PUBLIC HEALTH BULLETIN-PAKISTAN

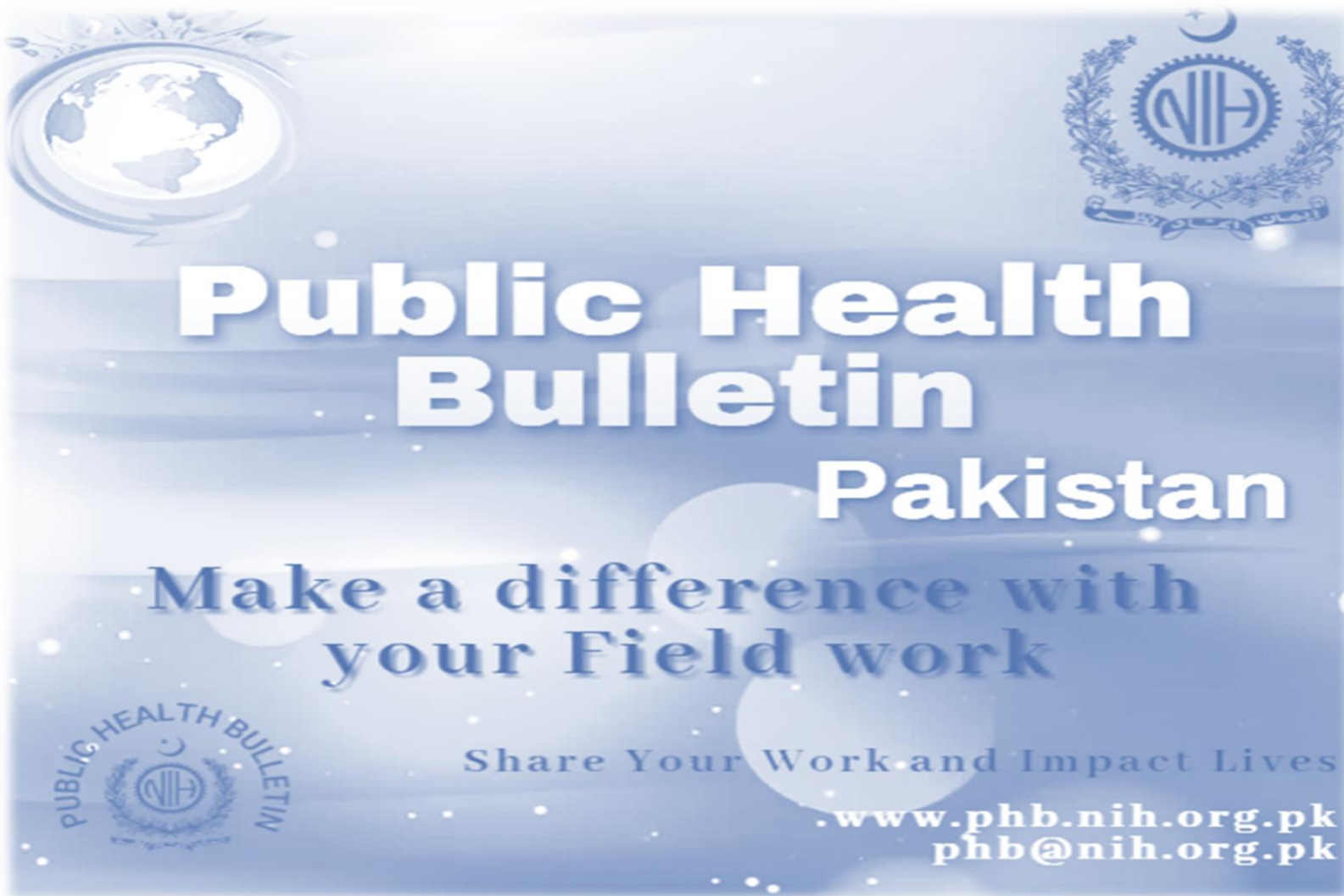# Integrated Disease Surveillance & Response (IDSR) Report

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 22, 2025

The Public Health Bulletin (PHB) provides timely, reliable, and actionable health information to the public and professionals. It disseminates key IDSR data, outbreak reports, and seasonal trends, along with actionable public health recommendations. Its content is carefully curated for relevance to Pakistan's priorities, excluding misinformation. The PHB also proactively addresses health misinformation on social media and aims to be a trusted resource for informed public health decision-making.

This Weeks Highlights include;
- *Strengthening One Health Governance: CDC-NIH Hosts Provincial Workshop in Gilgit*
- *Measles Outbreak Investigation Report, Pishin District, Balochistan (October–December 2024).*
- *Knowledge hub on Understanding HIV/AIDS: A Public Health Priority*

By transforming complex health data into actionable intelligence, the Public Health Bulletin continues to be an indispensable tool in our collective journey toward a healthier Pakistan.

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Stay informed. Stay prepared. Stay healthy.

Sincerely,
The Chief Editor

- *During Week 14, 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.*

- *Eleven cases of AFP reported from KP, five from Punjab and two from Sindh.*

- *Five suspected cases of HIV/ AIDS reported from Punjab, three from KP and two from Balochistan.*

- *Six suspected cases of Brucellosis reported from KP.*

- *Among VPDs, there is an increase in number of cases of Measles, Meningitis, AFP and Diphtheria this week.*

- *Among Respiratory diseases, there is an increase in number of cases of TB this week.*

- *Among Water/food-borne diseases, there is an increase in number of cases of Acute Diarrhea (Non-Cholera), Typhoid, AWD (S. Cholera) and AVH (A & E) this week.*

- *Among Vector-borne diseases, there is an increase in number of cases of CL and Dengue this week.*

- *Among STDs, there is an increase in number of cases of HIV/AIDs this week.*

- *Among Zoonotic/Other diseases, there is an increase in number of cases of dog bite this week.*

IDSR compliance attributes

- *The national compliance rate for IDSR reporting in 158 implemented districts is 80%*

- *Sindh is the top reporting regions with a compliance rate of 95%, followed by AJK 94%, GB 92% and ICT 81%.*

- *The lowest compliance rate was observed in KP 75% and Balochistan 57%.*

Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	*2701*	*1732*	*64*
Azad Jammu Kashmir	*404*	*379*	*94*
Islamabad Capital Territory	*38*	*27*	*71*
Balochistan	*1308*	*593*	*45*
Gilgit Baltistan	*409*	*361*	*88*
Sindh	*2111*	*2020*	*96*
National	*6971*	*5112*	*73*

Public Health Actions

Federal, Provincial, Regional Health Departments and relevant programs may consider following public health actions to prevent and control diseases.

Typhoid

- **Enhance Case Detection and Reporting:** Strengthen typhoid surveillance within the Integrated Disease Surveillance and Response (IDSR) system by training healthcare providers on standard case definitions, timely notification, and outbreak detection, particularly in high-burden and underserved areas.
- **Improve Laboratory Diagnosis:** Expand laboratory diagnostic capacity for typhoid by supporting culture and sensitivity testing for MDR and XDR detection at district and provincial levels to confirm cases and guide antimicrobial stewardship.
- **Promote Water, Sanitation, and Hygiene (WASH):** Collaborate with relevant sectors to ensure access to safe drinking water, improve sanitation infrastructure, and promote hygiene practices, especially handwashing with soap.
- **Implement Vaccination Strategies:** Support the scale-up of Typhoid Conjugate Vaccine (TCV) through routine immunization and targeted campaigns in high-risk populations.
- **Raise Community Awareness:** Develop culturally appropriate health education campaigns to inform communities about transmission routes, preventive behaviors (e.g., safe food handling and hygiene), and the importance of early care-seeking.

Acute Viral Hepatitis (A & E)

- **Enhance Case Detection and Reporting:** Strengthen AHV (A & E) surveillance in the IDSR system by training health personnel to recognize symptoms and ensure timely reporting, especially during seasonal peaks or in outbreak-prone areas.
- **Strengthen Laboratory Confirmation:** Improve diagnostic capacity by ensuring availability of rapid and confirmatory tests (e.g., IgM for HAV/HEV) at regional laboratories to facilitate timely outbreak response.
- **Improve WASH Infrastructure:** Coordinate with municipal and rural development authorities to upgrade water supply systems, prevent sewage contamination, and promote latrine use to interrupt fecal-oral transmission.
- **Engage in Risk Communication:** Design and disseminate targeted messages through community channels to raise awareness about safe drinking water, personal hygiene, food safety, and the risks of consuming contaminated water or raw produce.

Pakistan

Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 22, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	1,916	5,045	1,002	445	37,022	NR	52,164	97,594
Malaria	10	2,257	0	3	4,301	NR	49,458	56,029
ILI	2,055	4,382	211	890	5,075	NR	24,768	37,381
ALRI < 5 years	827	1,444	641	4	1,083	NR	8,798	12,797
TB	71	93	109	11	432	NR	11,006	11,722
B. Diarrhea	48	1,085	66	8	1,191	NR	3,521	5,919
Dog Bite	118	76	8	1	935	NR	3,413	4,551
VH (B, C & D)	8	78	0	2	123	NR	4,332	4,543
Typhoid	1	407	78	0	939	NR	1,087	2,512
SARI	218	421	126	0	883	NR	187	1,835
AVH (A & E)	23	20	6	0	273	NR	741	1,063
CL	0	85	0	0	634	NR	1	720
Measles	11	38	27	1	502	NR	97	676
AWD (S. Cholera)	37	182	7	0	55	NR	57	338
Chickenpox/ Varicella	6	7	10	5	172	NR	91	291
Mumps	6	26	0	0	168	NR	75	275
Chikungunya	0	13	0	0	0	NR	99	112
Dengue	0	2	0	1	7	NR	67	77
AFP	3	1	1	0	28	NR	18	51
Gonorrhea	0	24	0	0	16	NR	6	46
Pertussis	0	32	4	0	2	NR	6	44
Meningitis	0	0	0	0	9	NR	13	22
Brucellosis	0	0	0	0	6	NR	15	21
HIV/AIDS	0	0	0	0	3	NR	14	17
Diphtheria (Probable)	0	1	0	0	6	NR	4	11
VL	0	0	0	0	0	NR	8	8
Syphilis	0	0	0	0	0	NR	5	5
Leprosy	0	3	0	0	0	NR	0	3
CCHF	0	0	0	0	0	NR	1	1
Rubella (CRS)	0	1	0	0	0	NR	0	1

Figure 1: Most frequently reported suspected cases during Week 22, Pakistan.

Sindh
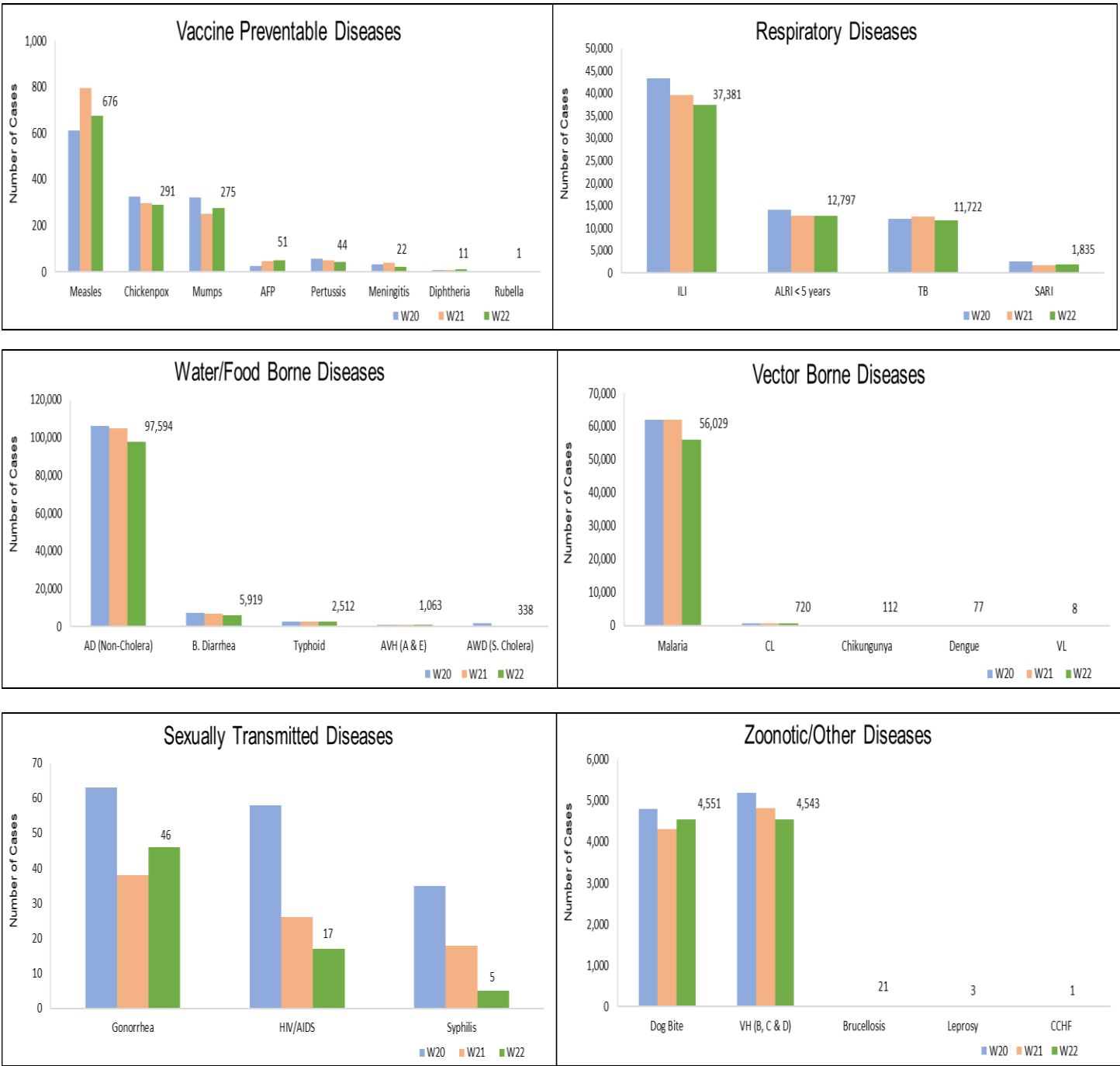
- AD (Non-Cholera) cases were maximum followed by Malaria, ILI, ALRI<5 Years, TB, dog bite, VH (B, C, D), B. Diarrhea, Typhoid and AVH (A & E).
- AD (Non-Cholera) cases are mostly from Khairpur, Badin and Mirpurkhas whereas Malaria cases are from Larkana, Khairpur and Sanghar.
- Two cases of AFP reported from Sindh. They are suspected cases and need field verification.
- There is a decline in number of cases of AD (Non-Cholera), Malaria, ILI, ALRI<5 Years, TB, dog bite, VH (B, C, D) and B. Diarrhea while an increase in number of cases of AVH (A & E) and Meningitis this week.
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Table 2: District wise distribution of most frequently reported suspected cases during Week 22, Sindh

Districts	AD (Non-Cholera)	Malaria	ILI	TB	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Dog Bite	Typhoid	AVH (A & E)
Badin	3,327	3,599	2,729	887	406	188	183	108	38	22
Dadu	3,231	3,150	570	449	916	60	528	432	129	69
Ghotki	1,140	1,443	96	338	312	158	86	165	0	0
Hyderabad	2,395	656	1,144	358	139	78	67	66	9	4
Jacobabad	642	679	644	124	660	212	91	235	11	0
Jamshoro	1,569	1,686	39	554	219	154	79	80	17	10
Kamber	2,044	3,029	0	738	257	123	109	200	18	0
Karachi Central	1,036	8	662	19	97	10	26	4	81	18
Karachi East	228	40	187	9	2	0	3	17	15	3
Karachi Keamari	577	5	316	26	25	3	2	1	2	4
Karachi Korangi	282	58	1	20	0	0	6	2	2	0
Karachi Malir	1,598	181	2,244	195	266	52	57	56	31	29
Karachi South	5,559	113	33	166	100	238	62	300	227	152
Karachi West	809	295	1,121	94	195	42	22	91	26	0
Kashmore	558	1,687	596	222	186	32	89	151	1	0
Khairpur	3,062	6,029	6,735	981	1,018	151	313	243	211	15
Larkana	2,044	4,003	0	704	215	79	311	27	11	10
Matiari	1,808	2,108	0	478	166	463	52	47	2	1
Mirpurkhas	2,450	1,789	1,801	629	219	157	67	104	19	1
Naushero Feroze	1,096	1,698	705	352	297	35	223	215	46	0
Sanghar	1,844	3,417	60	1,047	418	994	101	171	55	5
Shaheed Benazirabad	1,657	1,635	3	320	179	41	85	139	66	0
Shikarpur	1,190	2,095	2	200	137	322	180	133	2	2
Sindh Labs	285	10	0	0	5	0	0	2	0	0
Sujawal	2,388	1,007	0	164	299	66	163	67	3	1
Sukkur	1,479	1,559	1,436	427	435	101	116	87	3	0
Tando Allahyar	1,993	1,612	602	377	137	200	130	96	8	3
Tando Muhammad Khan	1,228	891	50	535	165	55	105	67	0	0
Tharparkar	1,554	2,201	952	267	440	32	88	1	20	33
Thatta	1,636	1,530	2,040	53	530	245	67	106	16	357
Umerkot	1,455	1,245	0	273	358	41	110	0	18	2
Total	52,164	49,458	24,768	11,006	8,798	4,332	3,521	3,413	1,087	741

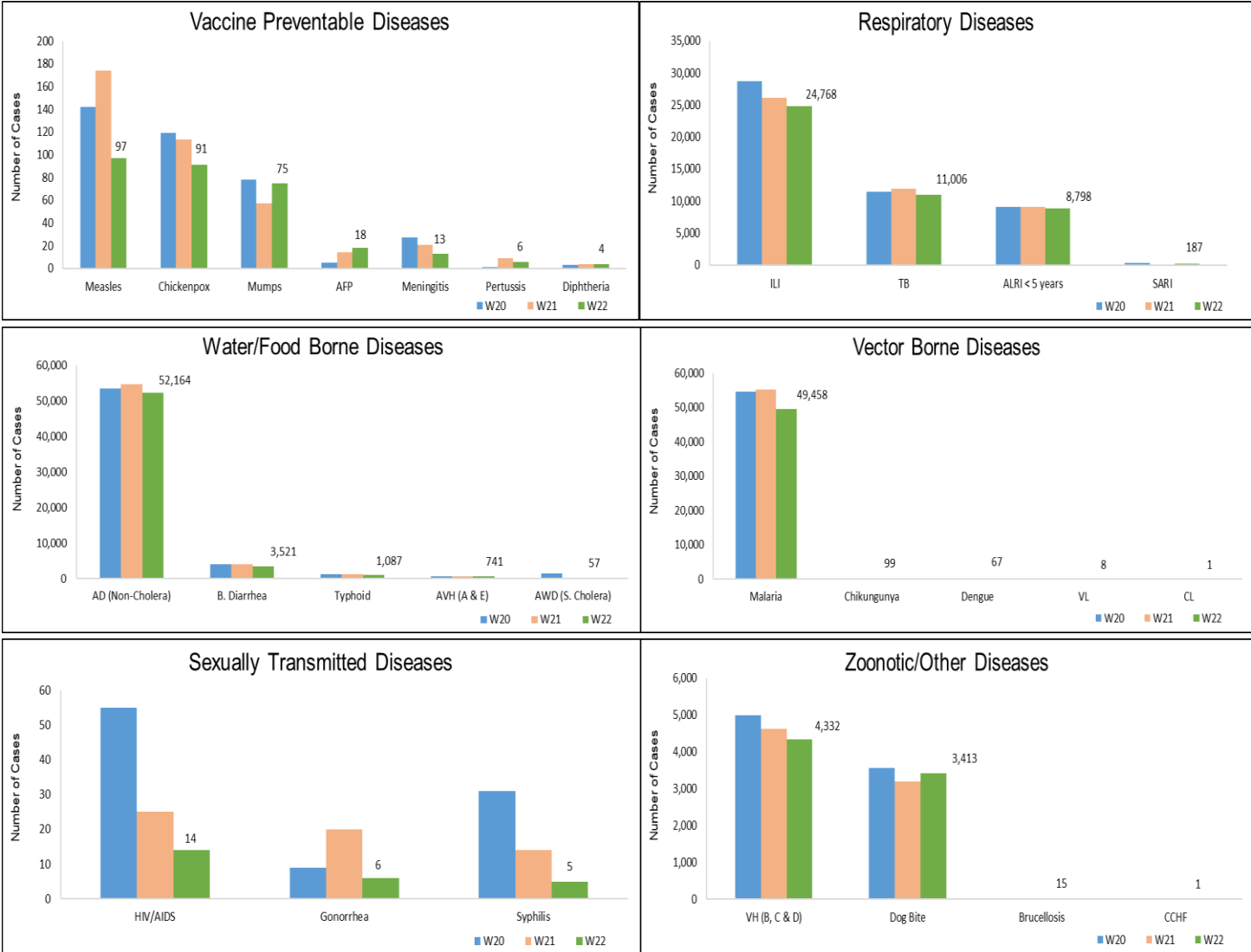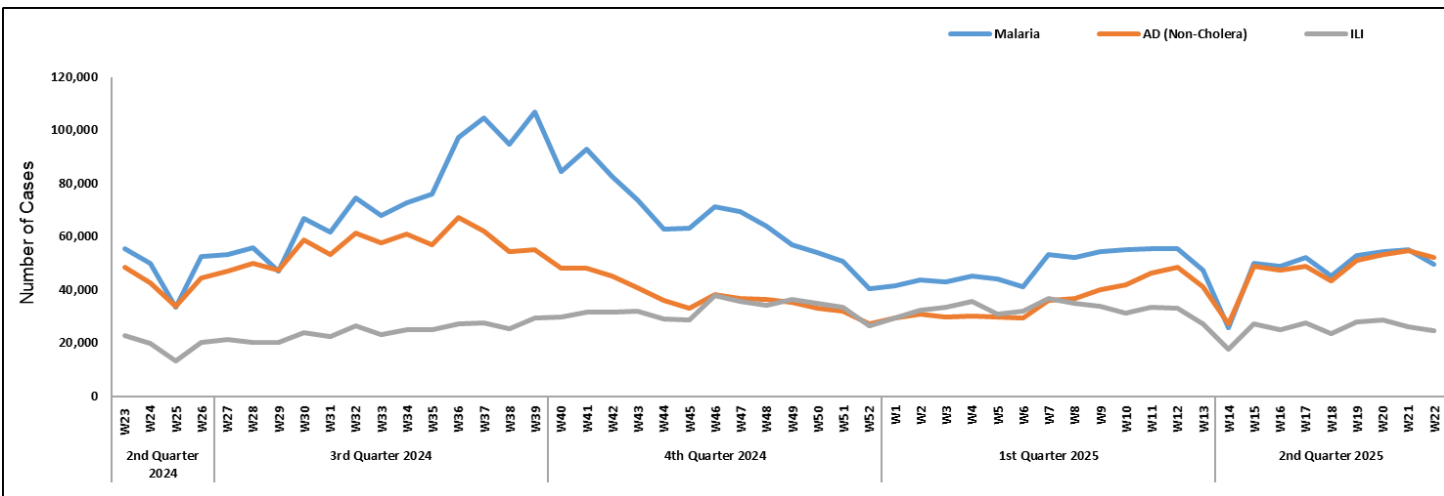*Figure 2: Most frequently reported suspected cases during Week 22 Sindh*

Figure 3: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Sindh

Balochistan

- AD (Non-Cholera), ILI, Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, dog bite, AWD (S. Cholera) and TB cases were the most frequently reported diseases from Balochistan province.
- AD (Non-Cholera) cases are mostly reported from Jaffarabad, Quetta and Usta Muhammad while ILI cases are mostly reported from Quetta, Kharan and Gwadar.
- Two cases of HIV/AIDs reported from Balochistan. Field investigation is required to confirm the cases.
- AD (Non-Cholera), ILI, Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, dog bite, AWD (S. Cholera), TB, Measles, Mumps, Pertussis and Chickenpox showed an increase in number of cases this week.

Table 3: District wise distribution of most frequently reported suspected cases during Week 22, Balochistan

Districts	AD (Non-Cholera)	ILI	Malaria	ALRI < 5 years	B. Diarrhea	SARI	Typhoid	AWD (S. Cholera)	TB	CL
Barkhan	121	51	75	24	6	6	48	2	4	0
Chagai	150	204	42	0	45	0	16	0	0	0
Chaman	0	1	0	0	1	0	0	0	0	0
Dera Bugti	54	0	62	4	1	0	3	0	0	0
Gwadar	546	858	113	32	139	1	65	NR	NR	NR
Hub	172	43	106	12	17	0	4	0	2	2
Jhal Magsi	176	251	152	56	2	0	21	0	7	0
Kalat	84	2	71	12	49	1	24	0	2	16
Kharan	182	452	41	20	75	0	11	0	0	15
Killa Abdullah	151	74	15	15	39	31	10	72	6	21
Killa Saifullah	227	0	172	149	87	23	18	0	0	0
Kohlu	160	215	103	24	54	38	14	NR	NR	NR
Lasbella	430	54	318	211	35	7	9	0	1	6
Loralai	224	270	50	39	39	88	14	3	0	0
MusaKhel	30	24	75	4	5	1	8	7	0	0
Naseerabad	325	28	246	15	19	14	31	0	7	3
Pishin	618	552	66	123	204	46	39	66	2	9
Quetta	445	591	26	219	21	45	12	1	0	5
Sibi	136	206	7	21	6	22	7	0	2	1
Sohbat pur	246	21	273	155	89	6	30	3	1	2
Usta Muhammad	154	36	52	41	21	0	0	0	0	0
Washuk	174	311	125	24	89	18	18	27	3	2
Zhob	240	138	67	244	42	74	5	1	56	3
Total	5,045	4,382	2,257	1,444	1,085	421	407	182	93	85

Figure 4: Most frequently reported suspected cases during Week 22, Balochistan
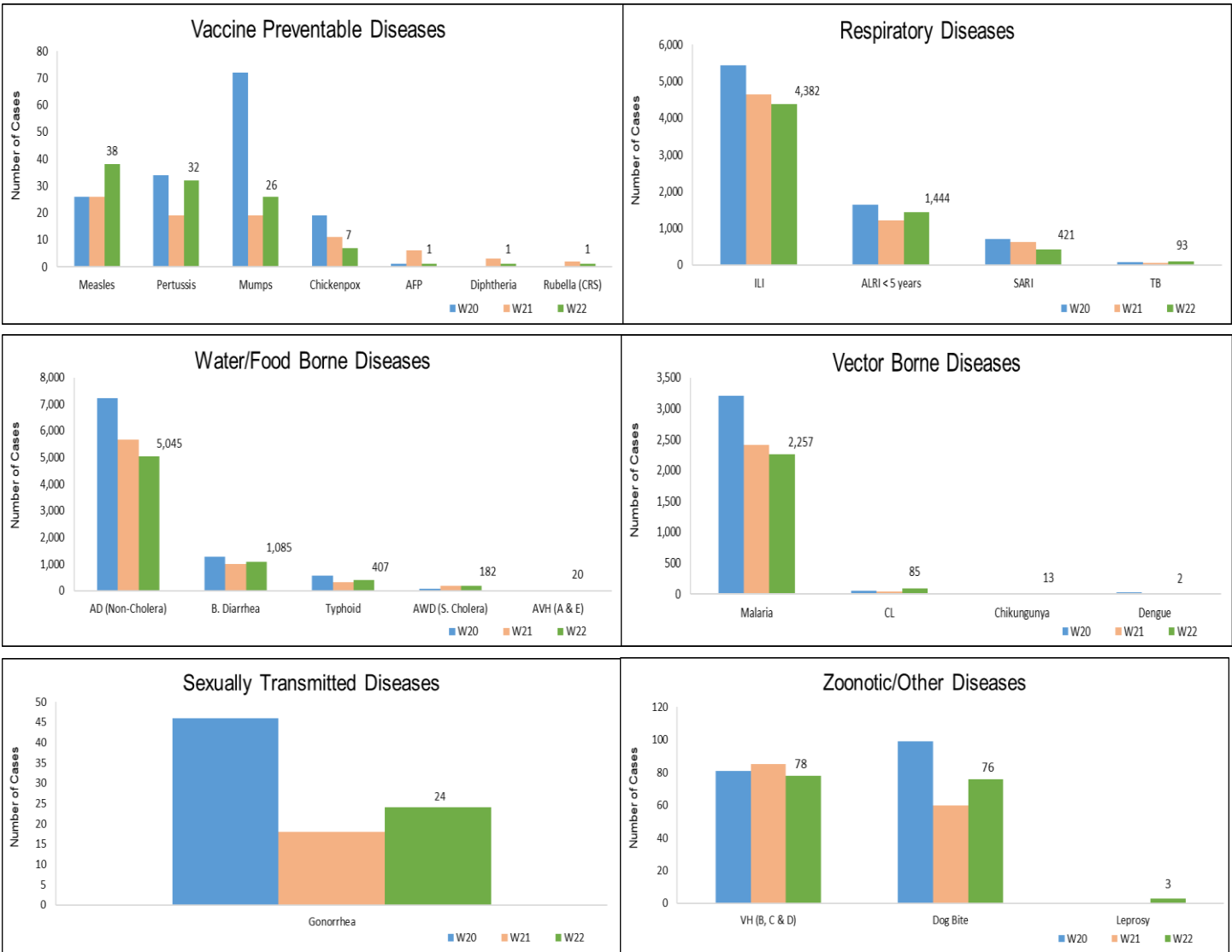
Figure 5: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Balochistan

Khyber Pakhtunkhwa
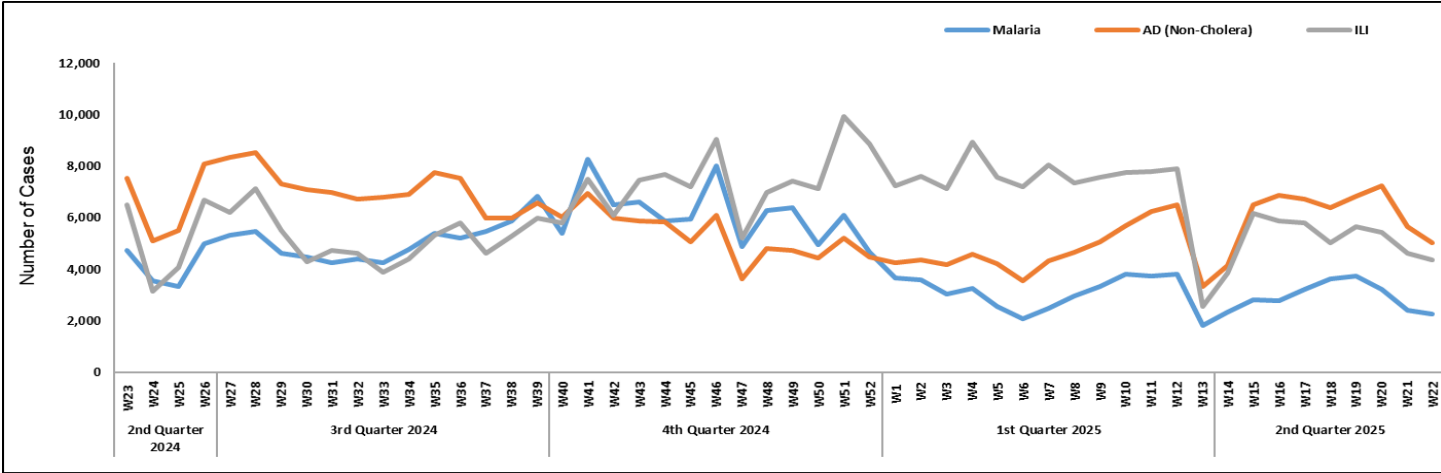
- Cases of AD (Non-Cholera) were maximum followed by ILI, Malaria, ALRI<5 Years, SARI, dog bite, B. Diarrhea, CL, Measles and Typhoid.
- AD (Non-Cholera), ILI, Malaria, ALRI<5 Years, SARI and B. Diarrhea cases showed a decline in number while dog bite, CL, Measles, AFP, Diphtheria and HIV/AIDs showed an increase in number this week.
- Eleven cases of AFP reported from KP. All are suspected cases and need field verification.
- Three cases of HIV/AIDs reported from KP. Field investigation is required.
- Six suspected cases of Brucellosis reported from KP. They require field verification.

Table 4: District wise distribution of most frequently reported suspected cases during Week 22, KP

Districts	AD (Non-Cholera)	ILI	Malaria	B. Diarrhea	ALRI < 5 years	Typhoid	Dog Bite	SARI	CL	Measles
Abbottabad	1,294	131	0	6	5	34	45	3	0	15
Bajaur	633	73	209	83	15	11	55	68	15	25
Bannu	548	0	1,232	9	10	74	7	7	0	57
Battagram	307	485	36	4	4	17	8	5	4	9
Buner	352	0	157	0	0	10	13	0	0	1
Charsadda	3,093	1,371	298	156	539	175	40	190	0	68
Chitral Lower	773	154	25	22	15	7	13	12	10	3
Chitral Upper	279	30	5	2	5	12	1	22	1	3
D.I. Khan	1,774	0	214	25	23	0	45	0	2	77
Dir Lower	1,701	1	151	88	14	42	43	0	25	13
Dir Upper	1,436	133	17	22	44	11	30	0	18	13
Hangu	198	134	68	3	0	6	7	0	48	0
Haripur	1,363	243	16	0	20	22	3	6	0	4
Karak	639	115	148	30	28	6	46	12	239	26
Khyber	840	29	210	130	86	75	34	5	155	9
Kohat	828	16	59	47	5	27	15	0	11	0
Kohistan Lower	86	1	0	8	0	0	0	0	0	0
Kohistan Upper	327	0	1	30	3	2	0	12	0	2
Kolai Palas	95	11	2	5	2	1	0	0	0	0
L & C Kurram	3	0	1	9	0	0	0	0	0	0
Lakki Marwat	862	0	246	34	0	11	72	0	0	5
Malakand	1,689	45	27	8	0	70	0	0	0	9
Mansehra	989	297	4	3	1	4	0	1	0	19
Mardan	1,007	227	113	68	70	32	72	0	9	17
Mohmand	251	87	162	27	1	1	18	115	67	3
North Waziristan	36	3	83	27	8	7	1	13	5	20
Nowshera	2,939	10	135	15	0	23	18	13	3	4
Orakzai	112	11	32	6	0	0	0	0	0	0
Peshawar	4,719	299	36	170	25	150	6	23	0	52
SD Tank	36	0	28	7	0	0	1	0	5	1
Shangla	1,327	0	235	5	10	22	64	0	0	5
South Waziristan (Lower)	111	173	104	5	5	11	5	39	14	3
SWU	27	41	6	3	0	0	0	3	2	2
Swabi	1,771	515	51	17	32	26	172	61	0	19
Swat	3,705	143	19	39	95	27	78	42	0	9
Tank	529	89	127	2	7	11	0	0	0	6
Tor Ghar	115	5	30	29	5	1	15	36	1	3
Upper Kurram	228	203	14	47	6	11	8	195	0	0
Total	37,022	5,075	4,301	1,191	1,083	939	935	883	634	502

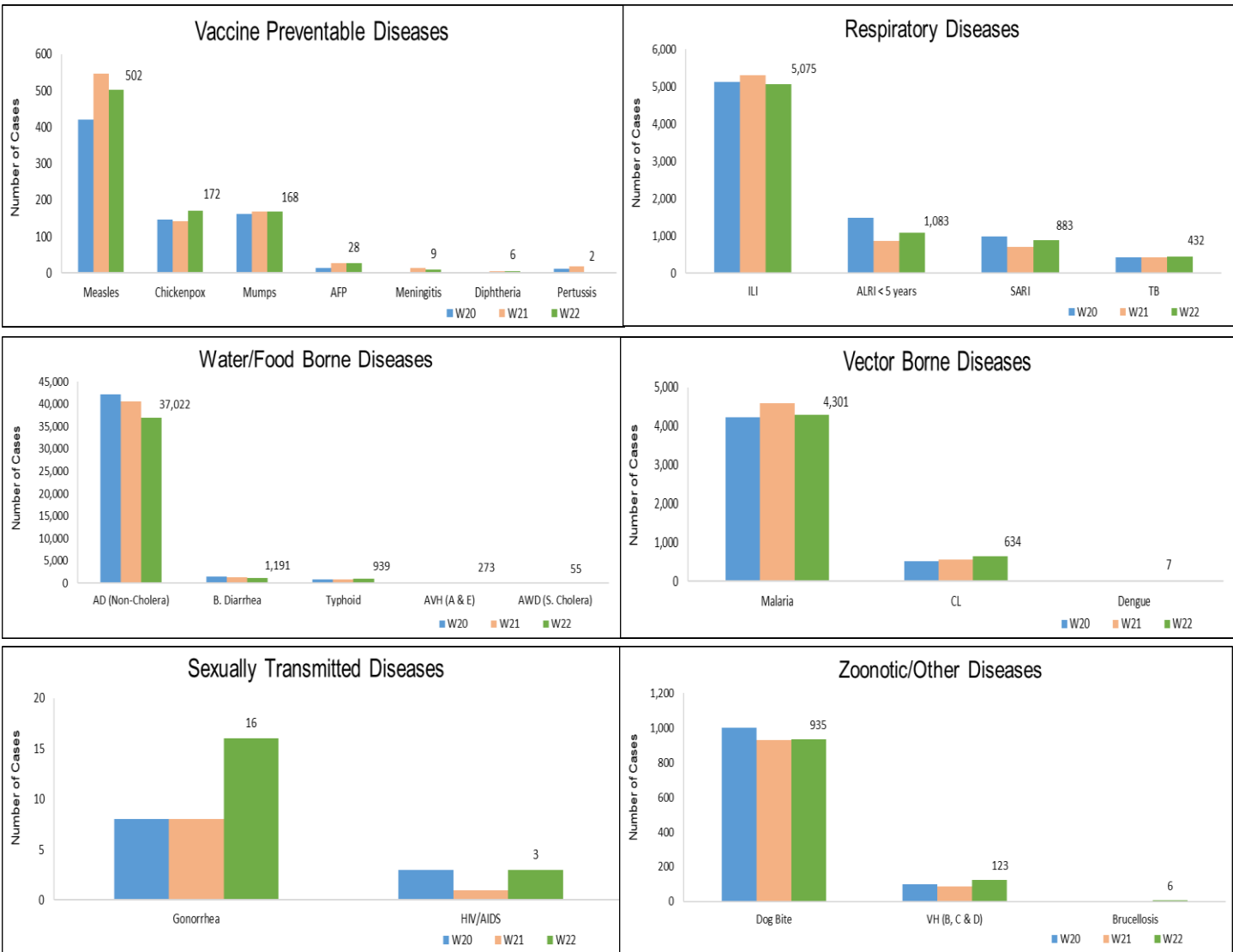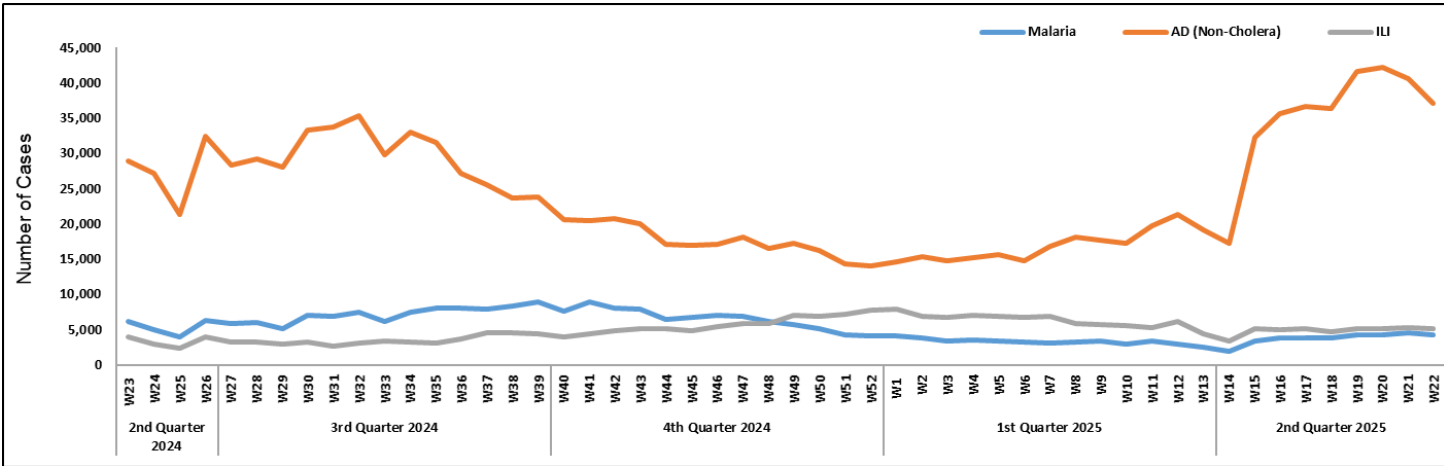*Figure 6: Most frequently reported suspected cases during Week 22, KP*

Figure 7: Week wise reported suspected cases Malaria, AD (Non-Cholera) & ILI, KP

- The most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by TB, dog bite, ALRI <5 years, Malaria, Typhoid and AWD (S. Cholera) this week.
- There is a decline in cases observed for Acute Diarrhea (Non-Cholera), TB, dog bite, ALRI <5 years, Malaria and Typhoid this week.
- Five cases of AFP reported Punjab this week. They are suspected cases and need field verification.
- Five suspected cases of HIV/ AIDS reported from Punjab this week. They require field investigation.

Figure 8: Most frequently reported suspected cases during Week 22, Punjab
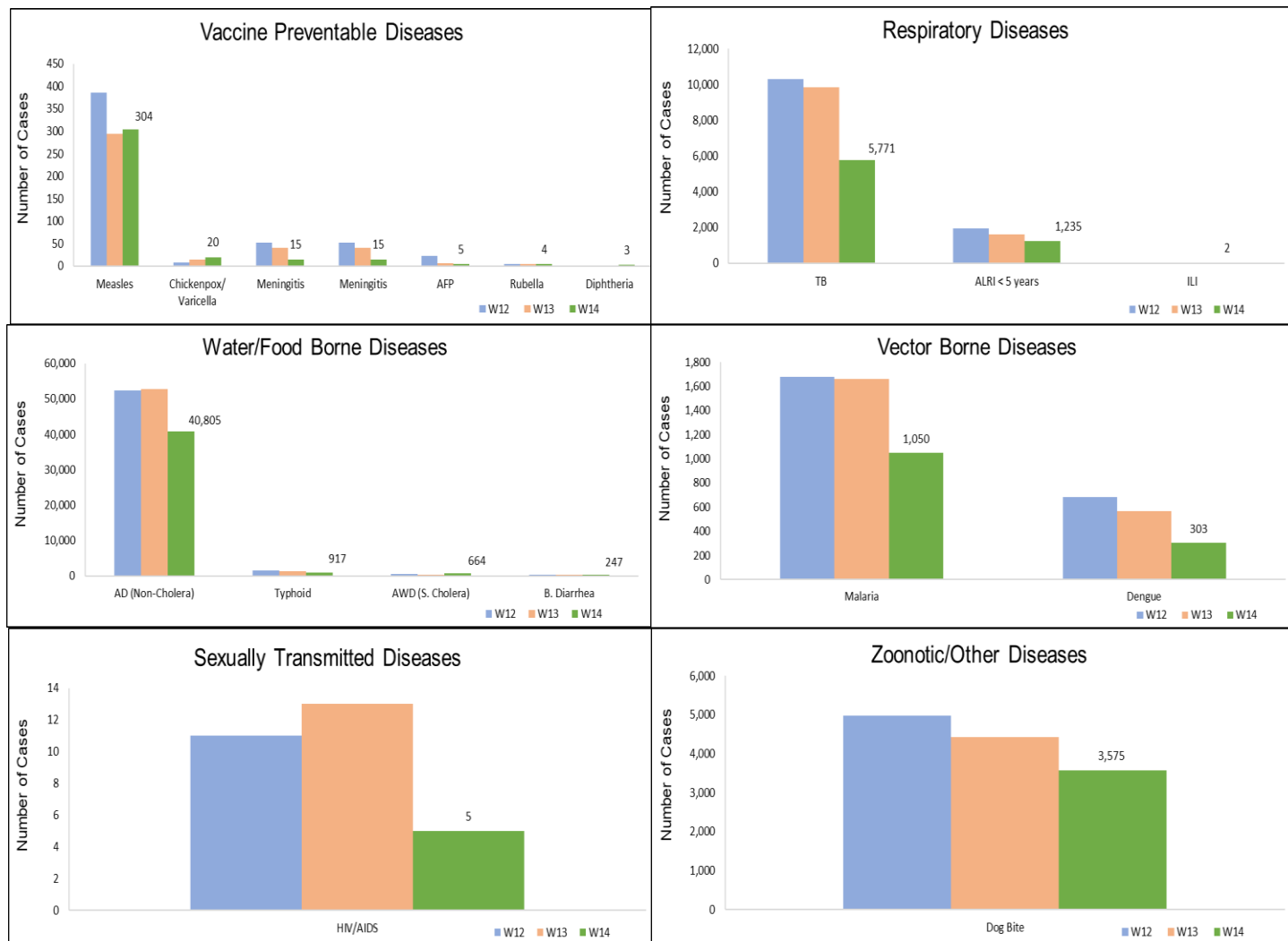
Figure 9: Week wise reported suspected cases of AD (Non-Cholera), Punjab
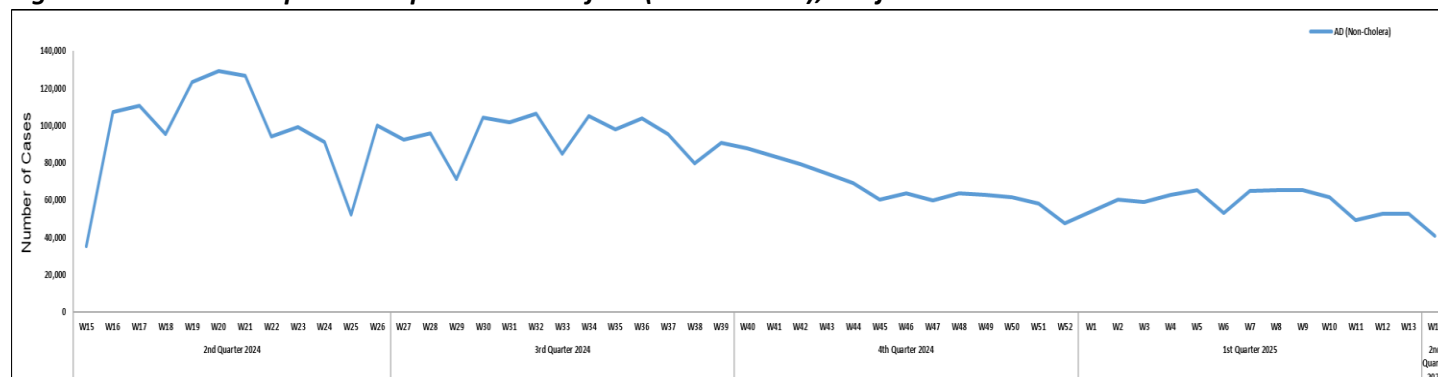
ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and TB. ILI and AD (Non-Cholera) cases showed a decline in number this week.

AJK: ILI cases were maximum followed by AD (Non-Cholera), ALRI < 5years, SARI, dog bite, TB, B. Diarrhea, VH (B, C & D), Typhoid and AWD (S. Cholera) cases. An increase in number of suspected cases was observed for AD (Non-Cholera), ALRI < 5years, SARI, dog bite, VH (B, C & D), Typhoid, Measles, Pertussis and Meningitis while a decline in cases observed for ILI and AWD (S. Cholera) this week.

GB: ALRI <5 Years cases were the most frequently reported diseases followed by AD (Non-Cholera), ILI, SARI, B. Diarrhea, Typhoid, TB and AWD (S. Cholera) cases. An increase in cases observed for by ALRI <5 Years, AD (Non-Cholera), ILI, SARI, B. Diarrhea and AWD (S. Cholera) this week.

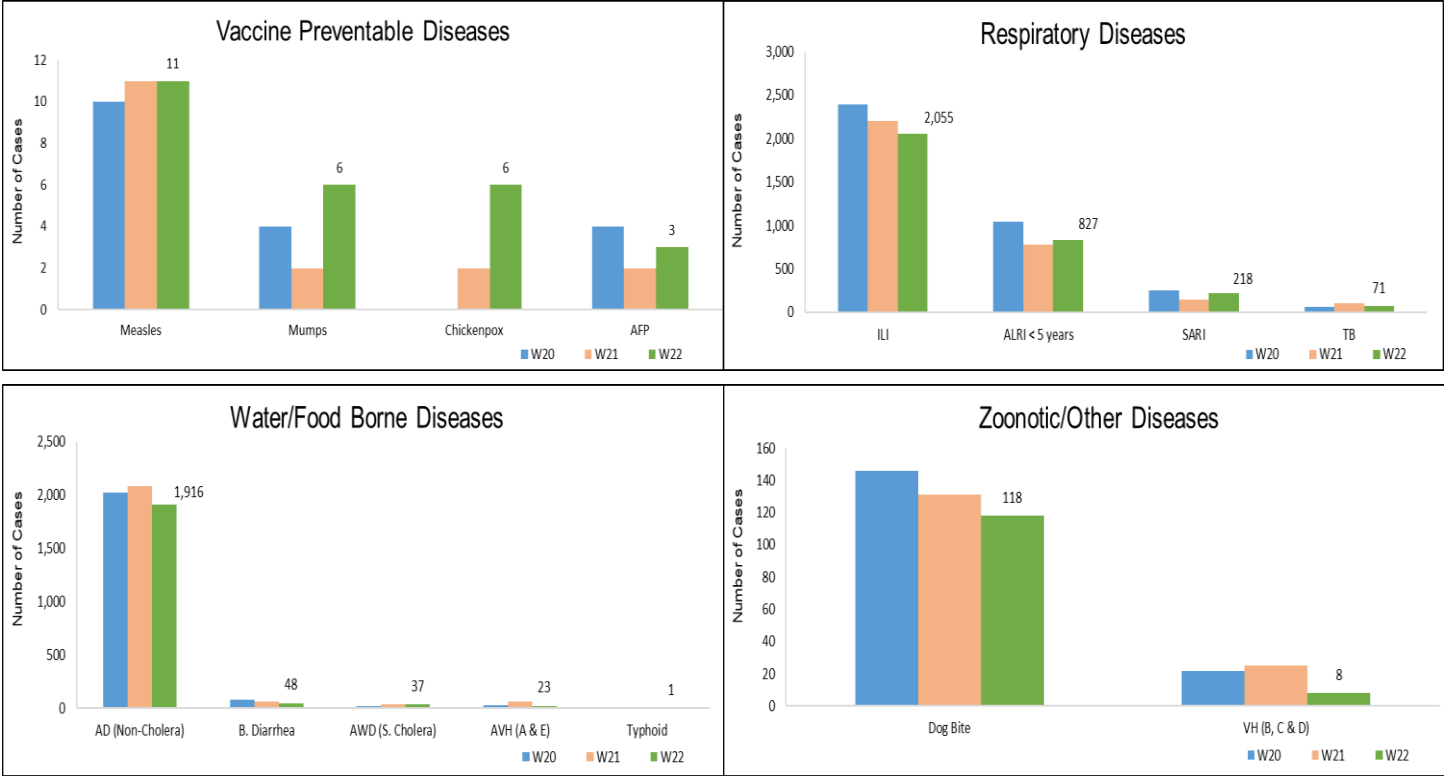**Figure 10: Most frequently reported suspected cases during Week 22, AJK**

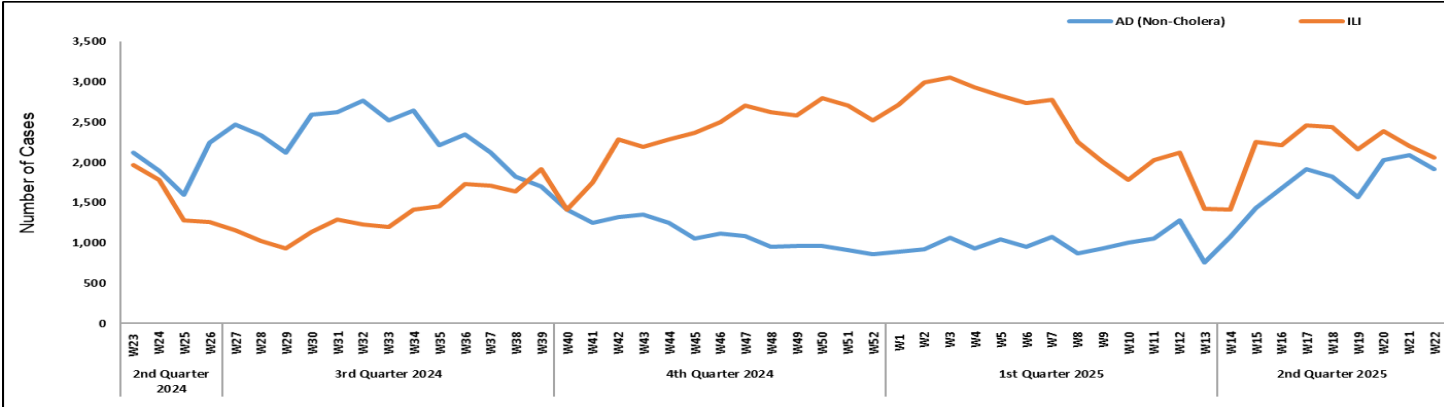**Figure 11: Week wise reported suspected cases of ILI and ARI <5 years, AJK**

Figure 12: Most frequently reported suspected cases during Week 22, ICT
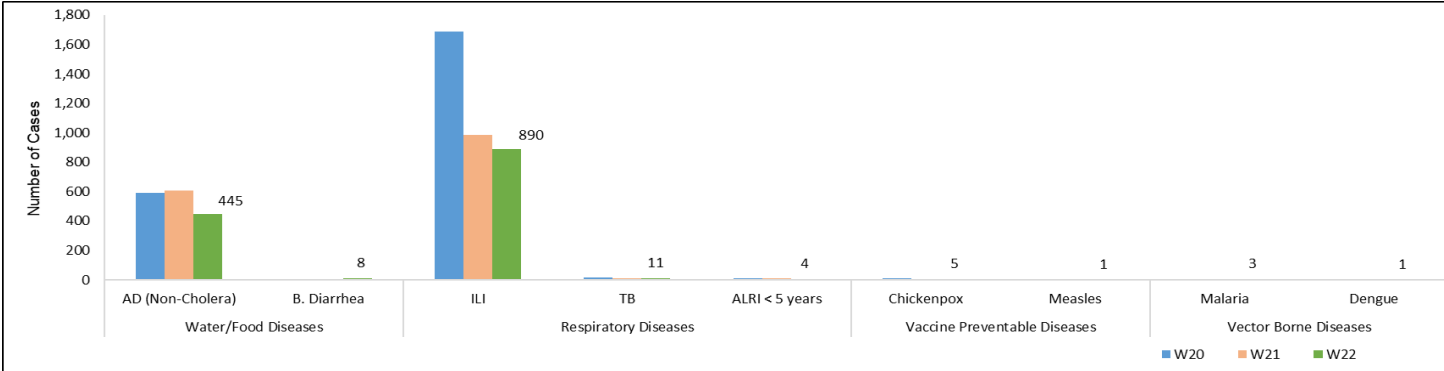

Figure 13: Week wise reported suspected cases of ILI, ICT

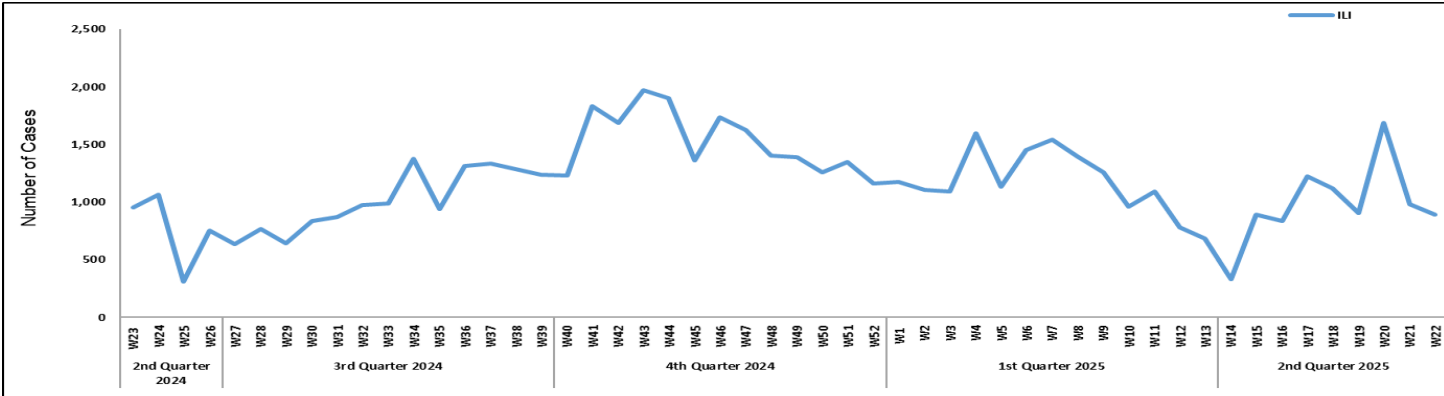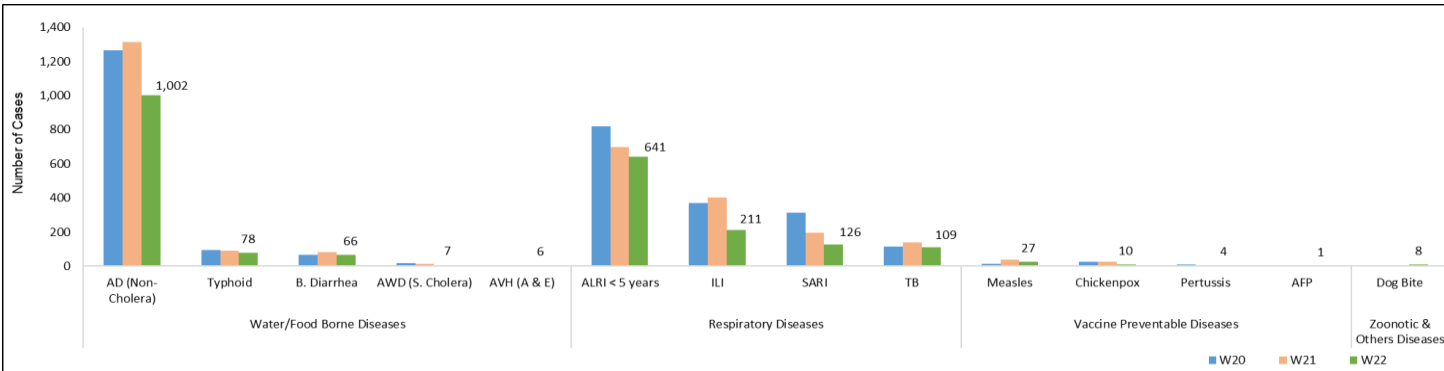*Figure 14: Most frequent cases reported during Week 22, GB*

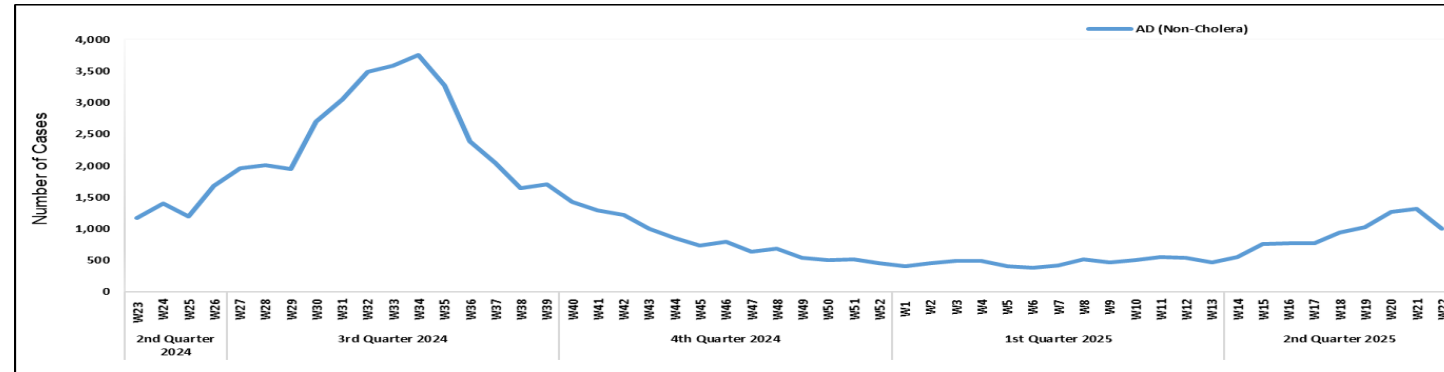*Figure 15: Week wise reported suspected cases of ALRI <5 years, GB*

Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 22

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)		162	4	-	-	-	-	-	-	-	-	-	-	0	0
AD (non-cholera)		209	2	-	-	-	-	-	-	-	-	-	-	0	0
Malaria		5,946	225	-	-	4	0	-	-	-	-	-	-	12	0
CCHF		0	0	12	2	0	0	-	-	-	-	-	-	0	0
Dengue		1,020	52	2	0	1	0	-	-	-	-	-	-	9	0
VH (B)		5,230	129	90	69	14	1	-	-	-	-	-	-	257	3
VH (C)		5,463	455	45	32	7	1	-	-	-	-	-	-	258	5
VH (D)		63	13	16	2	-	-	-	-	-	-	-	-	0	0
VH (A)		236	90	-	-	1	0	-	-	-	-	-	-	0	0
VH (E)		125	36	-	-	1	0	-	-	-	-	-	-	0	0
Covid-19		0	0	4	1	-	-	-	-	-	-	-	-	0	0
Chikungunya		5	1	2	0	-	-	-	-	-	-	-	-	0	0
TB		207	26	-	-	-		-	-	-	-	-	-	0	0
HIV/ AIDS		1,654	10	5	0	2	1	-	-	-	-	-	-	257	0
Syphilis		758	18	-	-	-	-	-	-	-	-	-	-	0	0
B. Diarrhea		148	8	-	-	-	-	-	-	-	-	-	-	0	0
Typhoid		896	17	-	-	-		-	-	-	-	-	-	0	0
Diphtheria		11	1	-	-	-		-	-	-	-	-	-	0	0
ILI		6	1	2	0	-	-	-	-	-	-	-	-	0	0
Pneumonia (ALRI)		53	6	-	-	-		-	-	-	-	-	-	0	0
Measles		286	124	43	25	181	54	14	9	4	1	231	48	32	16
Rubella		286	2	43	3	181	0	14	0	4	0	231	1	32	0
Covid-19	Out of SARI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Out of ILI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Influenza A	Out of SARI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Out of ILI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Influenza B	Out of SARI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Out of ILI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
RSV	Out of SARI	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Out of ILI	-	-	-	-	-	-	-	-	-	-	-	-	-	-

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 22, 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	238	130	55%
	Battagram	59	31	53%
	Buner	34	23	68%
	Bajaur	44	42	95%
	Charsadda	59	57	97%
	Chitral Upper	34	30	88%
	Chitral Lower	35	35	100%
	D.I. Khan	113	112	99%
	Dir Lower	74	63	85%
	Dir Upper	37	30	81%
	Hangu	22	15	68%
	Haripur	72	72	100%
	Karak	36	36	100%
	Khyber	53	45	85%
	Kohat	61	61	100%
	Kohistan Lower	11	10	91%
	Kohistan Upper	20	17	85%
	Kolai Palas	10	8	80%
	Lakki Marwat	70	69	99%
	Lower & Central Kurram	42	3	7%
	Upper Kurram	41	31	76%
	Malakand	42	21	50%
	Mansehra	133	88	66%
	Mardan	80	49	61%
	Nowshera	55	52	95%
	North Waziristan	13	8	62%
	Peshawar	155	134	86%
	Shangla	37	33	89%
	Swabi	64	62	97%
	Swat	77	77	100%
	South Waziristan (Upper)	93	36	39%
	South Waziristan (Lower)	42	27	64%
	Tank	34	33	97%
	Torghar	14	14	100%
	Mohmand	68	56	82%
	SD Peshawar	5	0	0%
	SD Tank	58	8	14%
	Orakzai	69	11	16%
Azad Jammu Kashmir	Mirpur	37	37	100%
	Bhimber	42	20	48%

	Kotli	60	60	100%
	Muzaffarabad	45	42	93%
	Poonch	46	46	100%
	Haveli	39	39	100%
	Bagh	40	40	100%
	Neelum	39	39	100%
	Jhelum Velley	29	29	100%
	Sudhnooti	27	27	100%
Islamabad Capital Territory	ICT	21	21	100%
	CDA	15	6	40%
Balochistan	Gwadar	26	21	81%
	Kech	44	0	0%
	Khuzdar	74	5	7%
	Killa Abdullah	26	19	73%
	Lasbella	55	55	100%
	Pishin	69	47	68%
	Quetta	55	29	53%
	Sibi	36	20	56%
	Zhob	39	30	77%
	Jaffarabad	16	0	0%
	Naserabad	32	31	97%
	Kharan	30	30	100%
	Sherani	15	0	0%
	Kohlu	75	30	40%
	Chagi	36	22	61%
	Kalat	41	40	98%
	Harnai	17	0	0%
	Kachhi (Bolan)	35	0	0%
	Jhal Magsi	28	25	89%
	Sohbat pur	25	25	100%
	Surab	32	0	0%
	Mastung	45	0	0%
	Loralai	33	22	67%
	Killa Saifullah	28	24	86%
	Ziarat	29	0	0%
	Duki	31	0	0%
	Nushki	32	0	0%
	Dera Bugti	45	20	44%
	Washuk	46	29	63%
	Panjgur	38	0	0%
	Awaran	23	0	0%
	Chaman	24	1	4%
	Barkhan	20	20	100%
	Hub	33	31	94%
	Musakhel	41	7	17%
	Usta Muhammad	34	10	29%
Gilgit Baltistan	Hunza	32	32	100%
	Nagar	25	8	32%
	Ghizer	38	34	89%

	Gilgit	42	42	100%
	Diamer	62	58	94%
	Astore	55	55	100%
	Shigar	27	25	93%
	Skardu	53	53	100%
	Ganche	29	29	100%
	Kharmang	46	25	54%
Sindh	Hyderabad	72	72	100%
	Ghotki	64	64	100%
	Umerkot	62	62	100%
	Naushahro Feroze	107	101	94%
	Tharparkar	276	232	84%
	Shikarpur	60	60	100%
	Thatta	52	52	100%
	Larkana	67	64	96%
	Kamber Shadadkot	71	71	100%
	Karachi-East	21	15	71%
	Karachi-West	20	20	100%
	Karachi-Malir	35	35	100%
	Karachi-Kemari	22	20	91%
	Karachi-Central	12	7	58%
	Karachi-Korangi	18	18	100%
	Karachi-South	6	6	100%
	Sujawal	55	54	98%
	Mirpur Khas	106	98	92%
	Badin	124	124	100%
	Sukkur	64	63	98%
	Dadu	90	82	91%
	Sanghar	100	99	99%
	Jacobabad	44	44	100%
	Khairpur	170	167	98%
	Kashmore	59	59	100%
	Matiari	42	42	100%
	Jamshoro	75	74	99%
	Tando Allahyar	54	52	96%
	Tando Muhammad Khan	41	41	100%
	Shaheed Benazirabad	122	122	100%

Table 7: IDSR reporting Tertiary care hospital Week 22, 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	1	100%

Notes from the field:

Measles Outbreak Investigation Report, Pishin District, Balochistan (October–December 2024)

Introduction

Measles is a highly contagious viral disease caused by the measles virus, transmitted via respiratory droplets and direct contact. Globally, measles remains a significant public health concern, especially in low- and middle-income countries, where it causes more than 100,000 deaths annually, primarily in children under five years of age. Despite widespread vaccine availability, gaps in immunization coverage continue to fuel outbreaks worldwide. In the Eastern Mediterranean Region, including Pakistan, measles remains endemic with periodic outbreaks due to suboptimal vaccine uptake. Nationally, Pakistan has experienced repeated outbreaks, with Balochistan reporting some of the lowest coverage rates. On 31st October 2024, a suspected measles case was reported in Pishin District, triggering a formal outbreak investigation.

Objectives

- To determine the magnitude of the outbreak
- To identify associated risk factors
- To recommend control measures to contain the outbreak and prevent future occurrences

Methods

A descriptive outbreak investigation was carried out in the affected village and surrounding areas of Pishin District. The investigation period spanned from 31st October (onset of the index case) to 4th December 2024 (post-containment follow-up).

A **suspected measles case** was defined as "any person residing in Dabkhanzai between 31st October and 4th December with fever and a maculopapular rash, accompanied by at least one of the following: cough, coryza, or conjunctivitis".

Active case finding was conducted via house-to-house visits. Data were collected through structured interviews with caregivers and reviews of medical records. A 30-household cluster survey was conducted to assess measles vaccination coverage and explore reasons for missed immunization. Collected data were analyzed to determine demographic patterns, clinical features, vaccination status, and risk factors. Age-specific and area-specific attack rates were calculated.

Results

A total of 14 suspected measles cases were identified, including the index case, a 9-year-old unvaccinated girl. The mean age of affected individuals was 7 years, and the male-to-female ratio was 1:1. All cases occurred within a single union council. Overall attack rate was 3.5 per 1,000 population. All 14 suspected cases were unvaccinated

All patients exhibited fever and rash, with cough (86%), conjunctivitis (64%), and pneumonia (57%). There were three deaths and two severe complications; however, no hospitalizations were reported.

The cluster survey revealed measles vaccine coverage of only 40% for the first dose and 17% for the second dose. The most frequently cited reason for missed vaccination was caregiver refusal.

All affected individuals reported close contact within households or extended families. The likely source of infection was exposure to visiting relatives from Quetta, some of whom had children with measles-like symptoms.

Discussion

The measles outbreak in Pishin was driven by low immunization coverage, compounded by vaccine refusal. All cases were unvaccinated, consistent with well-documented evidence that unvaccinated populations are at higher risk during measles outbreaks. Despite being included in the EPI microplan, routine immunization coverage in the affected union council was substantially below the 95% threshold required for herd immunity.

Transmission was facilitated by close contact within extended families and was initiated by

likely exposure to infectious visitors from Quetta. The prompt field response, including active case finding, ring vaccination, and community sensitization, helped limit the spread. However, the presence of multiple complications and fatalities underscores the severe consequences of immunity gaps.

Surveillance data, clinical presentation, and epidemiological linkage support the diagnosis of a measles outbreak, even as laboratory confirmations are pending. Similar vulnerabilities may exist in neighboring areas with low routine immunization coverage, warranting urgent public health interventions.

Conclusion

This outbreak of measles in Pishin District underscores the critical importance of high routine immunization coverage and the risks posed by unvaccinated populations. The outbreak was likely introduced by visitors from Quetta and propagated in a setting of widespread vaccine refusal. All affected children were unvaccinated, and vaccine refusal emerged as the predominant barrier. While containment was achieved through prompt public health actions, the persistent risk of future outbreaks remains due to underlying vulnerabilities in routine immunization coverage.

Recommendations

1. **Strengthen Surveillance:** Maintain active surveillance for measles and other vaccine-preventable diseases in high-risk districts.
2. **Community Engagement:** Intensify efforts to address vaccine hesitancy using trusted local influencers, religious leaders, and community elders.
3. **Immunization Monitoring:** Strengthen verification of actual vaccine coverage through independent surveys and field validation.
4. **Mop-up Campaigns:** Plan and execute mop-up campaigns in low-coverage areas to close immunity gaps.
5. **Capacity Building:** Continue sensitization and training of local health staff and community volunteers on outbreak response and vaccination promotion.

References

1. World Health Organization. Measles. https://www.who.int/news-room/fact-sheets/detail/measles
2. Centers for Disease Control and Prevention. Measles (Rubeola). https://www.cdc.gov/measles/index.html
3. Pakistan Expanded Programme on Immunization. National EPI Coverage Evaluation Survey, 2023.
4. Khan MU, et al. Outbreak of Measles in Balochistan: A Health Systems Perspective. *Eastern Mediterranean Health Journal*. 2020;26(11):1321–1327.

Knowledge Hub

Meningitis: What You Need to Know

Meningitis is a serious inflammation of the protective membranes that surround the brain and spinal cord, called the meninges. It can be caused by various germs, including bacteria, viruses, fungi, and parasites. Meningitis can be life-threatening and requires urgent medical attention.

What is Meningitis?

Meningitis is the swelling (inflammation) of the meninges, the layers of tissue that cover the brain and spinal cord. This inflammation is usually caused by an infection of the fluid surrounding these membranes.

Different types of germs can cause meningitis, and the severity of the illness varies depending on the cause:

Bacterial Meningitis: This is a very serious and potentially fatal form of meningitis. It can develop quickly and lead to severe complications, including brain damage, hearing loss, learning disabilities, or death, even with treatment. Common bacteria include Streptococcus pneumoniae, Neisseria meningitidis (meningococcus), and Haemophilus influenzae type b (Hib).

Viral Meningitis: This is the most common type of meningitis and is usually less severe than bacterial meningitis. Many different viruses can cause it, including enteroviruses, measles, mumps, herpes viruses, and influenza. People with viral meningitis usually recover on their own within 7 to 10 days.

Fungal Meningitis: A rare type of meningitis caused by fungi. It usually occurs in people with weakened immune systems.

Parasitic Meningitis: Also rare, caused by parasites. Some forms, like Primary Amoebic Meningoencephalitis (PAM), are very deadly.

Non-infectious Meningitis: Less common, this can be caused by certain cancers, lupus, head injury, or certain drugs.

How Meningitis Spreads

How meningitis spreads depends on what causes it.

Bacterial and Viral Meningitis (most common types):

Many of the bacteria and viruses that cause meningitis are spread through respiratory droplets from the nose and throat of an infected person. This happens through:

Coughing or sneezing.

Sharing eating utensils, drinks, or cigarettes.

Living in close quarters (e.g., dorms, military barracks).

Some viruses (like enteroviruses) can also spread through the fecal-oral route.

Fungal Meningitis: Generally not spread from person to person. People usually get fungal meningitis by inhaling fungal spores from the environment.

Parasitic Meningitis: Also generally not spread from person to person. For example, PAM (caused by Naegleria fowleri) is acquired by swimming in warm freshwater where the amoeba enters the body through the nose.

Signs & Symptoms

Symptoms of meningitis can appear suddenly and typically include:

- Sudden onset of fever (often high).
- Severe headache (often worse than usual).
- Stiff neck (difficulty or pain when trying to touch chin to chest).
- Nausea and vomiting.
- Confusion or altered mental status.
- Sensitivity to light (photophobia).
- Lack of appetite.
- Lack of energy or irritability (especially in infants).

Skin rash (especially with meningococcal meningitis – often dark red or purple spots that don't fade when pressed).

In newborns and infants, symptoms can be harder to spot and may include:

- High fever.
- Constant crying.
- Excessive sleepiness or irritability.
- Poor feeding.
- Bulging soft spot (fontanel) on the head.
- Stiffness in body and neck.

Anyone experiencing symptoms of meningitis should seek immediate medical attention. Early diagnosis and treatment are critical, especially for bacterial meningitis.

Complications

The complications of meningitis can be severe and long-lasting, especially with bacterial meningitis, and can include:

- Brain damage.
- Hearing loss (partial or complete).
- Vision problems.
- Learning disabilities.
- Seizures.
- Memory problems.
- Kidney damage.

- Amputations (if blood flow to limbs is severely affected by severe sepsis, particularly from meningococcal disease).

Prevention

Prevention methods vary by the type of meningitis:

Vaccination: This is the most effective way to prevent certain types of bacterial meningitis.

Meningococcal Conjugate Vaccines (MenACWY): Protect against N. meningitidis serogroups A, C, W, and Y. Recommended for adolescents and others at increased risk.

Meningococcal B Vaccines (MenB): Protect against N. meningitidis serogroup B. Recommended for people 10 years or older with certain risk factors.

Pneumococcal Conjugate Vaccines (PCV13, PCV15, PCV20) and Polysaccharide Vaccine (PPSV23): Protect against S. pneumoniae. Recommended for infants, young children, older adults, and people with certain medical conditions.

Hib Vaccine: Protects against H. influenzae type b. Recommended for all children.

MMR Vaccine: Protects against measles and mumps, which can sometimes lead to viral meningitis.

Good Hygiene:

Wash hands frequently and thoroughly with soap and water, especially after coughing, sneezing, or using the toilet.

Avoid sharing food, drinks, eating utensils, toothbrushes, or cigarettes.

Cover coughs and sneezes with a tissue or your elbow.

Avoid exposure: For certain rare types (e.g., parasitic), avoid swimming in warm freshwater bodies where amoebas are known to be present.

Diagnosis

Diagnosis of meningitis is a medical emergency. Healthcare providers will perform a physical exam and review symptoms. Tests typically include:

Lumbar Puncture (Spinal Tap): A sample of cerebrospinal fluid (CSF) is collected from the spinal canal and analyzed for signs of infection (e.g., elevated white blood cells, low glucose, high protein) and to identify the specific germ causing the infection. This is the most definitive test.

Blood Tests: To check for signs of infection or to identify bacteria.

Imaging Scans: CT scans or MRIs of the brain may be performed to rule out other conditions or identify complications.

Treatment

Treatment for meningitis depends on the cause:

Bacterial Meningitis: This is a medical emergency. It is treated with antibiotics as soon as possible, often even before the specific bacteria is identified. Early and aggressive antibiotic treatment is crucial to prevent severe outcomes. Depending on the severity, other supportive treatments (e.g., fluids, oxygen) may be necessary.

Viral Meningitis: Most cases are mild and resolve on their own without specific treatment. Treatment typically focuses on supportive care to relieve symptoms (rest, fluids, pain relievers). Antiviral medications may be used if a specific virus (like herpes simplex virus) is identified as the cause.

Fungal Meningitis: Treated with long courses of high-dose antifungal medications, often intravenously.

Parasitic Meningitis: Treatment depends on the specific parasite and can be very difficult.

Close contacts of individuals with certain types of bacterial meningitis (e.g., meningococcal) may be given antibiotics to prevent them from getting sick.

More Information

For additional information on meningitis, please visit:

Centers for Disease Control and Prevention (CDC):

https://www.cdc.gov/meningitis/index.html

World Health Organization (WHO):

https://www.who.int/news-room/fact-sheets/detail/meningitis

Public Health Agency of Canada (PHAC):

https://www.canada.ca/en/public-health/services/diseases/meningitis.html

UK Health Security Agency (UKHSA) / National Health Service (NHS):

https://www.nhs.uk/conditions/meningitis/

Meningococcal meningitis

Information for internally displaced persons

Source
of infection

Meningococcal meningitis is a bacterial form of meningitis. It is a serious infection of the thin lining that surrounds the brain and spinal cord. It can cause severe brain damage and is fatal in 50% of cases if untreated. It can also cause wide-scale epidemics.
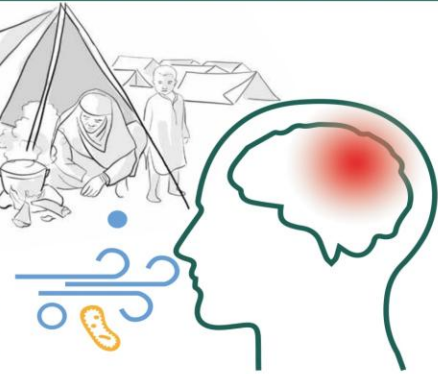
Types of
exposure & prevention

Meningitis spreads from one person to another by droplets from the nose and mouth when an infected person coughs, sneezes or talks. In camps and temporary communities for internally displaced persons, meningitis (meningococcal) can spread quickly through respiratory droplets.

Prevent it by:

Getting vaccinated

Informing a doctor if you suspect an individual is exhibiting symptoms

Avoiding close contact (including kissing, sneezing or coughing) with anyone displaying symptoms

Wearing a mask to avoid respiratory transmission especially if cases have been reported

Avoiding smoking

WHO-EM/CSR/611/E

Symptoms

Stiff neck

High fever

Sensitivity to light

Confusion

Headaches

Vomiting

Actions to take in case of symptoms: Seek immediate medical advice. In camps, avoid interactions with people displaying symptoms.

World Health Organization
REGIONAL OFFICE FOR THE Eastern Mediterranean

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NIH

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World Health Organization

CDC
U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION