PUBLIC HEALTH BULLETIN-PAKISTAN

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17th MAR– 23rd MAR
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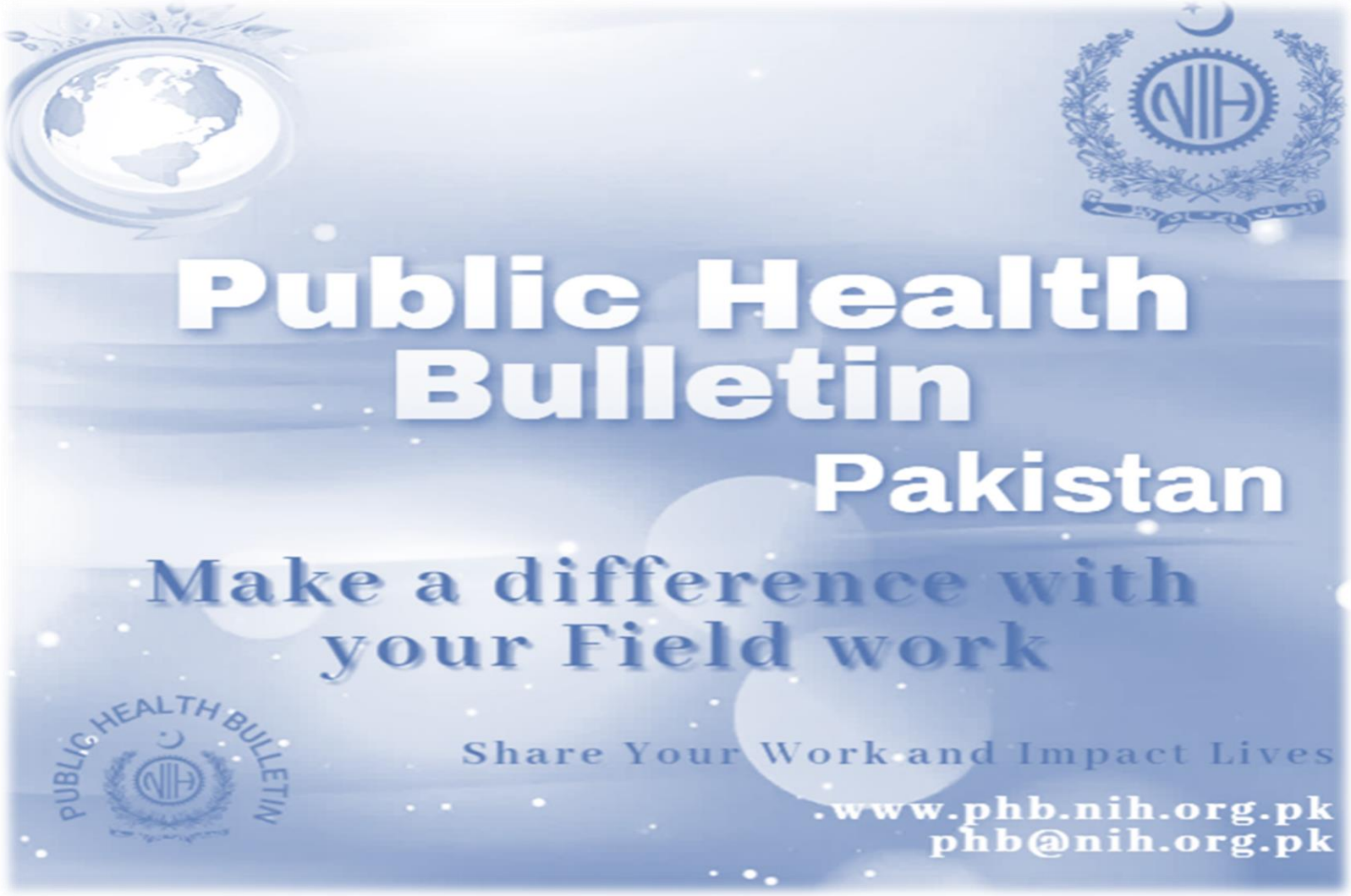
Integrated Disease Surveillance & Response (IDSR) Report

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.



Overview

IDSR Reports

Ongoing Events

Field Reports

Public Health Bulletin - Pakistan, Week 12, 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;

- *Diphtheria Outbreak Investigation, Tehsil Naal, District Khuzdar, 1–5 February 2025*
- *Knowledge hub on Understanding malaria*

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

Note: All reported cases in this report are suspected cases

- *During Week 12, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, ALRI <5 years, TB, B. Diarrhea, VH (B, C & D), dog bite, Typhoid and SARI.*
- *Thirty-seven cases of AFP reported from KP, five from Sindh, two from AJK and one from GB.*
- *Seven suspected cases of HIV/ AIDS reported Sindh and four from KP.*
- *Six suspected cases of Brucellosis reported from KP.*
- *Among respiratory diseases, there is an increase in number of cases of ILI this week.*
- *Among vector-borne diseases, there is an increase in number of cases of CL this week.*
- *Field investigation is required for verification of the alerts and for prevention and control of the outbreaks.*

IDSR compliance attributes

- ***The national compliance rate for IDSR reporting in 158 implemented districts is 82%***
- ***Sindh is the top reporting regions with a compliance rate of 95%, followed by AJK 94%, GB 92% and ISB 78%.***
- ***The lowest compliance rate was observed in KP 75% and Balochistan 69 %.***

Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	2315	1738	75
Azad Jammu Kashmir	404	380	94
Islamabad Capital Territory	36	28	78
Balochistan	1308	901	69
Gilgit Baltistan	405	373	92
Sindh	2095	1989	95
National	6563	5409	82

Public Health Actions

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

Syphilis

- **Enhance Case Detection and Reporting:** Strengthen surveillance for syphilis through the Integrated Disease Surveillance and Response (IDSR) platform by training healthcare workers on syndromic and laboratory-based case definitions, timely case reporting, and outbreak investigation, with a focus on high-risk and marginalized populations.
- **Improve Laboratory Diagnosis:** Expand access to syphilis testing using rapid diagnostic tests (RDTs) and confirmatory tests such as Treponema pallidum hemagglutination assay (TPHA) at all levels of care. Establish quality assurance systems and refresher trainings for laboratory personnel.
- **Promote Screening in Priority Populations:** Integrate routine syphilis screening into antenatal care, STI clinics, and blood donation services. Prioritize screening for pregnant women to prevent congenital syphilis and reduce adverse birth outcomes.
- **Raise Community Awareness:** Promote culturally appropriate education campaigns to reduce stigma, promote testing, safer sexual practices, and timely treatment, especially among youth, sex workers, and mobile populations.
- **Ensure Inter-sectoral Coordination:** Engage education and youth ministries to integrate sexual and reproductive health education and services in schools and community programs, ensuring access to prevention and care.

Gonorrhea

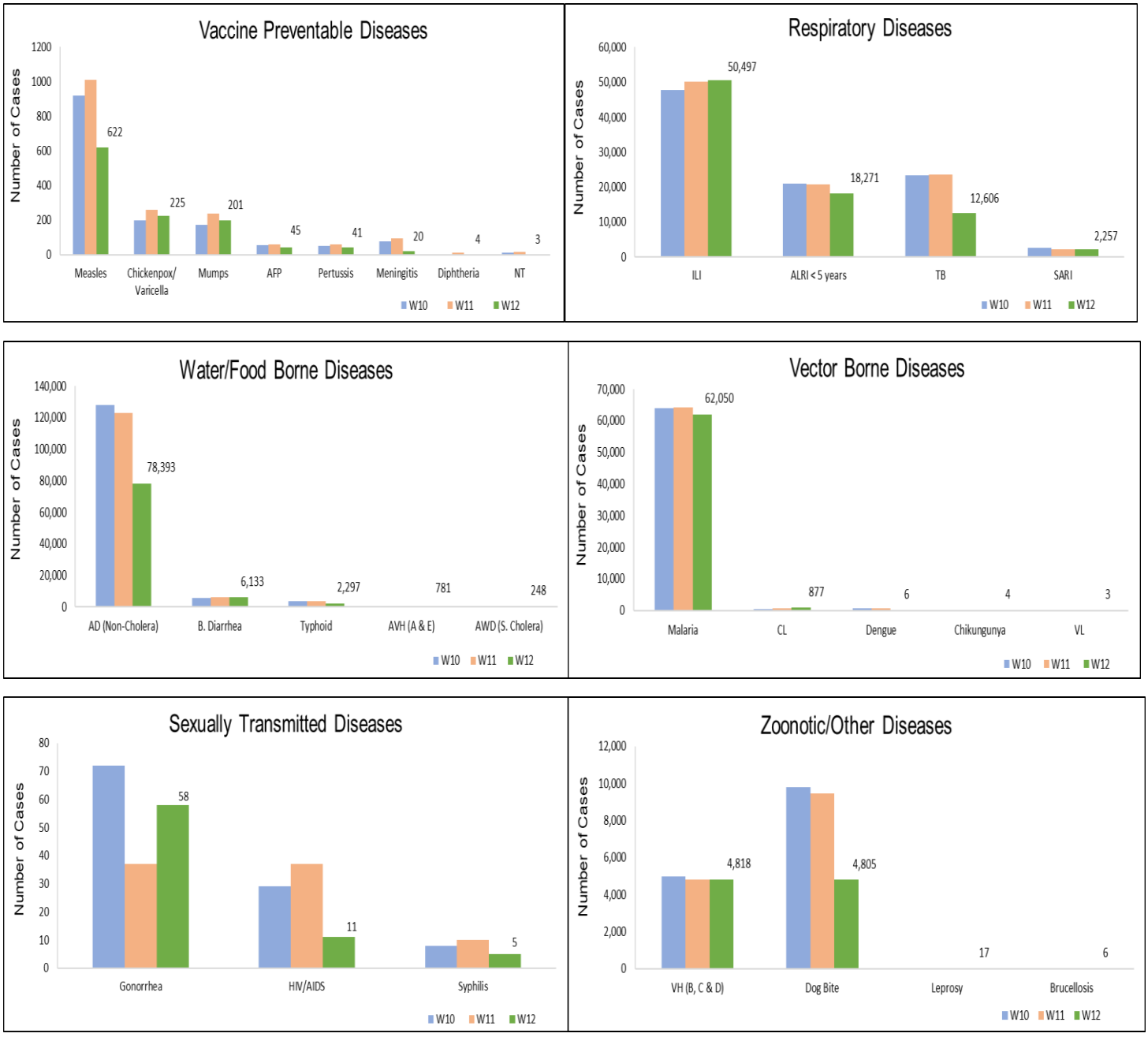
- **Enhance Case Detection and Reporting:** Train healthcare providers to recognize and report gonorrhea cases through the IDSR using standardized case definitions, with special attention to high-transmission urban and peri-urban areas.
- **Improve Laboratory Diagnosis:** Scale up use of nucleic acid amplification tests (NAATs) and culture facilities where feasible for accurate diagnosis and antimicrobial susceptibility testing, critical for monitoring resistant strains.
- **Implement Antimicrobial Resistance Surveillance:** Establish or strengthen sentinel surveillance sites to monitor trends in antimicrobial resistance (AMR) in Neisseria gonorrhoeae, in alignment with global AMR strategies.
- **Promote Screening and Syndromic Management:** Incorporate gonorrhea screening in high-risk groups such as sex workers, men who have sex with men (MSM), and prisoners. Ensure consistent availability of WHO-recommended treatment regimens at all healthcare levels.
- **Raise Community Awareness:** Educate communities on prevention, symptoms, and consequences of untreated gonorrhea, including infertility. Emphasize the importance of seeking care from trained providers rather than self-medicating.
- **Promote collaboration across sectors:** Collaborate with education, correctional services, and NGOs to deliver targeted STI prevention, screening, and treatment programs in schools, prisons, and workplaces.

Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 12 , Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab*	Sindh	Total
AD (non-cholera)	1,285	6,490	544	248	21,362	NR	48,464	78,393
Malaria	0	3,813	0	0	2,914	NR	55,323	62,050
ILI	2,118	7,920	351	780	6,098	NR	33,230	50,497
ALRI < 5 years	1,045	2,326	936	17	2,133	NR	11,814	18,271
TB	37	47	51	11	443	NR	12,017	12,606
B. Diarrhea	41	1,457	60	2	947	NR	3,626	6,133
VH (B, C & D)	9	54	6	1	102	NR	4,646	4,818
Dog Bite	84	143	6	0	888	NR	3,684	4,805
Typhoid	8	618	54	0	551	NR	1,066	2,297
SARI	163	887	203	2	820	NR	182	2,257
CL	0	76	0	0	799	NR	2	877
AVH (A & E)	12	16	1	0	285	NR	467	781
Measles	16	14	15	0	449	NR	128	622
AWD (S. Cholera)	28	144	11	0	49	NR	16	248
Chickenpox/ Varicella	3	7	6	1	53	NR	155	225
Mumps	4	28	3	0	106	NR	60	201
Gonorrhea	0	32	0	0	9	NR	17	58
AFP	2	0	1	0	37	NR	5	45
Pertussis	0	5	4	0	20	NR	12	41
Meningitis	1	0	1	0	6	NR	12	20
Leprosy	0	0	0	0	16	NR	1	17
HIV/AIDS	0	0	0	0	4	NR	7	11
Dengue	0	0	0	0	0	NR	6	6
Brucellosis	0	0	0	0	6	NR	0	6
Syphilis	0	0	0	0	0	NR	5	5
Diphtheria (Probable)	0	0	0	0	4	NR	0	4
Chikungunya	0	0	0	0	0	NR	4	4
VL	0	0	0	0	0	NR	3	3

★ ***Data delayed due to non-reporting by Health Facilities.***

Figure 1: Most frequently reported suspected cases during Week 12, Pakistan.



Sindh

- Malaria cases were maximum followed by AD (Non-Cholera), ILI, TB, ALRI<5 Years, VH (B, C, D), dog bite, B. Diarrhea, Typhoid and AVH (A & E).
- Malaria cases are mostly from Larkana, Khairpur and Sanghar whereas AD (Non-Cholera) cases are from Mirpurkhas, Badin and Khairpur.
- Five cases of AFP reported from Sindh. All are suspected cases and need field verification.
- Seven suspected cases of HIV/ AIDS reported from Sindh. Field investigation required to verify the cases.
- There is an increase in number of cases of AD (Non-Cholera), VH (B, C, D), dog bite, B. Diarrhea, Measles, Pertussis and HIV/ AIDs while a decline in number of cases of Malaria, ILI, TB and ALRI<5 Years this week.

Table 2: District wise distribution of most frequently reported suspected cases during Week 12, Sindh

Districts	Malaria	AD (Non-Cholera)	ILI	ALRI < 5 years	TB	VH (B, C & D)	B. Diarrhea	Dog Bite	Typhoid	AVH (A & E)
Badin	2,906	3,392	4,672	796	520	362	183	182	65	4
Dadu	3,848	2,968	553	482	1,100	84	560	468	156	61
Ghotki	1,009	866	75	239	277	108	183	68	5	0
Hyderabad	731	2,543	2,006	208	121	68	67	50	11	7
Jacobabad	775	701	736	182	532	226	251	80	45	0
Jamshoro	2,243	2,028	137	601	352	252	74	137	34	15
Kamber	3,703	1,817	0	807	365	122	293	152	24	0
Karachi Central	0	568	841	6	9	6	0	3	72	8
Karachi East	9	392	311	13	30	6	26	10	2	0
Karachi Keamari	3	394	372	5	47	0	0	2	2	0
Karachi Korangi	57	349	2	17	0	1	0	3	1	1
Karachi Malir	184	1,054	1,967	85	206	9	39	7	16	3
Karachi South	3	72	0	0	0	0	0	0	0	0
Karachi West	285	863	1,062	84	184	38	126	27	25	4
Kashmore	2,114	451	602	296	235	38	155	47	2	0
Khairpur	4,807	3,328	7,689	1,086	1,541	203	212	421	255	3
Larkana	5,475	1,993	86	969	530	75	33	308	5	10
Matiari	2,763	2,091	4	641	425	485	62	69	2	2
Mirpurkhas	2,499	3,599	3,095	865	526	152	140	144	13	3
Naushero Feroze	1,164	1,146	1,182	258	374	54	299	154	54	0
Sanghar	4,265	2,366	214	1,266	538	1,040	227	114	55	2
Shaheed Benazirabad	2,198	1,843	5	347	271	72	175	108	91	0
Shikarpur	2,659	1,205	4	251	251	379	220	167	1	0
Sujawal	1,138	1,608	8	170	296	58	70	157	8	10
Sukkur	1,795	1,570	2,210	442	571	78	85	125	46	0
Tando Allahyar	2,158	1,863	1,515	457	284	390	68	181	7	2
Tando Muhammad Khan	926	1,472	41	529	212	0	18	82	0	0
Tharparkar	2,652	2,471	1,789	530	847	127	0	163	35	37
Thatta	1,461	1,711	2,052	35	579	143	118	61	20	292
Umerkot	1,493	1,740	0	350	591	70	0	136	14	3
Total	55,323	48,464	33,230	12,017	11,814	4,646	3,684	3,626	1,066	467

Figure 2: Most frequently reported suspected cases during Week 12 Sindh

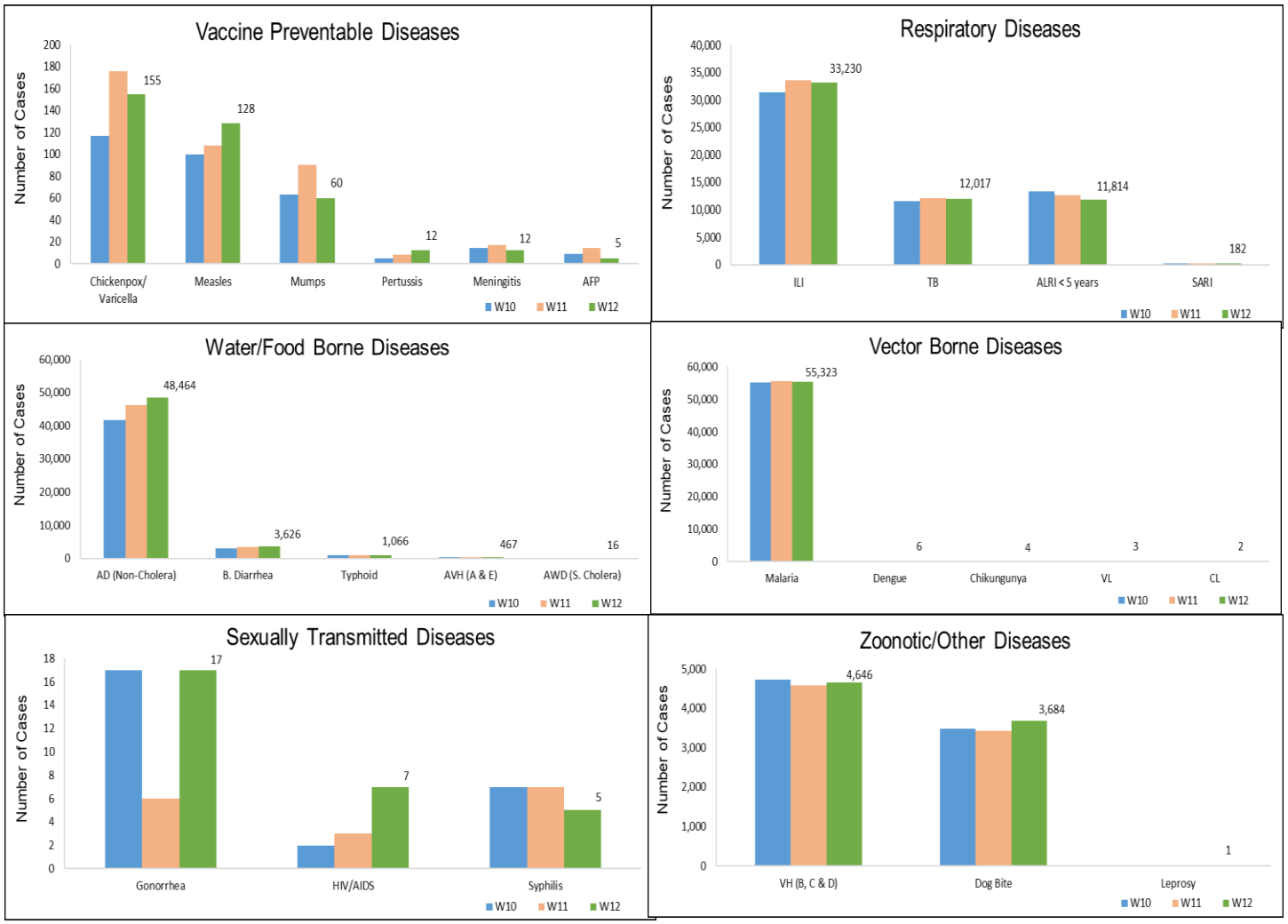
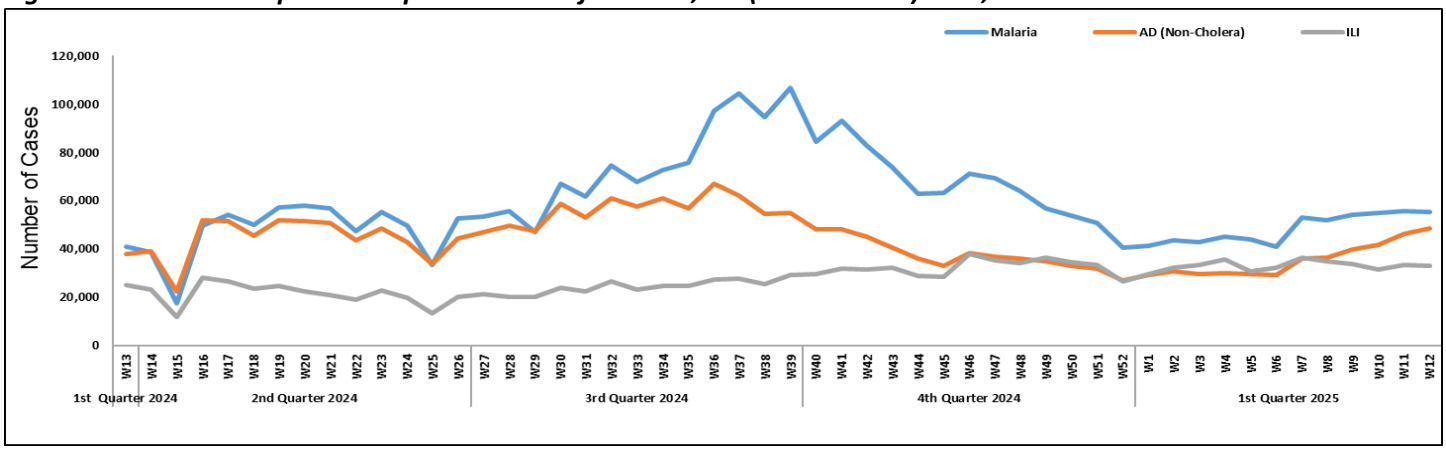


Figure 3: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Sindh



Balochistan

- ILI, AD (Non-Cholera), Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, AWD (S. Cholera), dog bite and CL cases were the most frequently reported diseases from Balochistan province.
- ILI cases are mostly reported from Gwadar, Quetta and Pishin while AD (Non-Cholera) cases are mostly reported from Usta Muhammad, Gwadar and Lesbella.
- ILI, AD (Non-Cholera), Malaria, ALRI <5 years, B. Diarrhea, Typhoid, AWD (S. Cholera) and Mumps showed an increase in cases while SARI, dog bite and CL showed a decline in cases this week.

Table 3: District wise distribution of most frequently reported suspected cases during Week 12, Balochistan

Districts	ILI	AD (Non-Cholera)	Malaria	ALRI < 5 years	B. Diarrhea	SARI	Typhoid	Dog Bite	TB	AWD (S. Cholera)
Barkhan	48	90	39	25	6	6	34	2	13	0
Chagai	224	146	48	0	46	0	15	0	0	0
Chaman	196	89	9	12	26	39	19	3	1	2
Dera Bugti	64	83	48	26	9	0	0	0	0	0
Gwadar	1,068	526	118	23	77	0	40	0	1	0
Harnai	19	66	51	139	60	0	0	10	3	0
Hub	86	231	113	27	14	6	7	0	3	1
Jaffarabad	220	273	260	60	95	10	55	0	2	0
Jhal Magsi	538	300	564	272	0	2	16	0	17	0
Kachhi (Bolan)	81	192	155	31	55	169	25	23	0	3
Kalat	3	16	12	6	8	0	9	1	0	0
Kech (Turbat)	611	365	205	3	45	NR	NR	1	NR	NR
Kharan	526	167	39	0	67	25	6	1	0	0
Khuzdar	447	309	139	0	128	29	48	3	0	1
Killa Abdullah	70	70	2	4	19	30	15	28	0	14
Killa Saifullah	0	121	185	161	48	32	24	2	12	0
Kohlu	301	181	93	18	56	40	29	1	1	NR
Lasbella	50	416	306	92	66	7	5	0	22	18
Loralai	407	173	35	51	44	87	17	0	11	4
Mastung	160	168	48	101	32	34	22	0	16	1
Naseerabad	54	382	253	32	11	44	53	2	14	8
Panjgur	113	136	107	88	60	19	0	7	0	0
Pishin	558	258	21	102	83	21	19	19	4	5
Quetta	825	387	11	146	61	52	21	0	0	4
Sherani	28	8	8	0	1	21	0	4	0	6
Sibi	118	169	405	140	36	49	76	10	0	2
Sohbat pur	55	234	201	129	83	18	26	3	7	5
Surab	154	42	4	0	0	0	0	0	0	0
Usta Muhammad	232	534	186	259	68	17	12	0	9	0
Washuk	348	166	113	27	91	37	11	22	0	1
Zhob	221	119	23	310	31	89	12	0	0	0
Ziarat	95	73	12	42	31	4	2	2	7	1
Total	7,920	6,490	3,813	2,326	1,457	887	618	144	143	76

Figure 4: Most frequently reported suspected cases during Week 12, Balochistan

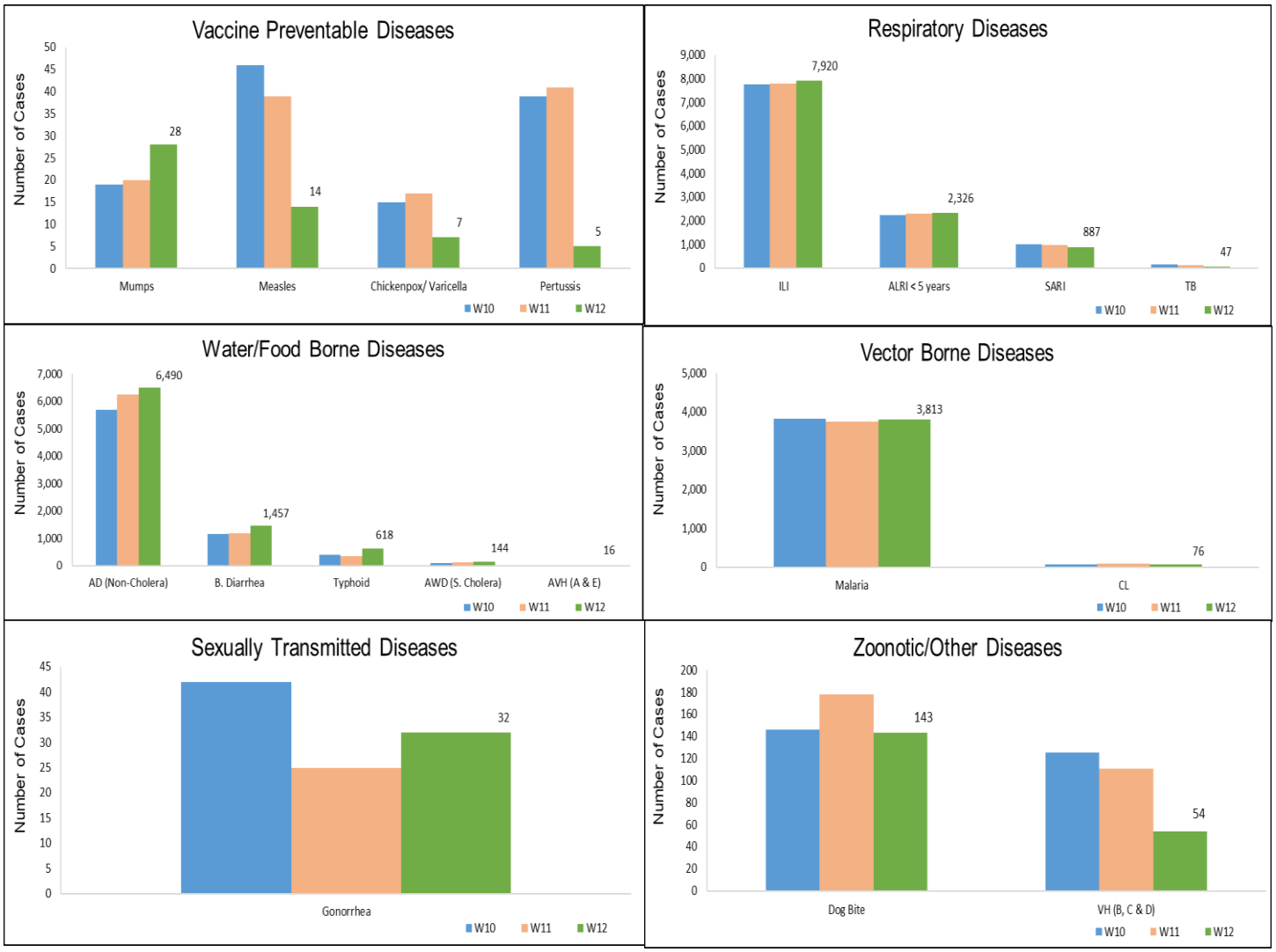
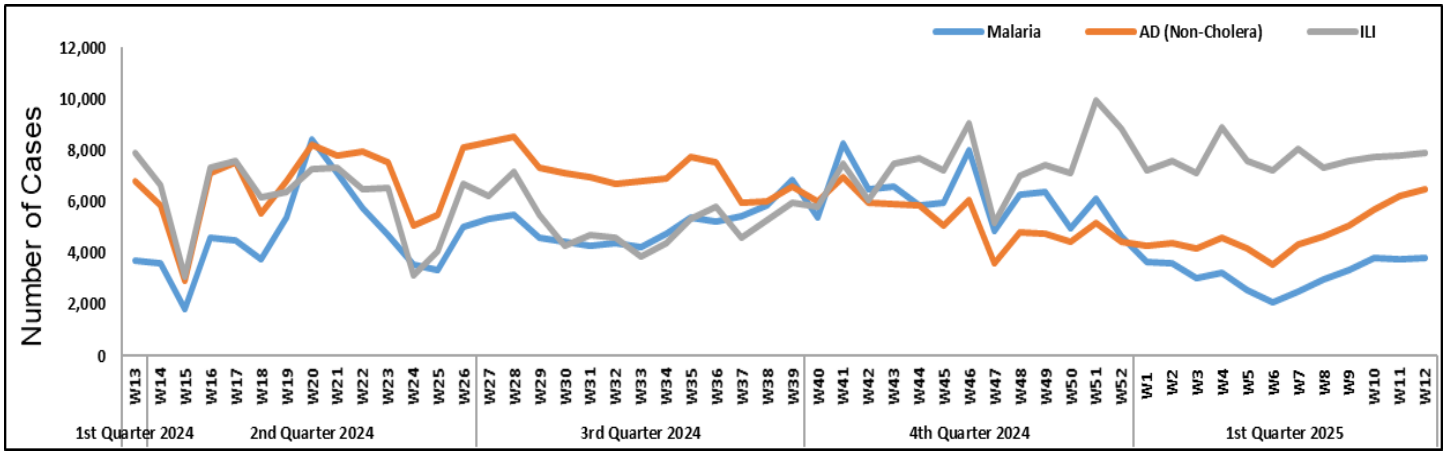


Figure 5: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Balochistan



Khyber Pakhtunkhwa

- Cases of AD (Non-Cholera) were maximum followed by ILI, Malaria, ALRI<5 Years, dog bite, SARI, CL, Typhoid, Measles and TB cases.
- AD (Non-Cholera), ILI, ALRI<5 Years, SARI, CL, TB and AFP cases showed an increase in number while Malaria, dog bite and Measles cases showed a decline in number this week.
- Thirty-seven cases of AFP reported from KP. All are suspected cases and need field verification.
- Four 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 12, KP

Districts	AD (Non-Cholera)	ILI	Malaria	ALRI < 5 years	Dog Bite	B. Diarrhea	SARI	CL	Typhoid	Measles
Abbottabad	660	128	0	40	74	7	0	7	3	16
Bajaur	412	96	154	38	71	76	29	4	24	13
Bannu	729	5	1,148	24	3	18	1	64	49	23
Battagram	122	467	8	8	12	6	5	2	7	36
Buner	194	0	230	0	7	0	0	2	0	0
Charsadda	1,710	1,554	335	639	23	19	0	43	29	15
Chitral Lower	317	123	3	19	11	18	10	0	1	3
Chitral Upper	83	12	2	8	2	3	0	8	1	1
D.I. Khan	1,472	0	124	36	14	0	1	0	98	44
Dir Lower	1,074	0	103	16	61	0	2	30	15	1
Dir Upper	634	87	3	21	16	5	0	5	5	20
Hangu	194	322	46	3	10	0	45	1	0	2
Haripur	608	314	0	75	11	28	0	5	7	0
Karak	310	46	44	50	57	32	421	1	5	11
Khyber	568	44	73	381	88	37	114	97	21	63
Kohat	349	3	13	4	14	4	35	6	1	0
Kohistan Lower	63	0	4	2	0	0	0	0	5	0
Kohistan Upper	196	0	3	4	2	0	0	2	9	16
Kolai Palas	72	10	0	3	0	1	0	6	1	3
L & C Kurram	3	2	0	0	0	0	0	0	0	0
Lakki Marwat	803	21	105	6	37	0	0	9	6	9
Malakand	494	91	6	32	0	11	33	37	13	4
Mansehra	654	433	0	3	0	0	0	19	0	0
Mardan	1,121	392	19	264	69	0	14	21	7	7
Mohmand	114	193	157	0	22	172	73	1	4	12
North Waziristan	20	0	37	8	0	0	0	6	14	2
Nowshera	1,360	54	19	130	7	15	6	17	13	12
Orakzai	101	18	9	0	8	0	0	0	0	0
Peshawar	2,983	496	13	49	20	103	1	37	64	12
SD Tank	25	2	12	0	0	0	0	0	0	0
Shangla	527	0	136	6	55	0	0	17	10	63
South Waziristan (Lower)	15	22	5	3	0	4	0	3	0	0
SWU	2	16	1	0	0	0	0	0	0	0
Swabi	900	618	39	75	139	55	0	52	18	35
Swat	1,520	176	7	141	13	0	0	18	12	6
Tank	792	153	36	25	4	0	0	20	3	5
Tor Ghar	84	2	17	15	26	25	9	3	4	5
Upper Kurram	74	198	3	5	12	181	0	8	0	4
Total	21,362	6,098	2,914	2,133	888	820	799	551	449	443

Figure 6: Most frequently reported suspected cases during Week 12, KP

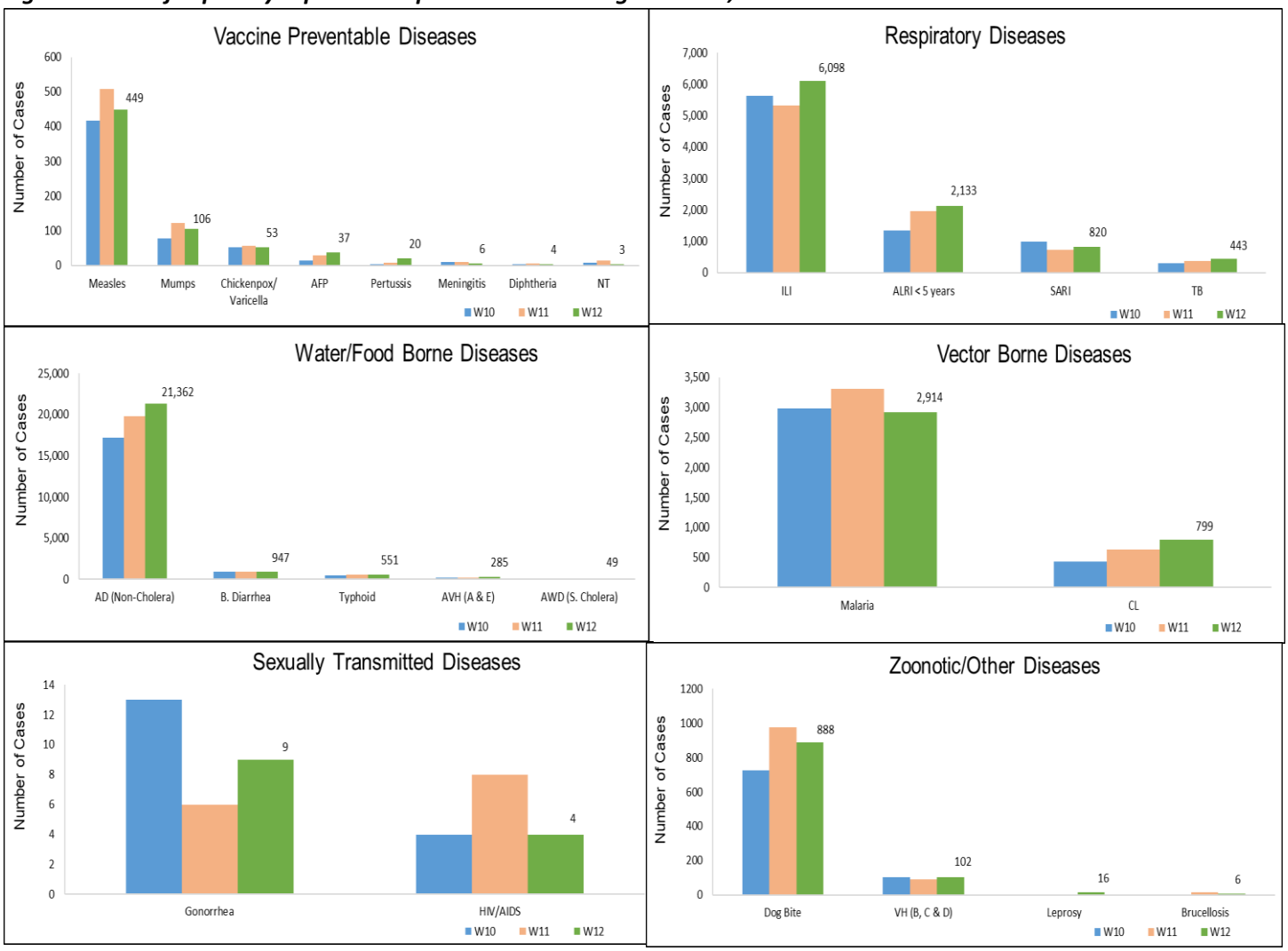
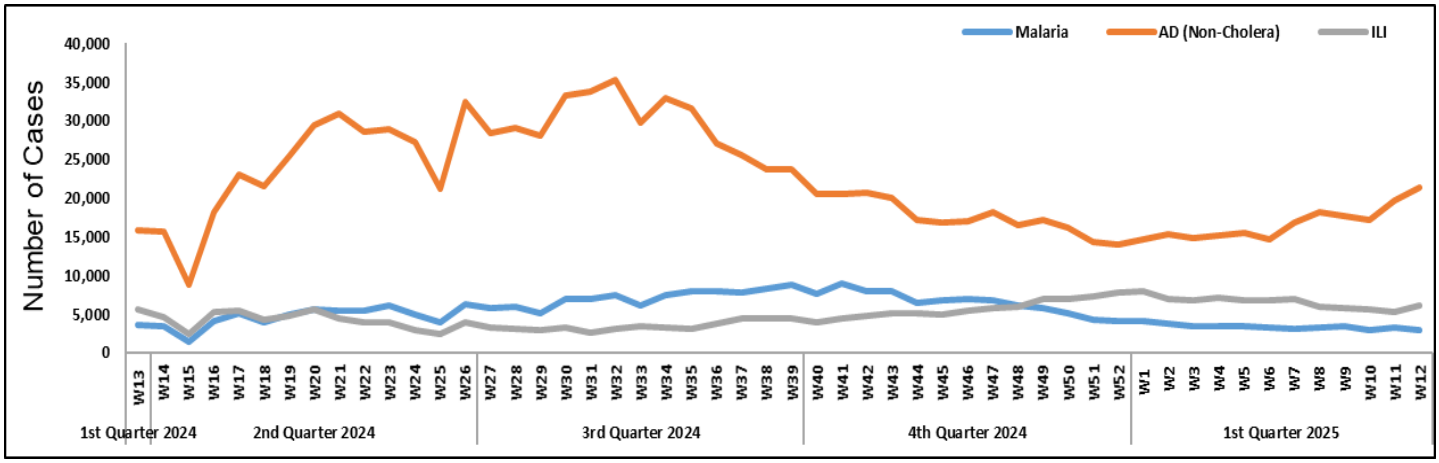


Figure 7: Week wise reported suspected cases Malaria, AD (Non-Cholera) & ILI, KP



ICT, AJK & GB

ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and ALRI <5 years. ILI, AD (Non-Cholera) and ALRI <5 years cases showed a decline in number this week.

AJK: ILI cases were maximum followed by AD (Non-Cholera), ALRI < 5years, SARI, dog bite, B. Diarrhea, TB, AWD (S. Cholera), Measles and AVH (A & E) cases. An increase in cases observed for ILI, AD (Non-Cholera), ALRI < 5years, B. Diarrhea, AWD (S. Cholera) and Chickenpox while a decline in cases observed for dog bite, TB, Measles and AVH (A & E) this week. Two cases of AFP reported from AJK. They are suspected cases and need field verification.

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

Figure 08: Most frequently reported suspected cases during Week 12, AJK

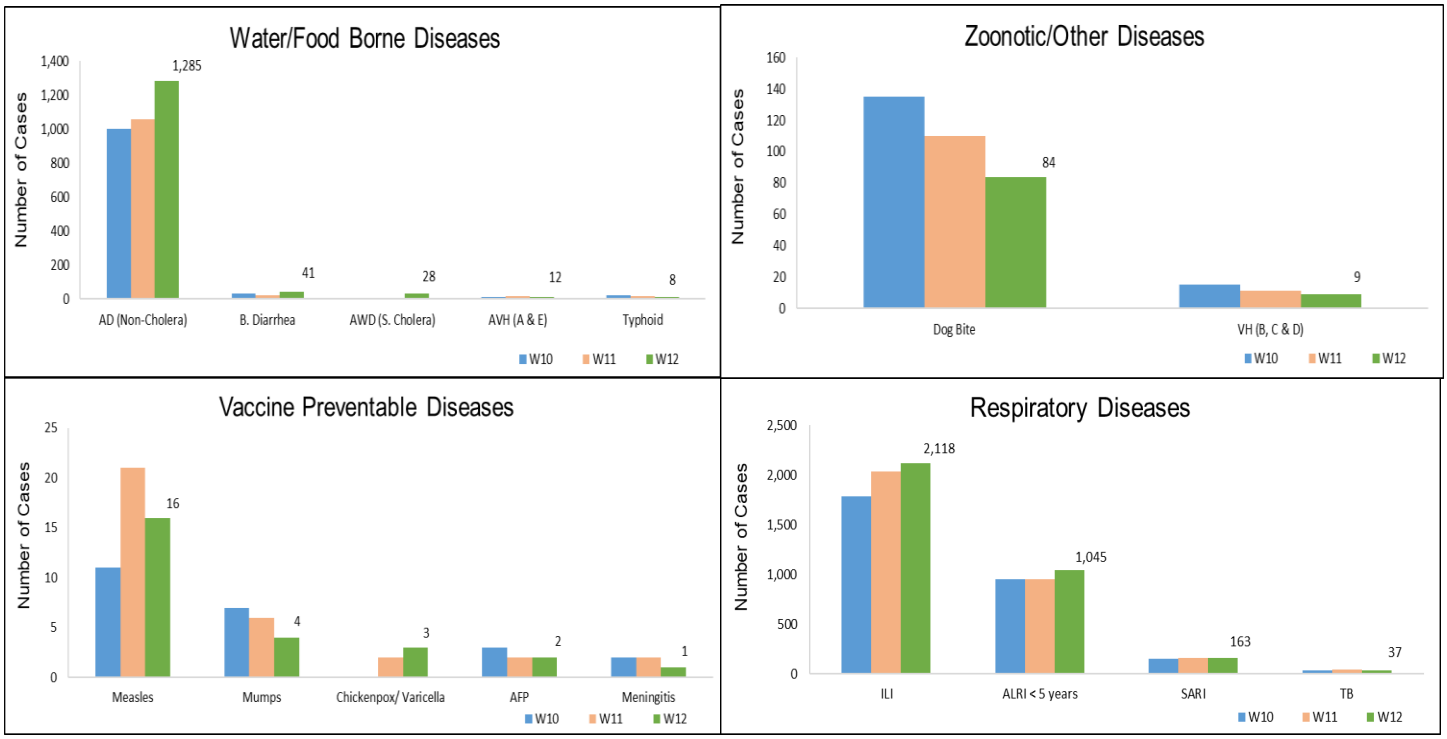


Figure 09: Week wise reported suspected cases of ILI and ARI <5 years, AJK

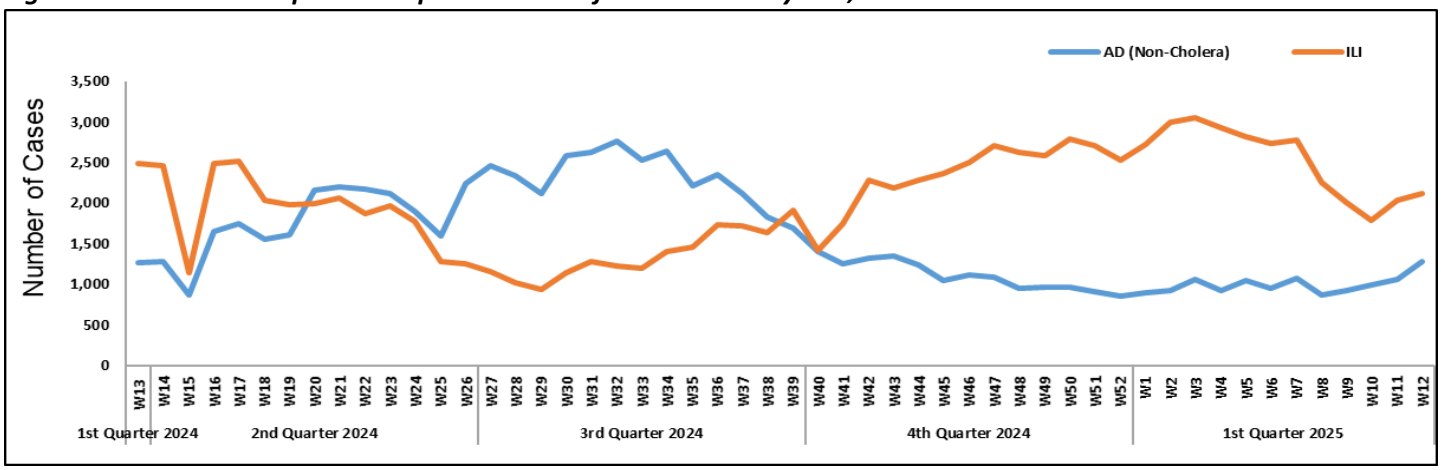


Figure 10: Most frequently reported suspected cases during Week 12, ICT

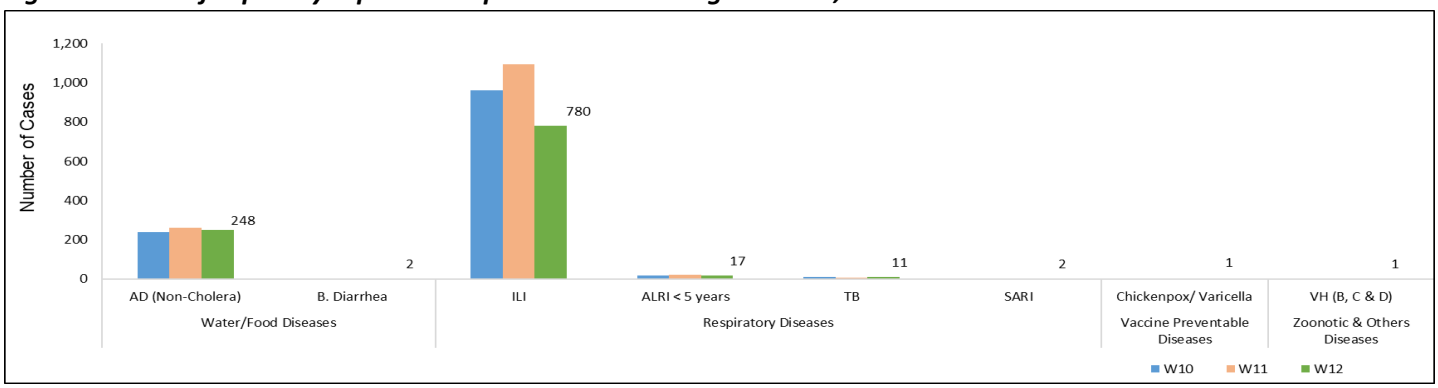


Figure 11: Week wise reported suspected cases of ILI, ICT

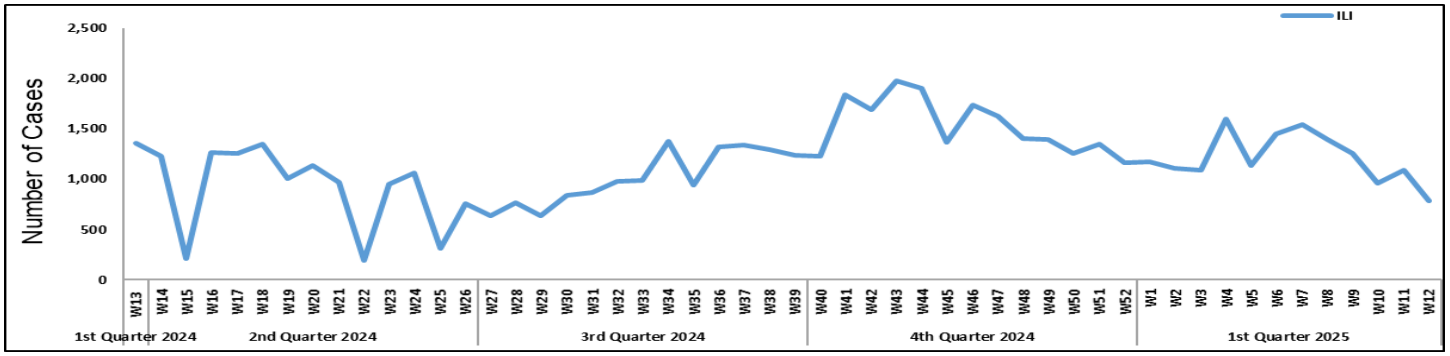


Figure 12: Most frequent cases reported during Week 12, GB

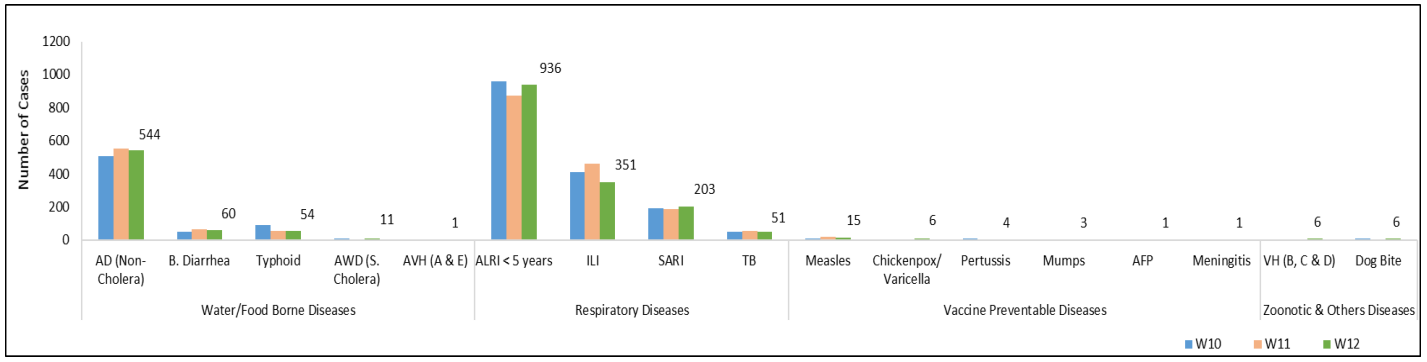
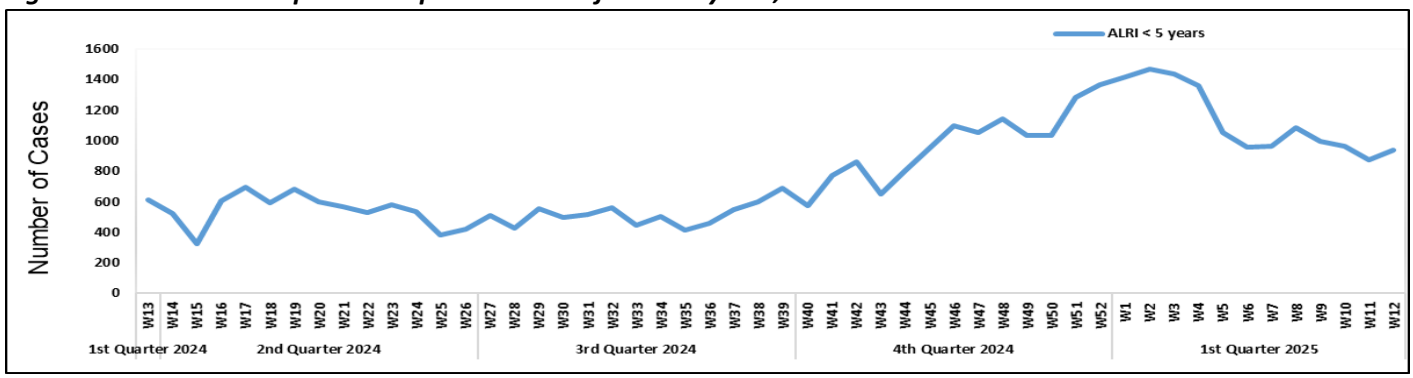


Figure 13: Week wise reported suspected cases of ALRI <5 years, GB



UK Health Security Agency

World Health Organization

U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 12

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	Tota l Pos	Total Test	Total Pos	Total Test	Total Pos
AWD (S. Cholera)		152	0	-	-	-	-	-	-	-	-	-	-	-	-
AD (non-cholera)		198	3	-	-	-	-	-	-	-	-	-	-	-	-
Malaria		10,677	498	-	-	111	4	-	-	-	-	-	-	29	0
CCHF		0	0	-	-	0	0	-	-	-	-	-	-	0	0
Dengue		1,259	48	-	-	0	0	-	-	-	-	-	-	0	0
VH (B)		12,552	373	-	-	217	4	-	-	-	-	-	-	617	0
VH (C)		13,342	1,530	-	-	216	3	-	-	-	-	-	-	617	2
VH (D)		100	29	-	-	-	-	-	-	-	-	-	-	-	-
VH (A)		186	70	-	-	-	-	-	-	-	-	-	-	-	-
VH (E)		172	67	-	-	-	-	-	-	-	-	-	-	-	-
Covid-19		34	0	-	-	-	-	-	-	-	-	-	-	-	-
Chikungunya		9	7	-	-	-	-	-	-	-	-	-	-	-	-
TB		675	60	-	-	1	0	-	-	-	-	-	-	78	5
HIV/ AIDS		4,667	25	-	-	217	1	-	-	-	-	-	-	71	0
Syphilis		1,229	22	-	-	-	-	-	-	-	-	-	-	-	-
B. Diarrhea		131	0	-	-	-	-	-	-	-	-	-	-	-	-
Typhoid		849	12	-	-	-	-	-	-	-	-	-	-	1	0
Diphtheria		13	3	-	-	-	-	-	-	-	-	-	-	-	-
ILI		22	4	-	-	-	-	-	-	-	-	-	-	-	-
Pneumonia (ALRI)		184	27	-	-	-	-	-	-	-	-	-	-	-	-
Meningitis		8	0	-	-	-	-	-	-	-	-	-	-	-	-
Measles		368	177	65	30	398	212	16	11	16	9	346	76	50	19
Rubella		368	2	65	1	398	4	16	1	16	1	346	7	50	0
Covid-19	Out of SARI	11	0	-	-	2	0	66	0	-	-	19	0	0	0
	Out of ILI	4	0	-	-	0	0	22	0	-	-	3	0	5	0
Influenza A	Out of SARI	11	0	-	-	2	0	66	7	-	-	19	0	0	0
	Out of ILI	4	0	-	-	0	0	22	0	-	-	3	0	5	0
Influenza B	Out of SARI	11	0	-	-	2	0	66	0	-	-	19	0	0	0
	Out of ILI	4	0	-	-	0	0	22	0	-	-	3	0	5	0
RSV	Out of SARI	11	0	-	-	2	0	66	16	-	-	19	0	0	0
	Out of ILI	4	0	-	-	0	0	22	1	-	-	3	0	5	0

- 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 12, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	102	92%
	Bannu	238	122	51%
	Battagram	59	31	53%
	Buner	34	34	100%
	Bajaur	44	43	98%
	Charsadda	59	58	98%
	Chitral Upper	34	30	88%
	Chitral Lower	35	35	100%
	D.I. Khan	113	113	100%
	Dir Lower	74	63	85%
	Dir Upper	37	32	86%
	Hangu	22	20	91%
	Haripur	72	71	99%
	Karak	36	36	100%
	Khyber	53	46	87%
	Kohat	61	61	100%
	Kohistan Lower	11	10	91%
	Kohistan Upper	20	15	75%
	Kolai Palas	10	8	80%
	Lakki Marwat	70	69	99%
	Lower & Central Kurram	42	3	7%
	Upper Kurram	41	28	68%
	Malakand	42	20	48%
	Mansehra	133	101	76%
	Mardan	80	73	91%
	Nowshera	55	52	95%
	North Waziristan	13	5	38%
	Peshawar	155	132	85%
	Shangla	37	32	86%
	Swabi	64	63	98%
	Swat	77	77	100%
	South Waziristan (Upper)	93	2	2%
	South Waziristan (Lower)	42	16	38%
	Tank	34	32	94%
	Torghar	14	14	100%
	Mohmand	68	64	94%
	SD Peshawar	5	0	0%
	SD Tank	58	11	19%
	Orakzai	69	14	20%
	Mirpur	37	37	100%
	Bhimber	42	20	48%

Azad Jammu Kashmir	Kotli	60	60	100%
	Muzaffarabad	45	43	96%
	Poonch	46	46	100%
	Haveli	39	39	100%
	Bagh	40	40	100%
	Neelum	39	39	100%
	Jhelum Velley	29	29	100%
Islamabad Capital Territory	Sudhnooti	27	27	100%
	ICT	21	21	100%
Balochistan	CDA	15	7	47%
	Gwadar	26	26	100%
	Kech	44	23	52%
	Khuzdar	74	48	65%
	Killa Abdullah	26	16	62%
	Lasbella	55	54	98%
	Pishin	69	36	52%
	Quetta	55	37	67%
	Sibi	36	36	100%
	Zhob	39	33	85%
	Jaffarabad	16	16	100%
	Naserabad	32	31	97%
	Kharan	30	30	100%
	Sherani	15	8	53%
	Kohlu	75	43	57%
	Chagi	36	22	61%
	Kalat	41	40	98%
	Harnai	17	16	94%
	Kachhi (Bolan)	35	13	37%
	Jhal Magsi	28	28	100%
	Sohbat pur	25	25	100%
	Surab	32	22	69%
	Mastung	45	45	100%
	Loralai	33	28	85%
	Killa Saifullah	28	24	86%
	Ziarat	29	10	34%
	Duki	31	0	0%
	Nushki	32	0	0%
	Dera Bugti	45	32	71%
	Washuk	46	37	80%
	Panjgur	38	14	37%
	Awaran	23	0	0%
	Chaman	24	23	96%
	Barkhan	20	19	95%
	Hub	33	32	97%
	Musakhel	41	0	0%
Gilgit Baltistan	Usta Muhammad	34	34	100%
	Hunza	32	32	100%
	Nagar	25	17	68%
	Ghizer	38	38	100%

	Gilgit	40	40	100%
	Diamer	62	61	98%
	Astore	54	54	100%
	Shigar	27	25	93%
	Skardu	52	52	100%
	Ganche	29	29	100%
Sindh	Kharmang	46	25	54%
	Hyderabad	73	71	97%
	Ghotki	64	64	100%
	Umerkot	43	43	100%
	Naushahro Feroze	107	96	90%
	Tharparkar	276	225	82%
	Shikarpur	61	60	98%
	Thatta	52	51	98%
	Larkana	67	66	99%
	Kamber Shadadkot	71	71	100%
	Karachi-East	24	19	79%
	Karachi-West	20	20	100%
	Karachi-Malir	37	22	59%
	Karachi-Kemari	18	15	83%
	Karachi-Central	12	8	67%
	Karachi-Korangi	18	18	100%
	Karachi-South	6	4	67%
	Sujawal	55	55	100%
	Mirpur Khas	106	103	97%
	Badin	124	124	100%
	Sukkur	64	63	98%
	Dadu	90	90	100%
	Sanghar	100	98	98%
	Jacobabad	44	44	100%
	Khairpur	170	169	99%
	Kashmore	59	59	100%
	Matiari	42	41	98%
	Jamshoro	75	74	99%
	Tando Allahyar	54	54	100%
	Tando Muhammad Khan	41	41	100%
	Shaheed Benazirabad	122	121	99%

Table 7: IDSR reporting Tertiary care hospital Week 12, 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	1	100%
	Shaheed Benazirabad	1	0	0%
	Karachi-East	1	1	100%
	Karachi-Central	1	0	0%

Notes from Field

Diphtheria Outbreak Investigation, Tehsil Naal, District Khuzdar, 1–5 February 2025

Dr. Talha Bin Saeed FETP 16th cohort Fellow
Dr. Naveed Ahmed Badini FETP 16th cohort Fellow

Introduction

Diphtheria is an acute bacterial infection caused by Corynebacterium diphtheriae, characterized by pharyngitis, pseudomembrane formation, and potential cardiac and neurologic complications. Despite the availability of effective vaccines, it remains a cause of significant morbidity and mortality in settings with incomplete immunization coverage. Globally, the World Health Organization estimated over 4,000 cases in 2023, with outbreaks concentrated in regions of low vaccine uptake [1]. In South Asia, periodic diphtheria resurgences have been reported in pockets of under-immunized populations, particularly among children living in displaced or marginalized communities [2]. In Pakistan, the Expanded Programme on Immunization (EPI) has reduced national incidence, yet sporadic cluster outbreaks continue in remote districts with security and access challenges. On 29 January 2025, a suspected cluster of diphtheria cases, including three pediatric fatalities, was reported in Union Council Kumbi, Tehsil Naag, and District Khuzdar.

Objectives

- To confirm the presence and number of diphtheria cases in Union Council Kumbi and surrounding hamlets.
- To characterize the demographic distribution of affected individuals.
- To determine household, environmental, and immunization-related determinants contributing to transmission.
- To propose recommendations for outbreak containment and long-term prevention.

Methods

A descriptive cross-sectional study was undertaken between 25 January and 10 February 2025 in Union Council Kumbi, Tehsil Naag, District Khuzdar, to identify and characterize diphtheria cases. A suspected case was defined as “any individual presenting with sore throat, fever, difficulty swallowing and grayish pseudo membrane formation and is a resident of Tehsil, Naal, Dist. Khuzdar or has epidemiologic linkage to the area from 21 jan, 2025 to 17 feb, 2025.” while a confirmed case was defined as “a suspected case with laboratory isolation of C. diphtheriae by throat culture or PCR”. The study population comprised all residents of UC Kumbi and immediately adjacent settlements, including children attending the local madrassa and primary schools. Door-to-door surveys were conducted for active case finding, supplemented by a review of hospital admission registers at the District Headquarters (DHQ) Hospital Khuzdar. A structured questionnaire was used to collect demographic information, clinical symptoms, immunization history, household living conditions, and exposure to known cases. Throat swabs from 5 suspected cases were transported to the provincial reference laboratory for culture and PCR. Data was analyzed descriptively to calculate median age, male-to-female ratio, overall and age-specific attack rates, and to summarize clinical presentations, vaccination status, living conditions, and laboratory results.

Results

A total of 10 diphtheria cases were identified, including 3children who died before

investigation commenced, 6 hospitalized suspects (of whom two received diphtheria antitoxin) and 1 additional suspected case detected during active search. The median age was 7 years (range 4–12), with 66% females. All cases were clustered within UC Kumbi, yielding an overall attack rate of 4.0 per 1,000 population; the highest age-specific attack rate was 7.5 per 1,000 among children aged 5–9 years. Clinically, 100% of cases presented with sore throat and pseudo membrane formation, 75% reported fever and 50% reported dysphagia. All cases shared household or school exposure, and 29% had only partial diphtheria vaccination while the remainder were unvaccinated or had unknown status. Living conditions were characterized by overcrowded tent shelters and poor sanitation, with vaccine refusal documented in several households. Of five throat swabs submitted, three (60%) were positive for toxigenic *C. diphtheria*.

Discussion

This investigation confirmed a localized diphtheria outbreak in Tehsil Naal, with case clustering in a madrassa and among under-immunized children living in precarious conditions. The median age (7 years) and male predominance align with patterns seen in under-vaccinated school-age populations [3]. Attack rates peaked in the 5–9-year age group, underscoring susceptibility after infancy where booster doses may be missed. The high proportion of unvaccinated or partially vaccinated children reflects gaps in EPI routinr immunization and vaccine hesitancy influenced by cultural barriers. Overcrowded living conditions and close contact in schooling facilitated transmission, as evidenced by 100% household or school exposure among cases. Laboratory confirmation in 60% of sampled cases reinforces the clinical diagnosis but also highlights the need for more systematic specimen collection and timely testing.

Immediate outbreak control measures including case isolation, administration of diphtheria antitoxin, rapid vaccination of contacts, and community sensitization were effective in halting further spread. However, the fatality cluster underscores delays in case detection and treatment initiation. Strengthening early warning through community-based surveillance, ensuring antitoxin stock availability, and enhancing cold-chain maintenance for vaccines are critical. Long-term prevention demands culturally appropriate communication to address vaccine refusal, periodic booster campaigns for school-aged children, and integration of surveillance in informal settlements.

Conclusion

The diphtheria outbreak in UC Kumbi, District Khuzdar, was driven by low immunization coverage, close contact in communal settings, and substandard living conditions. Rapid public health response including active case finding, treatment with antitoxin, targeted vaccination, and community engagement was pivotal in containment.

Recommendations

- **Enhance Vaccination Coverage:** Strengthen routine immunization and conduct mop up immunization drives, ensuring completion of primary series and booster doses at ages 5 and 10 years.
- **Strengthen Surveillance & Laboratory Capacity:** Train community health workers and madrassa teachers to report diphtheria-like illness promptly.
- **Community Mobilization & Risk Communication:** Partner with religious leaders and local influencers to address vaccine hesitancy through culturally tailored messaging.

References

1. World Health Organization. Diphtheria vaccine: WHO position paper – August 2020. Wkly Epidemiol Rec. 2020;95(31):366–388.
2. Bhattacharya S, De Wals P. Diphtheria burden and immunization in South Asia. Vaccine. 2023;41(12):1624–1631.
3. Clarke E, Ahmed S. Epidemiology of diphtheria in under-immunized communities. Int J Infect Dis. 2024;118:21–27.

Knowledge Hub

Understanding Malaria

Introduction

Malaria remains one of the oldest and deadliest vector-borne diseases globally, causing more than 600,000 deaths each year. While many countries have made significant progress in control and elimination, the Eastern Mediterranean Region (EMRO) continues to face a substantial burden. Pakistan, in particular, has seen recurrent surges, especially after monsoon floods, making malaria a continued threat to public health security.

Epidemiology: EMRO and Pakistan at a Glance

According to the **WHO EMRO**, five countries—Pakistan, Afghanistan, Somalia, Sudan, and Yemen—account for **over 95% of malaria cases** in the region. In 2022, Pakistan reported over **3.1 million suspected cases**, with *Plasmodium vivax* comprising about 84%, and *P. falciparum* 16%—a shift in trend following the catastrophic 2022 floods.

High transmission zones in Pakistan include districts in **Balochistan**, **Sindh**, and **Khyber Pakhtunkhwa**, especially those with poor access to health services, conflict displacement, and inadequate vector control measures. The presence of both *P. vivax* and *P. falciparum* makes case management and drug resistance monitoring essential.

Mode of Transmission

Malaria is transmitted through the bite of infected **female *Anopheles* mosquitoes**. The transmission cycle in Pakistan is influenced by:

- **Post-monsoon standing water**, facilitating mosquito breeding
- **Human migration and conflict**, introducing parasites to low-transmission areas
- **Temperature and humidity**, which extend the transmission season

Vertical transmission (mother to child), blood transfusions, and shared needles are rare but possible non-vector routes.

Diagnosis

Early and accurate diagnosis is key to effective treatment and control:

- **Microscopy** remains the gold standard in public sector facilities
- **Rapid Diagnostic Tests (RDTs)** are widely used in peripheral and mobile settings
- Confirmatory testing helps differentiate between *P. vivax* and *P. falciparum*, which is critical for proper treatment

Treatment

Malaria is curable with timely treatment:

- **Uncomplicated *P. falciparum***: Treated with **Artemisinin-based Combination Therapies (ACTs)**
- ***P. vivax***: Treated with **chloroquine** and **primaquine** (to prevent relapse), following G6PD testing
- **Severe malaria**: Requires **intravenous artesunate** and supportive care in hospital settings

WHO recommends that **all cases be confirmed before treatment** to reduce drug pressure and resistance.

Prevention and Control

Key prevention strategies include:

- **Insecticide-Treated Nets (ITNs)**: Distributed in endemic districts, especially post-disaster
- **Indoor Residual Spraying (IRS)**: Applied in high-burden areas with limited success due to logistics
- **Vector surveillance and control**: Strengthened by integrating environmental health in the One Health framework
- **Health education**: Encouraging early care-seeking and community-led environmental management

Bottom Line

Malaria in Pakistan and the broader EMRO region is a **preventable and treatable disease** that continues to thrive in the absence of strong health systems, climate resilience, and cross-

sectoral coordination. Strengthening surveillance, expanding access to diagnostics and treatment, and mobilizing community engagement are crucial to reversing recent gains lost due to climate and conflict-driven health crises.

References:

1. World Health Organization. (2024). *World malaria report 2024*. https://www.who.int/teams/global-malaria-programme/reports/world-malaria-report-2024
2. World Health Organization. (n.d.). *Malaria*. Retrieved from https://www.who.int/news-room/fact-sheets/detail/malaria
3. Centers for Disease Control and Prevention. (n.d.). *How Malaria Spreads*. https://www.cdc.gov/malaria/causes/index.html
4. World Health Organization. (n.d.). *Diagnostic testing for malaria*. https://www.who.int/teams/global-malaria-programme/case-management/diagnosis
5. Centers for Disease Control and Prevention. (n.d.). *Malaria Diagnostic Tests*. https://www.cdc.gov/malaria/hcp/diagnosis-testing/malaria-diagnostic-tests.html
6. World Health Organization. (n.d.). *Treatment of malaria*. https://www.who.int/teams/global-malaria-programme/case-management/treatment

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