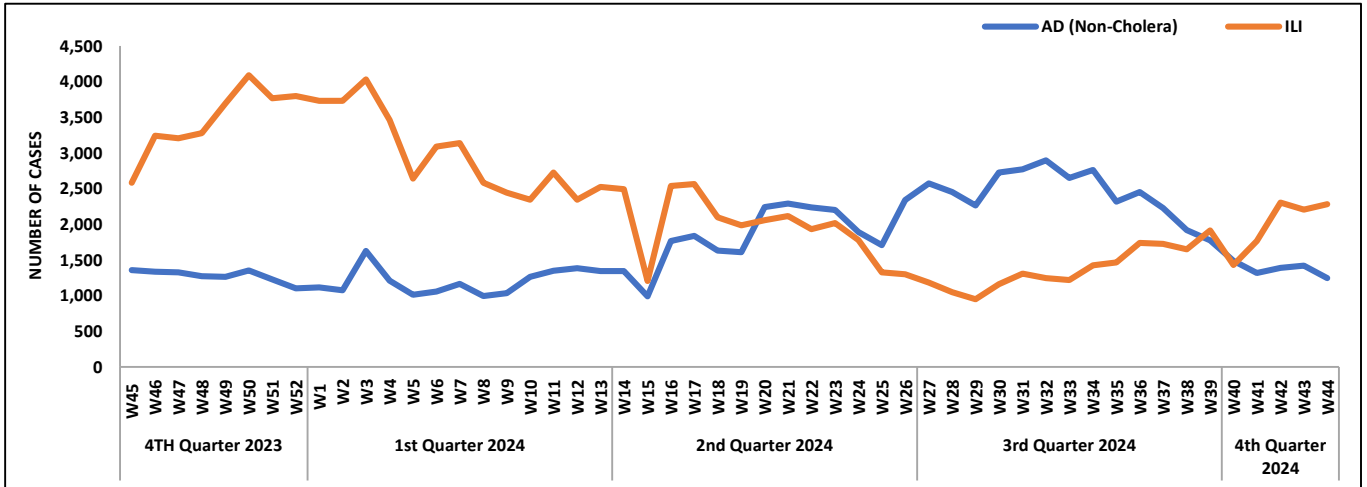
**Figure 6: Week wise reported suspected cases of ILI, ICT**



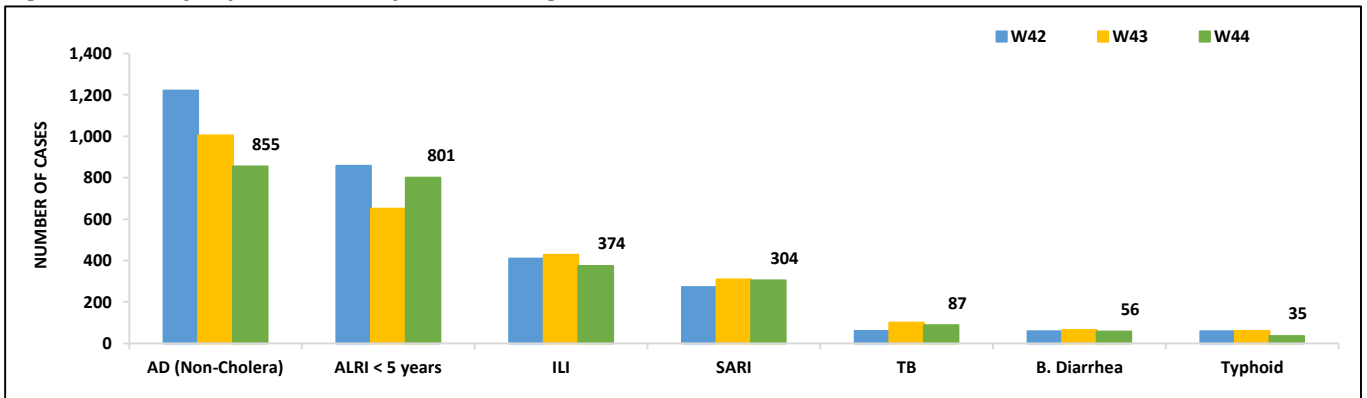
**Figure 7: Most frequently reported suspected cases during Week 44, AJK**



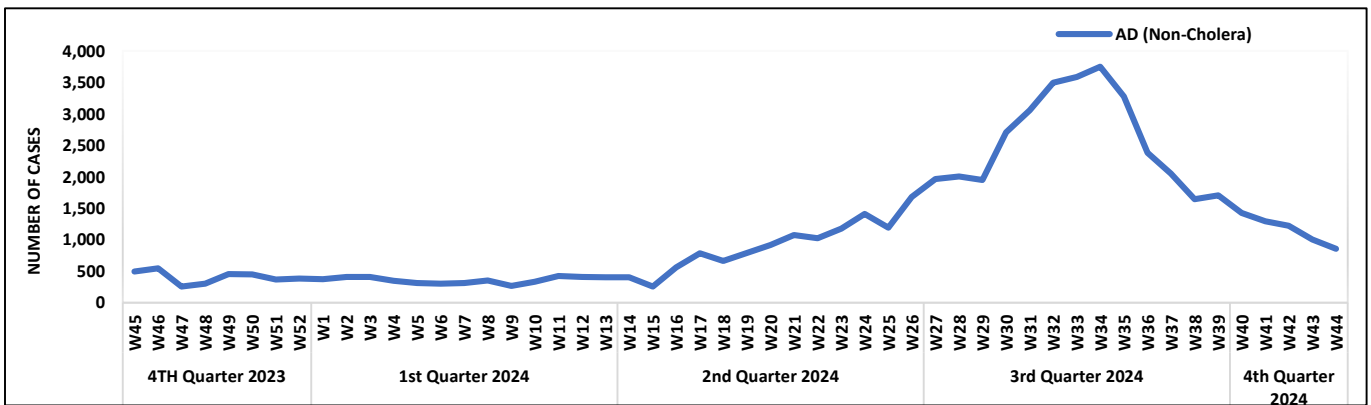
**Figure 8: Week wise reported suspected cases of ILI and AD (Non-Cholera) AJK**



**Figure 9: Most frequent cases reported during Week 44, GB**



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



- AD (Non-Cholera) cases were maximum followed by TB, dog bite, Malaria, Typhoid, ALRI<5 Years, AWD (S. Cholera), B. Diarrhea and Measles cases.
- AD (Non-Cholera), TB, dog bite, Malaria, Typhoid, ALRI<5 Years, AWD (S. Cholera), B. Diarrhea and Measles cases showed a decreasing trend this week.
- Ten cases of AFP and Two suspected cases of HIV/ AIDS reported from Punjab. Field investigation required to verify the cases.

Figure 11: Most frequently reported suspected cases during Week 44, Punjab.

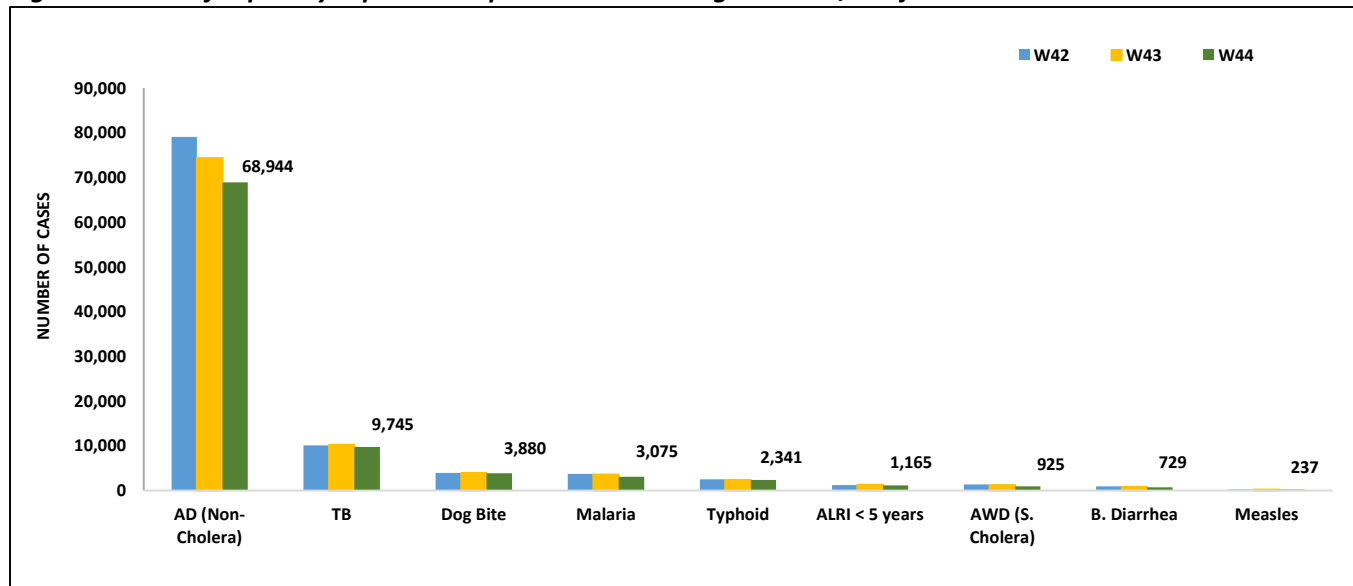
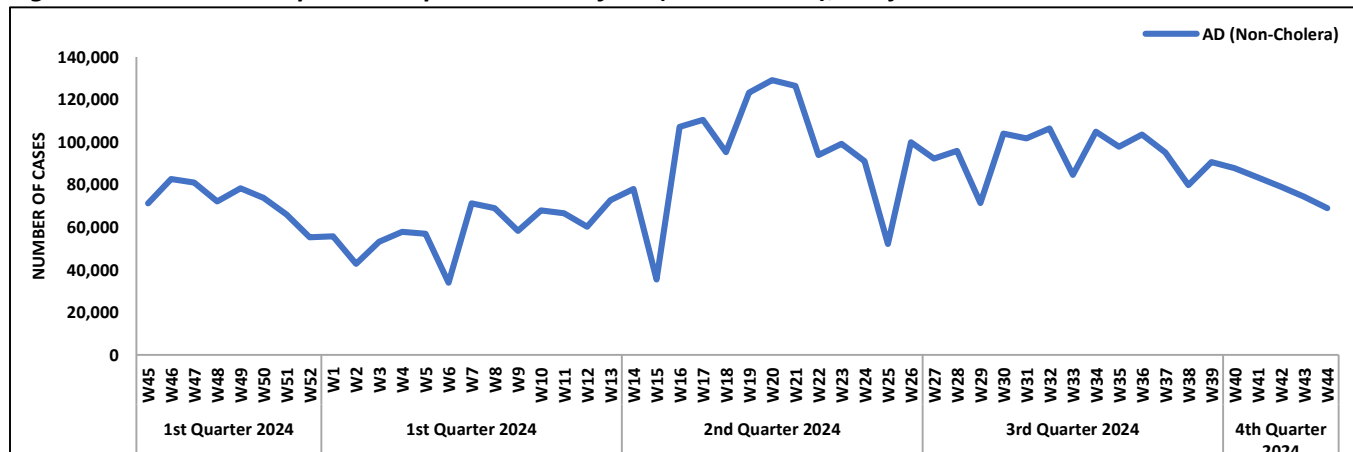


Figure 12: Week wise reported suspected cases of AD (Non-Cholera), Punjab.



**Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 44**

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)	14	0	-	-	3	0	-	-	-	-	-	-	18	0
AD (Non-Cholera)	96	1	-	-	-	-	-	-	-	-	-	-	32	0
Malaria	1,336	127	-	-	-	-	-	-	3	0	-	-	160	8
CCHF	-	-	8	0	2	0	-	-	-	-	-	-	0	0
Dengue	1,285	54	3	3	1	1	-	-	-	-	-	-	188	17
VH (B)	3,330	100	0	0	-	-	-	-	145	4	-	-	1,119	13
VH (C)	3,342	274	0	0	-	-	-	-	123	0	-	-	1,124	30
VH (A&E)	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Covid-19	-	-	14	1	6	0	-	-	-	-	-	-	45	0
HIV	-	-	-	-	-	-	-	-	-	-	-	-	0	0
TB	-	-	-	-	-	-	-	-	-	-	-	-	55	3
Syphilis	-	-	-	-	-	-	-	-	-	-	-	-	11	0
Typhoid	519	6	-	-	-	-	-	-	-	-	-	-	0	0
Diphtheria (Probable)	-	-	-	-	1	0	-	-	-	-	-	-	0	0
Pertussis	-	-	-	-	-	-	-	-	-	-	-	-	0	0
M-POX	-	-	0	0	-	-	-	-	-	-	-	-	0	0
Measles	73	36	16	5	215	86	0	0	0	0	186	63	11	5
Rubella	73	4	16	0	215	2	0	0	0	0	186	14	11	1
B.Diarrhea	-	-	-	-	-	-	-	-	-	-	-	-	13	0
Chikungunya	-	-	-	-	-	-	-	-	-	-	-	-	0	0
Covid-19	Out of SARI	3	0	0	0	17	0	25	0	14	0	100	4	0
	Out of ILI	0	0	0	0	3	0	38	0	0	0	200	4	0
Influenza A	Out of SARI	3	0	0	0	17	0	25	3	14	0	100	2	0
	Out of ILI	0	0	0	0	3	0	38	3	0	0	200	3	0
Influenza B	Out of SARI	3	0	0	0	17	0	25	0	14	0	100	3	0
	Out of ILI	0	0	0	0	3	0	38	0	0	0	200	5	0
RSV	Out of SARI	3	0	0	0	17	0	25	0	14	0	100	0	0
	Out of ILI	0	0	0	0	3	0	38	0	0	0	200	0	0



# IDSR Reports Compliance

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

**Table 6: IDSR reporting districts Week 44, 2024**

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	106	95%
	Bannu	238	138	58%
	Battagram	63	24	38%
	Buner	34	34	100%
	Bajaur	44	42	95%
	Charsadda	59	58	98%
	Chitral Upper	34	28	82%
	Chitral Lower	35	35	100%
	D.I. Khan	114	113	99%
	Dir Lower	74	72	97%
	Dir Upper	37	30	81%
	Hangu	22	12	55%
	Haripur	72	66	92%
	Karak	35	35	100%
	Khyber	52	16	31%
FATA	Kohat	61	61	100%
	Kohistan Lower	11	11	100%
	Kohistan Upper	20	20	100%
	Kolai Palas	10	10	100%
	Lakki Marwat	70	69	99%
	Lower & Central Kurram	42	18	43%
	Upper Kurram	41	31	76%
	Malakand	42	30	71%
	Mansehra	136	85	63%
	Mardan	80	74	93%
	Nowshera	55	50	91%
	North Waziristan	13	5	38%
	Peshawar	153	127	83%
	Shangla	37	36	97%
	Swabi	64	61	95%
	Swat	77	70	91%
	South Waziristan	135	54	40%
	Tank	34	31	91%
	Torghar	14	12	86%
	Mohmand	68	63	93%
SD Peshawar	5	1	20%	
SD Tank	58	6	10%	
Orakzai	69	15	22%	
Balochistan	Mirpur	37	37	100%
	Bhimber	42	20	48%
	Kotli	60	60	100%





<b>Azad Jammu Kashmir</b>	Muzaffarabad	45	45	100%
	Poonch	46	46	100%
	Haveli	40	39	98%
	Bagh	40	36	90%
	Neelum	39	39	100%
	Jhelum Vellay	29	29	100%
	Sudhnooti	27	27	100%
<b>Islamabad Capital Territory</b>	ICT	21	21	100%
	CDA	15	8	53%
<b>Balochistan</b>	Gwadar	25	21	84%
	Kech	44	11	25%
	Khuzdar	74	65	88%
	Killa Abdullah	26	0	0%
	Lasbella	55	53	96%
	Pishin	69	46	67%
	Quetta	55	37	67%
	Sibi	36	26	72%
	Zhob	39	24	62%
	Jaffarabad	16	16	100%
	Naserabad	32	32	100%
	Kharan	30	28	93%
	Sherani	15	11	73%
		Kohlu	75	43
	Chagi	36	28	78%
	Kalat	41	40	98%
	Harnai	17	0	0%
	Kachhi (Bolan)	35	0	0%
	Jhal Magsi	28	28	100%
	Sohbat pur	25	25	100%
	Surab	32	18	56%
	Mastung	45	45	100%
	Loralai	33	31	94%
	Killa Saifullah	28	25	89%
	Ziarat	29	0	0%
	Duki	31	16	52%
	Nushki	32	0	0%
	Dera Bugti	45	31	69%
	Washuk	46	26	57%
	Panjgur	38	26	68%
	Awaran	23	0	0%
	Chaman	24	5	21%
	Barkhan	20	20	100%
	Hub	33	14	42%
	Musakhel	41	10	24%
Usta Muhammad	34	34	100%	
<b>Gilgit Baltistan</b>	Hunza	32	32	100%
	Nagar	25	25	100%
	Ghizer	40	40	100%
	Gilgit	40	40	100%



	Diامر	62	62	100%
	Astore	54	54	100%
	Shigar	27	27	100%
	Skardu	52	52	100%
	Ganche	29	28	97%
	Kharmang	46	25	54%
Sindh	Hyderabad	74	52	70%
	Ghotki	64	64	100%
	Umerkot	43	43	100%
	Naushahro Feroze	107	97	91%
	Tharparkar	276	230	83%
	Shikarpur	60	59	98%
	Thatta	52	49	94%
	Larkana	67	67	100%
	Kamber Shadadkot	71	71	100%
	Karachi-East	23	19	83%
	Karachi-West	20	20	100%
	Karachi-Malir	37	29	78%
	Karachi-Kemari	18	18	100%
	Karachi-Central	11	7	64%
	Karachi-Korangi	18	18	100%
	Karachi-South	4	4	100%
	Sujawal	55	54	98%
	Mirpur Khas	106	105	99%
	Badin	125	124	99%
	Sukkur	64	63	98%
	Dadu	90	84	93%
	Sanghar	100	99	99%
	Jacobabad	44	44	100%
	Khairpur	169	166	98%
	Kashmore	59	59	100%
	Matiari	42	42	100%
Jamshoro	75	71	95%	
Tando Allahyar	54	54	100%	
Tando Muhammad Khan	41	41	100%	
Shaheed Benazirabad	125	121	97%	



**Table 7: IDSR reporting Tertiary care hospital Week 44, 2024**

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
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	0	0%
	Sukkur	1	0	0%
	Shaheed Benazirabad	1	1	100%
	Karachi-East	1	1	100%
	Karachi-Central	1	0	0%



## Implementing the Mosaic Respiratory Virus Surveillance Framework in Pakistan: NIH and WHO collaborate for a Five-Day Consultative Workshop



A pivotal five-day consultative workshop, co-organized by the National Institute of Health (NIH) and the World Health Organization (WHO), was held to expedite the implementation of the Mosaic Respiratory Surveillance Framework in Pakistan. The workshop brought together a distinguished group of experts, including representatives from the Ministry of Health, NIH, provincial health departments, and international specialists from WHO Headquarters in Switzerland and the Centers for Disease Control and Prevention (CDC) in Atlanta.

The Mosaic Framework, a robust tool, is designed to harmonize and tailor surveillance approaches to address specific priority objectives. It aligns with the International Health Regulations (IHR) and fulfills core capacity requirements for effective surveillance and response. By integrating diverse surveillance methods, the Mosaic Framework empowers national authorities to pinpoint priority respiratory virus surveillance objectives and devise optimal strategies to combat these threats.

During the intensive five-day workshop, participants engaged in in-depth discussions and

analyses, applying the Mosaic Framework to the unique context of Pakistan while exploring all three domains of the framework. An extensive needs assessment was conducted to identify gaps and challenges within the country's existing respiratory virus surveillance systems. Building on these insights, participants collaborated to develop actionable recommendations aimed at improving these systems and enhancing their capacity to detect, respond to, and prevent respiratory virus outbreaks.



This collaborative effort is poised to significantly improve public health outcomes in Pakistan and bolster pandemic preparedness during inter-pandemic periods. A strengthened surveillance infrastructure will enable Pakistan to identify and respond to outbreaks more rapidly and effectively, reducing morbidity and mortality.

## Notes from the field: Outbreak Investigation of Malaria in Village Khar, District Shaheed Benazirabad, Sindh, Pakistan: 10th to 17th Sept 2023

Dr. Abdul Rehman Samo  
MO(HQ)

Mentor: Dr. Ashraf Lakho



## Introduction:

Malaria remains a significant public health concern in Pakistan, with the country accounting for a large proportion of malaria cases and deaths in the South Asia region. The disease, caused by Plasmodium species transmitted through the bite of infected Anopheles mosquitoes, continues to affect millions annually, especially in endemic regions like Sindh, Baluchistan, and Khyber Pakhtunkhwa. Timely detection and response to malaria outbreaks are crucial in controlling transmission and preventing widespread morbidity and mortality.

In September 2023, a suspected malaria outbreak was reported in Village Khar, located in District Shaheed Benazirabad, Sindh. The local health authorities raised concerns over an increased number of malaria cases, prompting an urgent investigation. Village Khar is a rural settlement in the Shaheed Benazirabad district of Sindh, with a population of approximately 10,000 people. The area is characterized by seasonal monsoon rains from late June to September, which provide favorable conditions for mosquito breeding.

## Objectives:

The objectives of the investigation were as follows:

1. To assess the extent and magnitude of the outbreak,
2. To identify the predisposing risk factors contributing to the outbreak
3. To propose effective control measures to mitigate the current outbreak and prevent future occurrences.

## Methods:

A descriptive epidemiological study design was employed to characterize the malaria outbreak with the assessment of the distribution of malaria cases, identification of risk factors, and formulation of control strategies. The study was conducted over a one-week period from September 10 to September 17, 2023.

A suspected malaria case was defined as any individual presenting with fever and/or symptoms like chills, sweating, and headache. Probable cases were defined as cases with symptoms and a positive RDT for malaria. Confirmed cases were those with both positive RDT result and positive blood smear for Plasmodium species.

A structured questionnaire was used to gather demographic data (age, sex, residence), clinical history (fever, duration of illness), and exposure risk factors (mosquito bites, previous malaria history). A door-to-door survey was conducted to identify and enroll all individuals showing symptoms of malaria. Health workers in the team administered RDTs on-site to confirm suspected cases. In addition to active case

finding, the team reviewed hospital and clinic records in the surrounding areas to identify any additional malaria cases reported during the outbreak period. Rapid Diagnostic Tests (RDTs) were used for malaria diagnosis. Blood slides were also prepared for confirmation. Data was analyzed using descriptive statistics. The overall attack rate was calculated along with identification of risk factors.

## Results:

A total of 150 suspected malaria cases were identified in Village Khar during the study period. Of these, 104 cases were probable cases with positive by RDT. Blood smear of the probable cases were done and 52 cases were confirmed. The highest number of cases was reported in individuals aged 15-44 years, with male predominance (65% male, 35% female). Among the confirmed cases, Plasmodium vivax was identified as the predominant species, accounting for 80% of the cases, while Plasmodium falciparum was responsible for the remaining 20%. The overall attack rate for the outbreak was calculated to be 12/1000 of the total population of the village.

The investigation revealed several predisposing risk factors contributing to the outbreak. Stagnant water from recent monsoon rains created optimal mosquito breeding sites around the village. Poor housing conditions, including inadequate window screening and lack of insecticide-treated bed nets, increased vulnerability to mosquito bites. Limited use of preventive measures such as insect repellents and reluctance to seek early treatment for fever contributed to the spread of malaria.

## Public Health Actions taken:

### Information Dissemination:

The district administration was promptly notified of the malaria outbreak and initiated the following control measures:

- **Vector Control:** Implementation of larvicidal fogging activities targeting Anopheles mosquitoes.
- **Environmental Management:** Elimination of stagnant water sources to disrupt mosquito breeding sites.

### Community Engagement and Health Education:

Community health education sessions were conducted to raise awareness about malaria prevention and promote the following key messages:

- **Personal Protection Measures:** Use of insecticide-treated nets (ITNs) and repellents.





- **Environmental Sanitation:** Regular cleaning of homes and surroundings to reduce mosquito breeding sites.

By combining these strategies, the aim was to effectively control the malaria outbreak and prevent further transmission.

## Discussion:

The findings of this investigation highlights the significance of timely outbreak response to mitigate the impact of malaria. The high attack rate of malaria in Village Khar indicates a significant public health threat. The predominance of *Plasmodium vivax* suggests that control measures must address both immediate treatment and prevention of relapses. Previous studies have shown that *P. vivax* is the most prevalent species in South Asia, responsible for a substantial portion of malaria cases in rural and semi-rural areas of Pakistan.

The identified risk factors—poor environmental management, inadequate protective measures, and delayed treatment—are consistent with findings from previous malaria outbreaks in similar rural settings in Pakistan. Studies have documented that areas with inadequate drainage, poor sanitation, and low socioeconomic status are at higher risk for malaria transmission. These factors highlight the need for a multi-faceted approach to malaria control, including vector control, community awareness, and improved healthcare access.

## Recommendations:

**Strengthened Surveillance System:** Strengthen the surveillance system for continuous monitoring of malaria cases and trends. Train local health workers to improve case detection and response times.

**Intensified Vector Control:** Conduct indoor residual spraying (IRS) with insecticides in affected areas. Distribute insecticide-treated bed nets (ITNs) to households, especially those with high-risk individuals.

**Environmental Management:** Drain stagnant water and clear areas of accumulated debris to eliminate mosquito breeding sites.

**Community Engagement and Education:** Public awareness campaigns to educate the community about malaria symptoms, prevention, and the importance of early treatment.

**Effective Case Management:** Ensure the availability of Rapid Diagnostic Tests (RDTs) and Artemisinin-based combination therapies (ACTs)

for the timely and effective case management of malaria.

## Limitations:

The study had several limitations, including the reliance on RDTs, which may have missed low-density infections, also poses a potential for underreporting. Additionally, the study did not assess long-term environmental factors such as seasonal variations and migration patterns, which could affect the transmission dynamics.

Further epidemiological investigation is needed in the area and neighboring areas to evaluate the impact of implemented measures and to validate the findings of this investigation.

## Conclusion:

The investigation into the malaria outbreak in Village Khar highlights the importance of a coordinated and timely response to malaria outbreaks in Pakistan. By addressing risk factors such as poor vector control, inadequate sanitation, and limited public awareness, it is possible to reduce the burden of malaria and prevent future outbreaks. Integrated control measures, along with strengthened surveillance and improved healthcare infrastructure, can have a significant impact on reducing malaria transmission in endemic regions. The findings of this study provide valuable insights for future malaria control strategies in similar settings across Pakistan.

## References

1. Noor AM, Zurovac D, Hay SI, et al. The epidemiology of *Plasmodium falciparum* and *Plasmodium vivax* in sub-Saharan Africa and the Indian subcontinent. *Malar J.* 2008;7(1):218. doi:10.1186/1475-2875-7-218.
2. Sardar K, Zeeshan M, Yasmin S, et al. Malaria in Pakistan: A review of the recent trends and challenges in malaria control. *Trop Med Infect Dis.* 2020;5(2):63. doi:10.3390/tropicalmed5020063.
3. Sheikh S, Saleem M, Haq I. Socioeconomic determinants of malaria incidence in rural Sindh. *J Epidemiol Commun Health.* 2012;66(10):955-960. doi:10.1136/jech-2011-200110.
4. Ali S, Khan W, Muneer MA. Risk factors associated with malaria outbreaks in the Sindh province of Pakistan. *J Infect Dev Ctries.* 2015;9(12):1317-1323. doi:10.3855/jidc.7172.
5. Hasan M, Shaikh I, Raza S, et al. Malaria outbreak investigations in Sindh: A review of case studies and interventions. *Pak J Med Sci.* 2019;35(4):1027-1032. doi:10.12669/pjms.35.4.1016.
6. Higgins S, Foy H. Efficacy of insecticide-treated nets for malaria control in Pakistan. *PLoS Med.* 2007;4(6):e230. doi:10.1371/journal.pmed.0040230.



# Knowledge hub

## Understanding Smog: Impacts on Health and Community Action

Smog, a dense fog that restricts visibility, is a complex mixture of air pollutants. It primarily results from the interaction of sunlight with air pollutants like nitrogen oxides (NOx), volatile organic compounds (VOCs), and particulate matter (PM). These pollutants are emitted from various sources, including industrial activities, vehicle exhaust, and power plants.

### Health Effects of Smog

Exposure to smog can have significant adverse effects on human health, particularly for vulnerable populations such as children, the elderly, and individuals with pre-existing respiratory conditions. Short-term exposure can lead to respiratory problems like coughing, wheezing, and difficulty breathing. Long-term exposure, however, can have more severe consequences, including increased risk of lung cancer, heart disease, and chronic respiratory illnesses.

### Environmental Factors Contributing to Smog

Several environmental factors contribute to smog formation and exacerbate its effects. Urbanization, with its concentration of vehicles and industries, is a major contributor. Industrial activities release pollutants like NOx and VOCs, which react with sunlight to form smog. Additionally, transportation, especially the use of diesel vehicles, emits significant amounts of particulate matter and NOx.

Weather patterns also play a crucial role in smog formation. Calm, sunny days with little wind can trap pollutants near the ground, leading to increased smog levels. Geographic features like valleys and mountains can further exacerbate smog by preventing the dispersion of pollutants.

### Preventing Smog Formation

To combat smog and improve air quality, a multi-faceted approach is necessary. Both individual and community actions can contribute to reducing smog levels.

- **Individual Actions:**
  - Reduce vehicle emissions by carpooling, using public transportation, or opting for low-emission vehicles.
  - Limit personal vehicle use, especially during peak hours.
  - Conserve energy to reduce power plant emissions.

- Use energy-efficient appliances and lighting.
- **Community Actions:**
  - Promote the use of public transportation and non-motorized modes of transport like walking and cycling.
  - Implement stricter emission standards for industries and vehicles.
  - Encourage the development of green spaces and urban forests to absorb pollutants.
  - Support policies that promote renewable energy sources.

### Public Awareness and Response

Public awareness about smog and its health impacts is essential. By understanding the risks and taking preventive measures, individuals can protect themselves and their families.

- **Air Quality Monitoring:** Stay informed about local air quality conditions by checking air quality reports and alerts.
- **Protective Measures:** During smog episodes, reduce outdoor activities, especially for vulnerable groups. Use air purifiers with high-efficiency particulate air (HEPA) filters to improve indoor air quality.
- **Community Engagement:** Participate in local initiatives to address air pollution, such as tree-planting drives and advocacy campaigns.

### Key Takeaways

Smog poses a significant threat to public health and environmental quality. By understanding its causes, effects, and prevention strategies, we can take collective action to reduce smog levels and create healthier communities. By adopting sustainable practices and supporting policies that prioritize clean air, we can ensure a better future for generations to come.

### Additional Resources:

- World Health Organization (WHO): <https://www.who.int/>
- Centers for Disease Control and Prevention (CDC): <https://www.cdc.gov/>





# Precautions for Smog

**Wear  
a mask**



**Stay  
hydrated**



**Use  
air purifiers  
indoors**



**Stay  
updated  
on weather  
situation**



Your Safety - Our Priority | Provincial Disaster Management Authority, Punjab

