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.

Overview

IDSR Reports

Ongoing Events

Field Reports

Public Health Bulletin - Pakistan, Week 06, 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;
- *Advancing Healthcare Standards: NIH Leads IPC Training to Reduce Infections in Clinical Settings*
- *Outbreak investigation of Chickungunya in peri-urban areas of Islamabad, November, 2024*
- *Knowledge hub comprising of a comparison between dengue and chikungunya*

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 06, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by ILI, Malaria, ALRI <5 years, TB, dog bite, B. Diarrhea, VH (B, C & D), SARI and Typhoid.*

- *Thirty-three cases of AFP reported from KP, ten from Punjab, three from AJK, two from Sindh and one from GB.*

- *Ten suspected cases of HIV/ AIDS reported from Punjab, two from Sindh and one from Balochistan.*

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

- *Among VPDs, there is an increase in number of cases of Measles, Pertussis, Rubella (CRS) and NT this week.*

- *Among respiratory diseases, there is an increase in number of cases of ILI and SARI this week.*

- *Among other diseases, there is an increase in number of cases of leprosy 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 96%, followed by AJK &GB 93% and KPK 80%.*

- *The lowest compliance rate was observed in ICT 80% and Balochistan 55%.*

Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	*2245*	*1791*	*80*
Azad Jammu Kashmir	*404*	*377*	*93*
Islamabad Capital Territory	*36*	*29*	*80*
Balochistan	*1308*	*731*	*55*
Gilgit Baltistan	*405*	*376*	*93*
Sindh	*2076*	*1988*	*96*
National	*6474*	*5292*	*82*

Public Health Actions

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

Diphtheria

- **Enhance Case Detection and Reporting:** Strengthen diphtheria surveillance in IDSR by training healthcare workers on case identification, laboratory confirmation, and timely reporting.
- **Strengthen Immunization Coverage:** Increase routine immunization with the DTP vaccine, focusing on reaching unvaccinated children in underserved areas and marginalized communities through outreach and catch-up campaigns.
- **Expand Community Awareness:** Conduct community education on diphtheria prevention, emphasize early care-seeking behavior, and ensure availability of diphtheria antitoxin (DAT) in high-risk regions
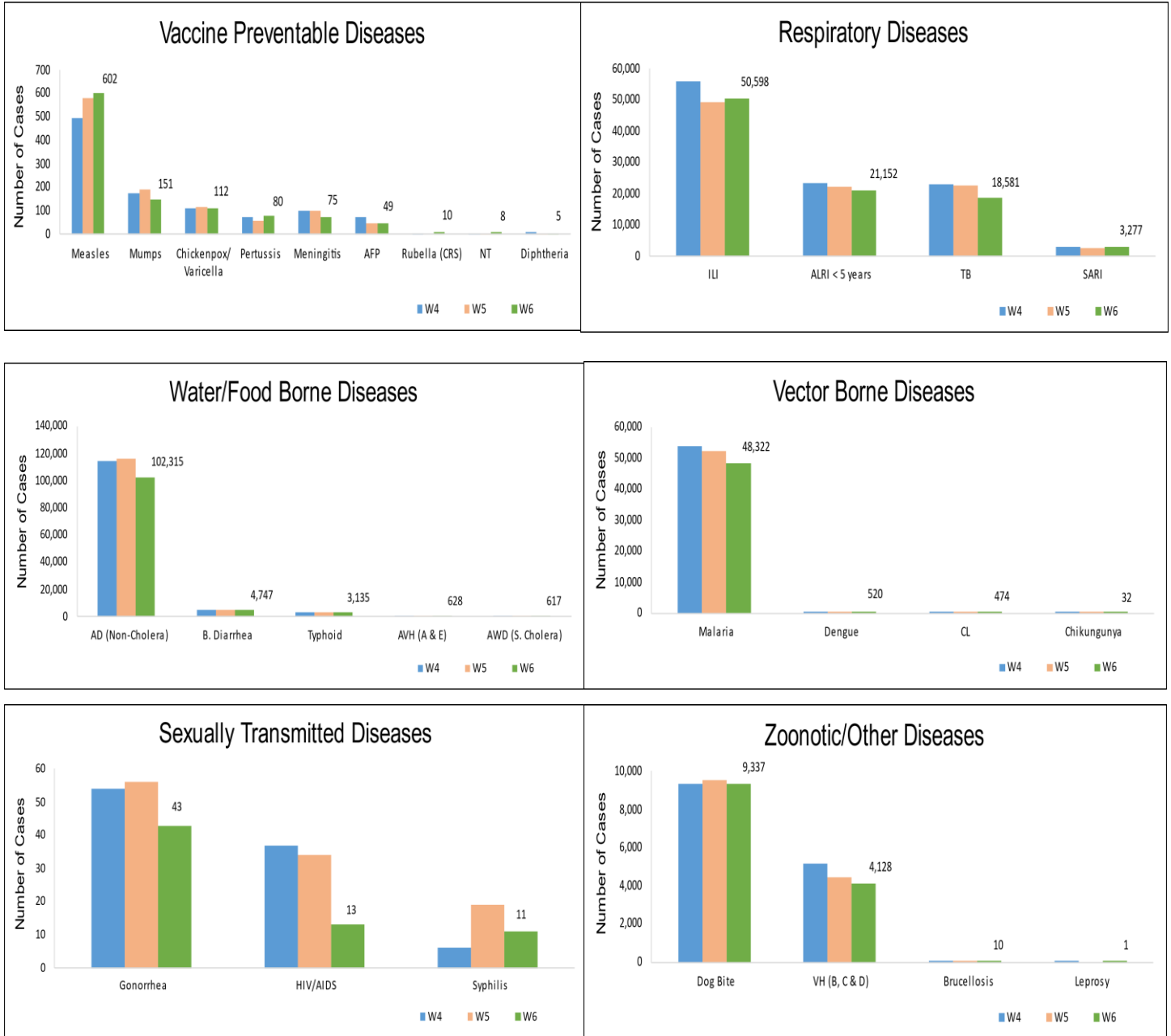
Pertussis

- **Enhance Case Detection and Reporting:** Strengthen pertussis surveillance within IDSR by ensuring accurate case identification, laboratory confirmation, and timely reporting.
- **Strengthen Immunization Coverage:** Improve routine immunization coverage for DTP (diphtheria, tetanus, and pertussis) vaccines, with a focus on underserved and hard-to-reach areas.
- **Expand Preventive Interventions:** Incorporate pertussis prevention into maternal and child health programs, including promoting maternal Tdap vaccination during pregnancy to protect newborn

Pakistan

Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 06, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (non-cholera)	955	3,543	388	210	14,739	53,084	29,396	102,315
ILI	2,731	7,200	402	1,450	6,751	11	32,053	50,598
Malaria	0	2,088	0	0	3,274	1,797	41,163	48,322
ALRI < 5 years	1,522	1,729	957	19	2,070	2,384	12,471	21,152
TB	46	125	43	14	344	8,735	9,274	18,581
Dog Bite	116	106	3	1	955	4,899	3,257	9,337
B. Diarrhea	37	882	41	2	846	394	2,545	4,747
VH (B, C & D)	25	31	2	0	83	0	3,987	4,128
SARI	440	608	218	2	1,497	0	512	3,277
Typhoid	22	278	54	0	525	1,511	745	3,135
AVH (A & E)	22	1	3	0	248	0	354	628
AWD (S. Cholera)	48	87	1	0	70	409	2	617
Measles	9	67	2	0	360	101	63	602
Dengue	0	1	0	0	2	471	46	520
CL	0	27	0	0	442	3	2	474
Mumps	6	14	3	0	71	0	57	151
Chickenpox/ Varicella	2	7	4	1	37	8	53	112
Pertussis	0	48	5	0	9	0	18	80
Meningitis	4	0	1	0	9	56	5	75
AFP	3	0	1	0	33	10	2	49
Gonorrhea	0	19	0	0	11	0	13	43
Chikungunya	0	0	0	0	0	0	32	32
HIV/AIDS	0	1	0	0	0	10	2	13
Syphilis	0	4	0	0	0	0	7	11
Brucellosis	0	0	0	0	10	0	0	10
Rubella	0	10	0	0	0	0	0	10
NT	1	0	0	0	5	1	1	8
Diphtheria	0	0	0	0	4	0	1	5
Leprosy	0	0	0	0	1	0	0	1

Figure 1: Most frequently reported suspected cases during Week 06, Pakistan.

Vaccine Preventable Diseases

Number of Cases — Measles: 602; Mumps: 151; Chickenpox/Varicella: 112; Pertussis: 80; Meningitis: 75; AFP: 49; Rubella (CRS): 10; NT: 8; Diphtheria: 5 (W4, W5, W6)

Respiratory Diseases

Number of Cases — ILI: 50,598; ALRI < 5 years: 21,152; TB: 18,581; SARI: 3,277 (W4, W5, W6)

Water/Food Borne Diseases

Number of Cases — AD (Non-Cholera): 102,315; B. Diarrhea: 4,747; Typhoid: 3,135; AVH (A & E): 628; AWD (S. Cholera): 617 (W4, W5, W6)

Vector Borne Diseases

Number of Cases — Malaria: 48,322; Dengue: 520; CL: 474; Chikungunya: 32 (W4, W5, W6)

Sexually Transmitted Diseases

Number of Cases — Gonorrhea: 43; HIV/AIDS: 13; Syphilis: 11 (W4, W5, W6)

Zoonotic/Other Diseases

Number of Cases — Dog Bite: 9,337; VH (B, C & D): 4,128; Brucellosis: 10; Leprosy: 1 (W4, W5, W6)

- Malaria cases were maximum followed by ILI, AD (Non-Cholera), ALRI<5 Years, TB, VH (B, C, D), dog bite, B. Diarrhea, Typhoid and SARI.
- Malaria cases are mostly from Dadu, Sanghar and Kamber whereas ILI cases are from Khairpur, Karachi Malir and Badin.
- Two cases of AFP reported from Sindh. All are suspected cases and need field verification.
- Two suspected cases of HIV/ AIDS reported from Sindh. Field investigation required to verify the case.
- There is a decline in number of reported cases of Malaria, AD (Non-Cholera), ALRI<5 Years, TB, VH (B, C, D), dog bite, B. Diarrhea and Typhoid while an increase in number of reported cases of ILI, SARI, pertussis and chickenpox this week.

Table 2: District wise distribution of most frequently reported suspected cases during Week 06, Sindh

Districts	Malaria	ILI	AD (non-cholera)	ALRI < 5 years	TB	VH (B, C & D)	Dog Bite	B. Diarrhea	Typhoid	SARI
Badin	1,828	2,947	1,560	518	680	329	257	107	23	5
Dadu	3,623	422	2,071	1,265	384	80	356	454	145	4
Ghotki	609	56	525	641	226	59	195	49	1	0
Hyderabad	688	1,998	1,977	404	131	62	21	5	16	0
Jacobabad	795	964	506	401	108	196	186	90	35	65
Jamshoro	2,092	123	1,013	361	550	215	91	76	42	3
Kamber	2,782	0	1,349	303	778	133	269	92	18	0
Karachi Central	4	2,051	560	19	12	5	0	7	41	21
Karachi East	44	581	402	70	24	3	24	2	4	0
Karachi Keamari	3	355	461	59	0	0	0	3	2	0
Karachi Korangi	69	18	307	1	31	1	0	3	1	0
Karachi Malir	305	3,213	1,318	158	81	7	25	10	6	0
Karachi South	0	8	94	0	0	0	0	0	0	0
Karachi West	295	1,117	835	159	94	50	27	16	20	1
Kashmore	1,261	718	271	160	186	26	59	40	0	0
Khairpur	3,746	6,102	1,851	1,147	787	147	186	334	121	7
Larkana	4,359	125	1,396	569	844	71	40	266	15	355
Matiari	2,094	4	885	351	438	423	57	28	0	0
Mirpurkhas	1,458	2,861	1,513	655	521	193	130	46	12	0
Naushero Feroze	861	883	775	382	129	102	226	111	49	6
Sanghar	3,495	101	1,298	625	973	962	293	89	48	0
Shaheed Benazirabad	1,195	2	1,035	241	239	85	150	43	88	0
Shikarpur	2,193	5	828	200	209	228	182	146	4	5
Sujawal	648	10	843	494	105	0	72	70	3	2
Sukkur	1,490	2,352	914	609	379	83	168	119	1	0
Tando Allahyar	885	1,645	631	198	352	269	103	83	6	1
Tando Muhammad Khan	426	54	644	189	370	24	19	81	0	0
Tharparkar	1,741	1,716	1,346	1,090	341	61	0	66	21	9
Thatta	1,160	1,622	1,096	618	35	97	121	39	1	13
Umerkot	1,014	0	1,092	584	267	76	0	70	22	15
Total	41,163	32,053	29,396	12,471	9,274	3,987	3,257	2,545	745	512

Figure 2: Most frequently reported suspected cases during Week 06 Sindh
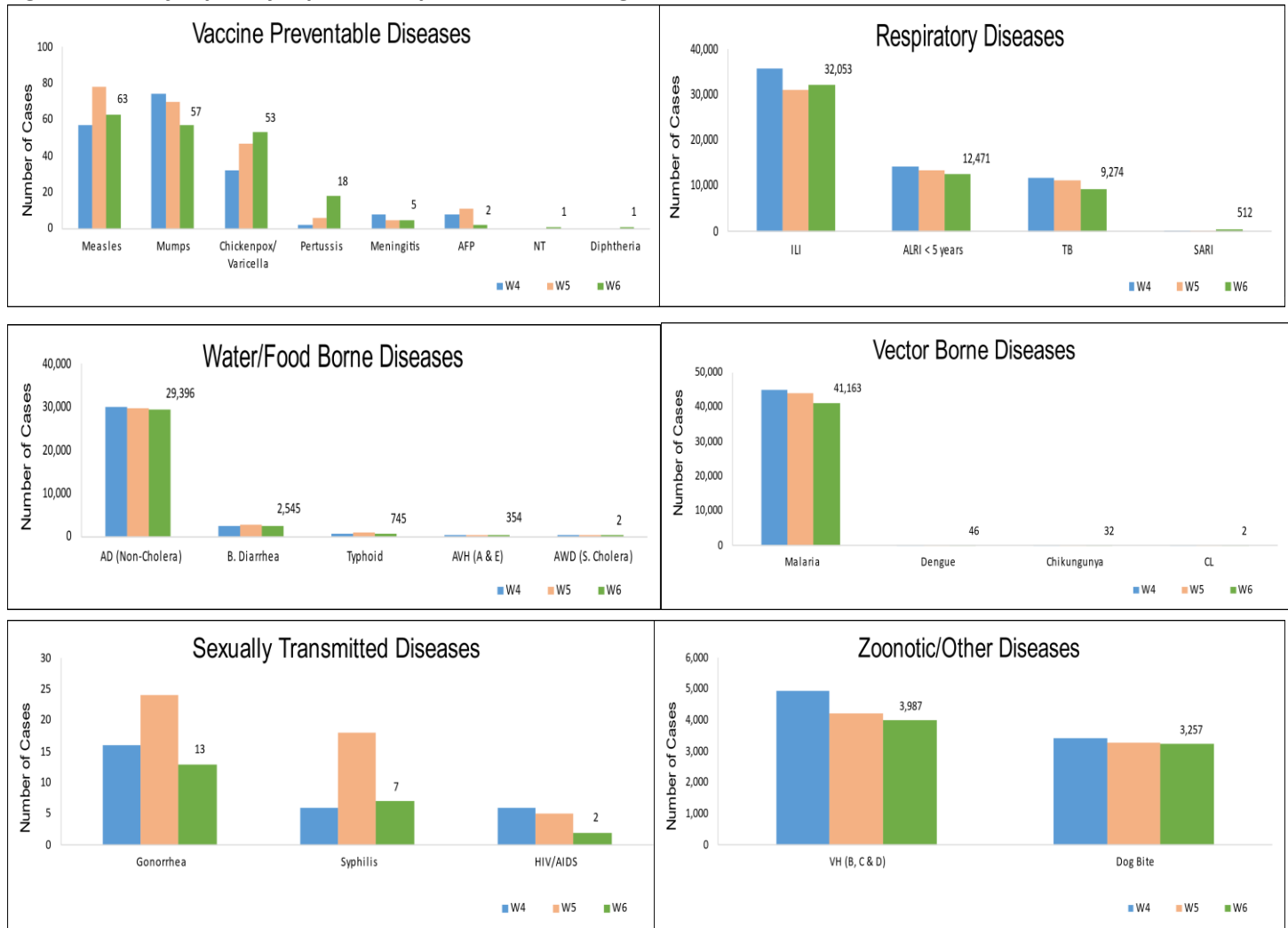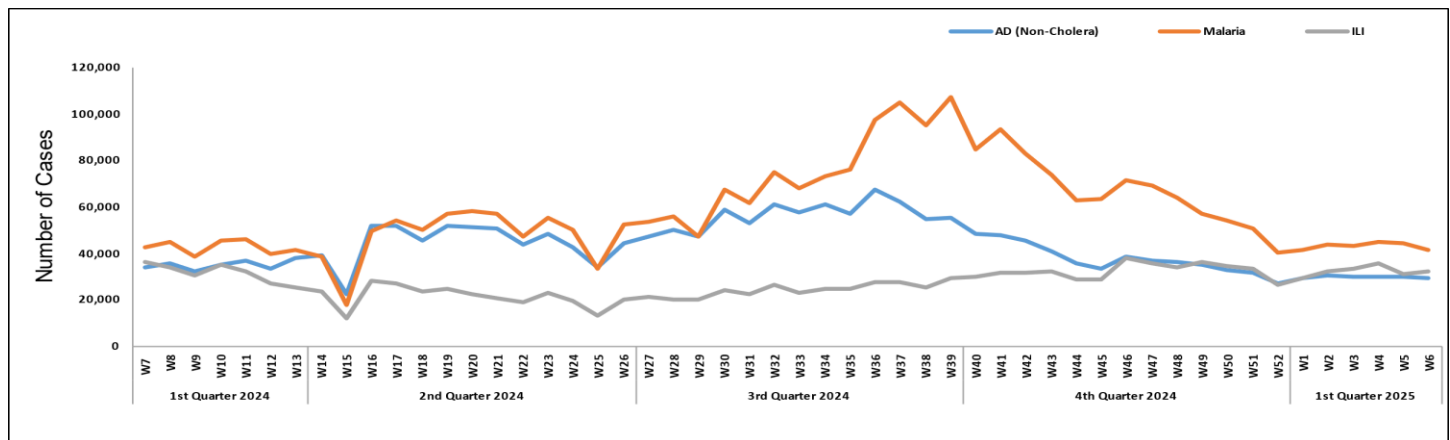

Figure 3: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Sindh

- ILI, AD (Non-Cholera), Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, TB, dog bite and AWD (S. Cholera) 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 Gwadar, Quetta and Usta Muhammad.
- One suspected case of HIV/AIDs reported from Balochistan. It requires field verification.

Table 3: District wise distribution of most frequently reported suspected cases during Week 06, Balochistan

Districts	ILI	AD (non-cholera)	Malaria	ALRI < 5 years	B. Diarrhea	SARI	Typhoid	TB	Dog Bite	AWD (S. Cholera)
Barkhan	49	46	17	7	5	2	26	0	15	1
Chagai	255	91	21	0	26	0	8	0	0	0
Dera Bugti	61	39	25	62	2	0	0	0	0	0
Gwadar	1,749	430	160	25	109	1	16	0	0	2
Jaffarabad	208	185	177	51	32	9	3	32	2	0
Jhal Magsi	456	116	262	10	0	2	3	5	6	0
Kalat	6	8	3	10	8	2	12	0	0	0
Kharan	511	86	14	0	34	10	1	0	0	8
Khuzdar	299	175	68	NR	139	24	1	NR	NR	46
Killa Saifullah	0	106	115	202	58	18	11	1	7	0
Kohlu	393	164	77	27	56	97	35	NR	1	NR
Lasbella	67	248	268	92	27	10	11	3	14	0
Loralai	359	115	17	43	27	73	7	0	6	1
Mastung	76	66	24	60	20	18	11	0	0	0
MusaKhel	25	17	72	37	4	0	2	0	0	2
Naseerabad	36	248	251	56	11	41	53	23	19	0
Panjgur	0	19	9	74	11	0	3	0	0	3
Pishin	527	168	10	122	73	23	21	0	3	16
Quetta	976	367	14	111	25	123	20	0	5	0
Sibi	119	14	3	10	5	6	0	0	0	0
Sohbat pur	14	165	208	153	56	17	20	5	4	1
Surab	162	48	23	0	0	0	0	0	0	0
Usta Muhammad	173	348	182	173	42	22	2	0	23	0
Washuk	343	154	41	NR	50	NR	NR	NR	NR	NR
Zhob	170	72	20	390	22	104	7	56	0	0
Ziarat	166	48	7	14	40	6	5	0	1	7
Total	7,200	3,543	2,088	1,729	882	608	278	125	106	87

Figure 4: Most frequently reported suspected cases during Week 06, Balochistan

Vaccine Preventable Diseases — Number of Cases (W4, W5, W6)
Measles 67, Pertussis 48, Mumps 14, Rubella 10, Chickenpox/Varicella 7

Respiratory Diseases — Number of Cases (W4, W5, W6)
ILI 7,200, ALRI < 5 years 1,729, SARI 608, TB 125

Water/Food Borne Diseases — Number of Cases (W4, W5, W6)
AD (Non-Cholera) 3,543, B. Diarrhea 882, Typhoid 278, AWD (S. Cholera) 87, AVH (A & E) 1

Vector Borne Diseases — Number of Cases (W4, W5, W6)
Malaria 2,088, CL 27, Dengue 1

Sexually Transmitted Diseases — Number of Cases (W4, W5, W6)
Gonorrhea 19, Syphilis 4, HIV/AIDS 1

Zoonotic/Other Diseases — Number of Cases (W4, W5, W6)
Dog Bite 106, VH (B, C & D) 31

Figure 5: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Balochistan
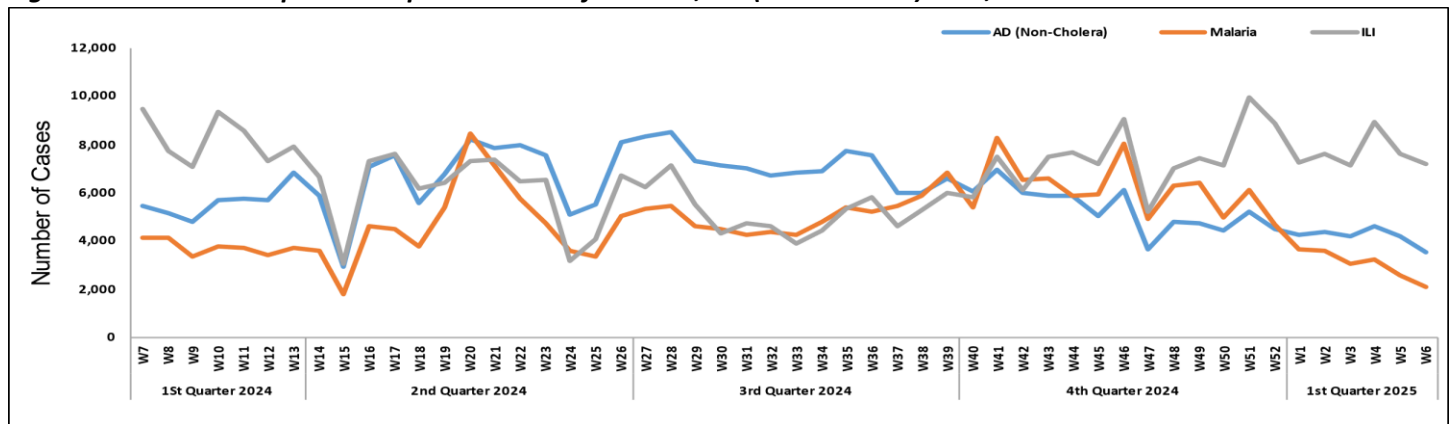
- Cases of AD (Non-Cholera) were maximum followed by ILI, Malaria, ALRI<5 Years, SARI, dog bite, B. Diarrhea, Typhoid, CL and Measles cases.
- ALRI<5 Years, SARI, dog bite and Measles cases showed an increase in number while AD (Non-Cholera), ILI, Malaria and CL cases showed a decline in number this week.
- Thirty-three cases of AFP reported from KP. All are suspected cases and need field verification.
- Ten suspected cases of Brucellosis reported from KP. Need field investigation to verify the cases.

Table 4: District wise distribution of most frequently reported suspected cases during Week 06, KP

Districts	AD (non-cholera)	ILI	Malaria	ALRI < 5 years	SARI	Dog Bite	B. Diarrhea	Typhoid	CL	Measles
Abbottabad	378	94	0	85	5	67	2	36	0	2
Bajaur	241	106	85	26	126	50	70	0	16	25
Bannu	548	11	1,252	24	0	2	31	66	9	40
Battagram	147	567	8	7	11	7	2	NR	5	8
Buner	140	0	179	0	0	13	0	17	0	1
Charsadda	1,300	1,769	503	746	141	25	251	68	1	24
Chitral Lower	252	182	0	17	19	9	7	0	7	0
Chitral Upper	38	12	0	7	3	0	2	9	0	0
D.I. Khan	1,042	0	128	38	0	10	23	0	0	61
Dir Lower	796	1	187	18	0	64	51	9	1	18
Dir Upper	478	102	2	80	0	17	1	2	0	12
Hangu	117	410	125	0	0	5	1	3	78	0
Haripur	485	299	0	92	24	18	1	1	0	5
Karak	161	104	63	46	122	49	14	9	63	8
Khyber	362	93	82	84	203	76	135	83	68	9
Kohat	259	43	19	3	29	20	8	0	63	2
Kohistan Lower	63	0	0	0	0	0	3	0	0	0
Kohistan Upper	192	0	3	5	0	1	13	0	0	1
Kolai Palas	37	5	0	2	7	0	3	1	0	0
L & C Kurram	11	4	7	0	0	0	5	0	0	0
Lakki Marwat	488	28	99	24	0	29	9	11	1	0
Malakand	331	38	1	34	14	0	25	26	32	0
Mansehra	375	217	0	0	16	0	0	3	0	0
Mardan	580	0	3	61	0	61	5	19	0	0
Mohmand	105	203	95	2	182	20	11	2	79	9
North Waziristan	31	5	8	2	27	0	3	0	3	12
Nowshera	971	75	21	151	12	7	26	15	1	6
Orakzai	44	29	8	18	144	20	3	2	0	5
Peshawar	1,822	750	39	145	52	2	71	54	1	69
SD Tank	24	2	49	0	0	1	3	0	6	2
Shangla	554	5	163	26	1	66	3	20	0	5
South Waziristan (Lower)	18	252	12	12	65	31	3	11	0	3
SWU	16	19	4	0	4	1	0	0	0	0
Swabi	715	742	37	123	86	221	5	20	0	18
Swat	1,020	153	5	125	20	14	20	13	0	9
Tank	445	121	66	23	0	4	5	19	0	3
Tor Ghar	37	0	17	29	18	39	12	1	8	3
Upper Kurram	114	310	4	15	166	6	19	5	0	0
Total	14,739	6,751	3,274	2,070	1,497	955	846	525	442	360

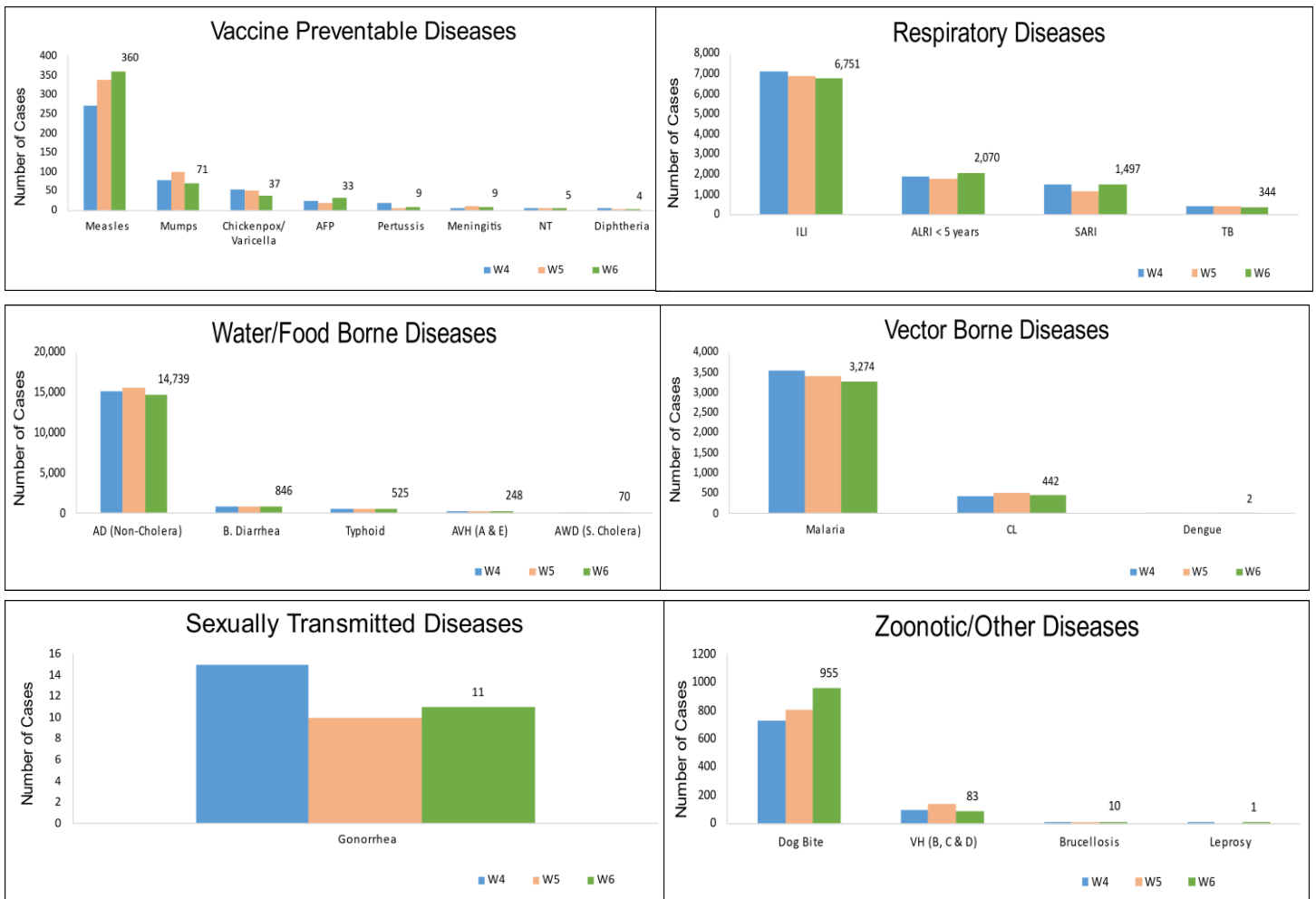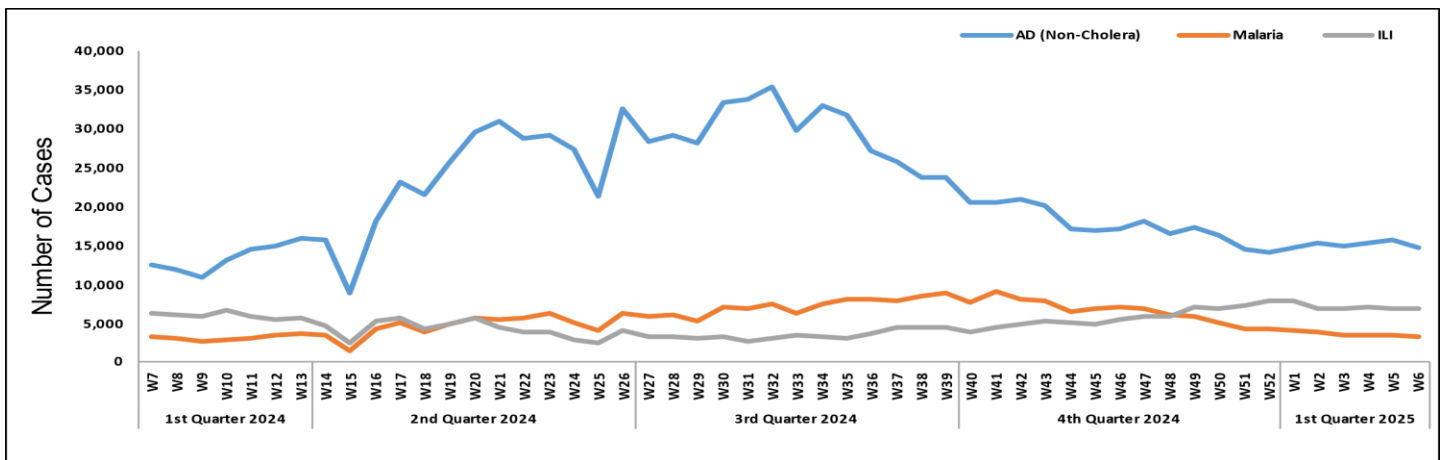*Figure 6: Most frequently reported suspected cases during Week 06, KP*

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

- AD (Non-Cholera) cases were maximum followed by TB, dog bite, ALRI<5 Years, Malaria, Typhoid, Dengue, AWD (S. Cholera) and B. Diarrhea cases.
- AD (Non-Cholera), TB, dog bite, ALRI<5 Years, Malaria, Typhoid and Dengue showed a decline in number of cases this week.
- Ten suspected cases of HIV/AIDs reported from Punjab. They require field verification.
- Ten cases of AFP reported from Punjab. All are suspected cases and need field verification.

Figure 8: Most frequently reported suspected cases during Week 06, Punjab
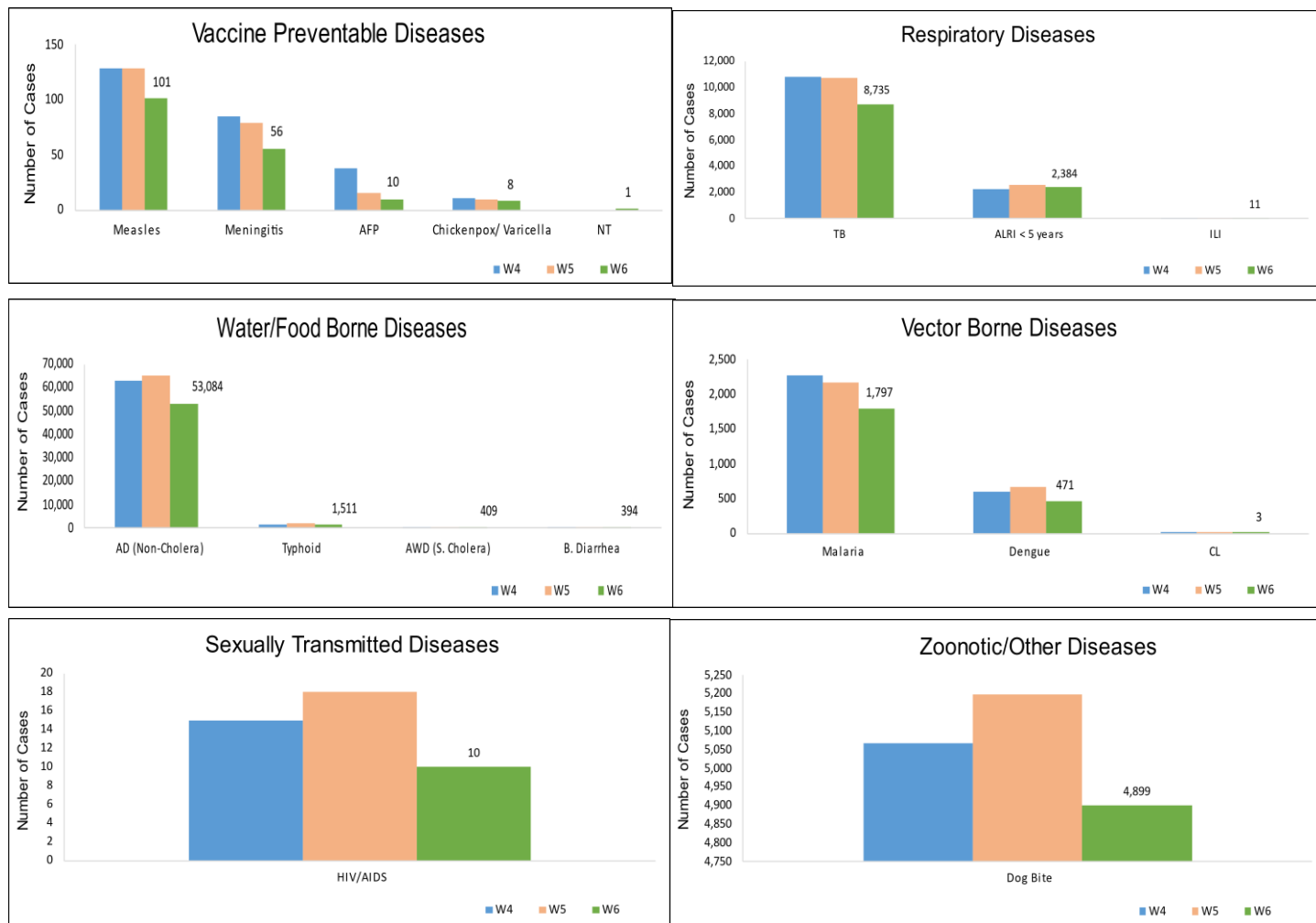
Figure 9: Week wise reported suspected cases of AD (Non-Cholera), Punjab
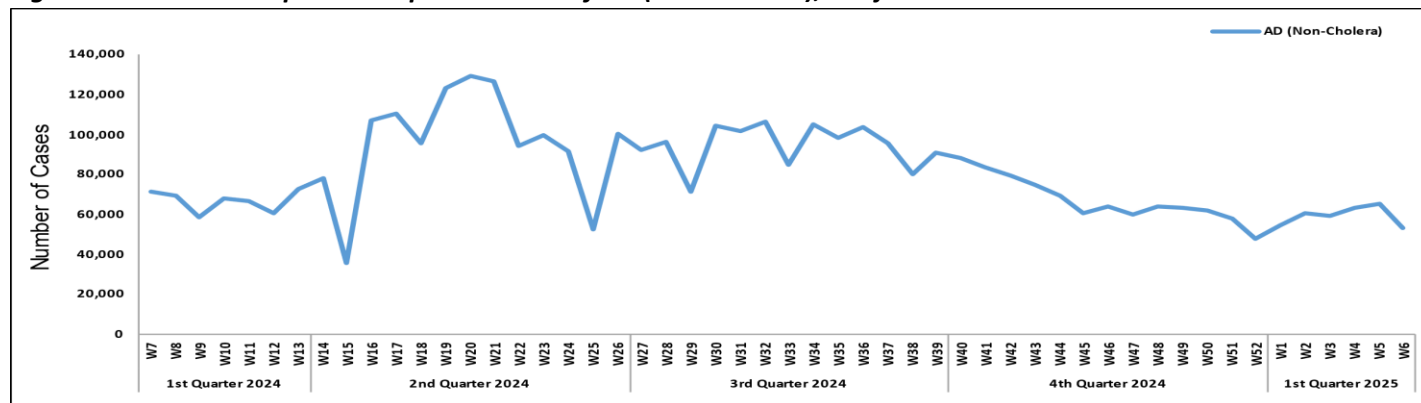
ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and ALRI <5 years. ILI and AD (Non-Cholera) cases showed an increase in number this week.

AJK: ILI cases were maximum followed by ALRI < 5years, AD (Non-Cholera), SARI, dog bite, AWD (S. Cholera), TB, B. Diarrhea, VH (B, C & D), Typhoid and AVH (A & E) cases. Three cases of AFP reported from AJK. All are suspected cases and need field verification.

GB: ALRI <5 Years cases were the most frequently reported diseases followed by ILI, AD (Non-Cholera), SARI, Typhoid, TB, B. Diarrhea and Pertussis cases. A decline in cases observed for ALRI <5 years, ILI, AD (Non-Cholera), SARI, TB and B. Diarrhea this week. One case of AFP reported from GB. It is suspected case and needs field verification.

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Figure 10: Most frequently reported suspected cases during Week 06, AJK
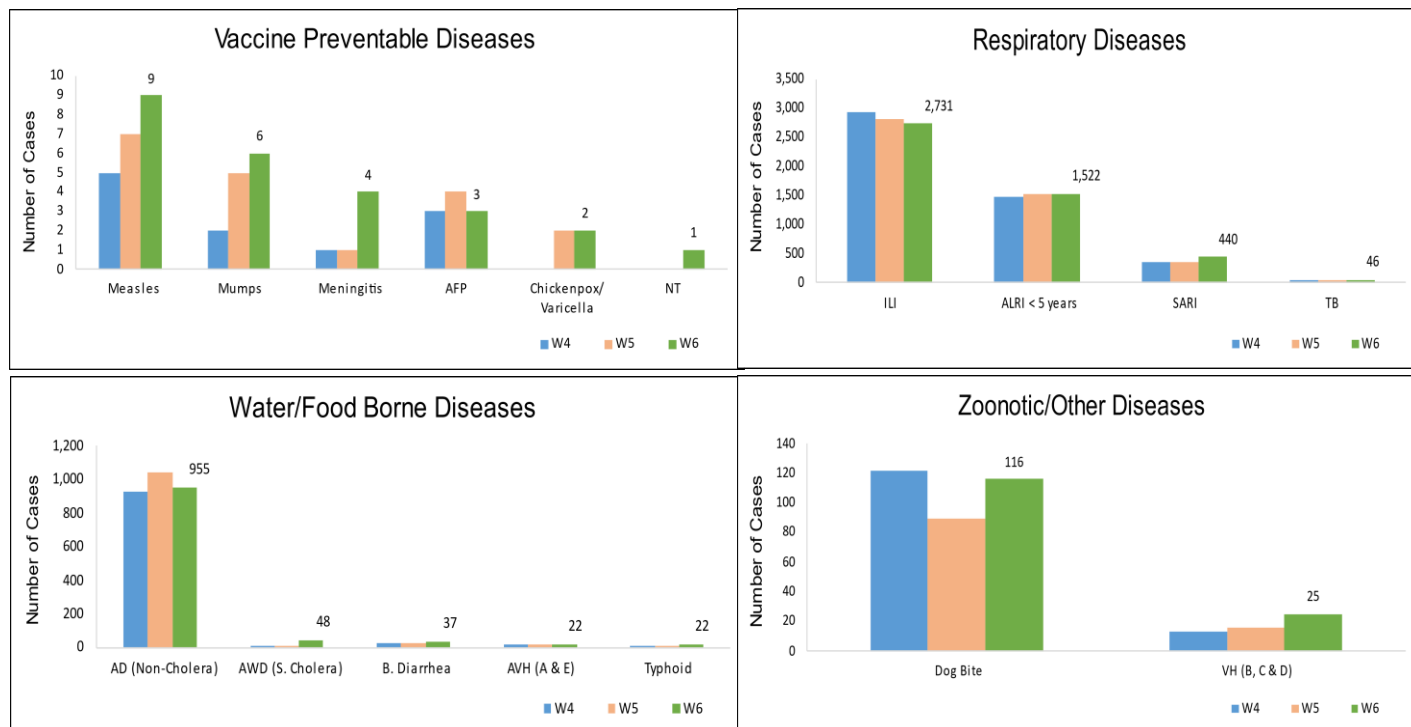
Figure 11: Week wise reported suspected cases of ILI and ARI <5 years, AJK
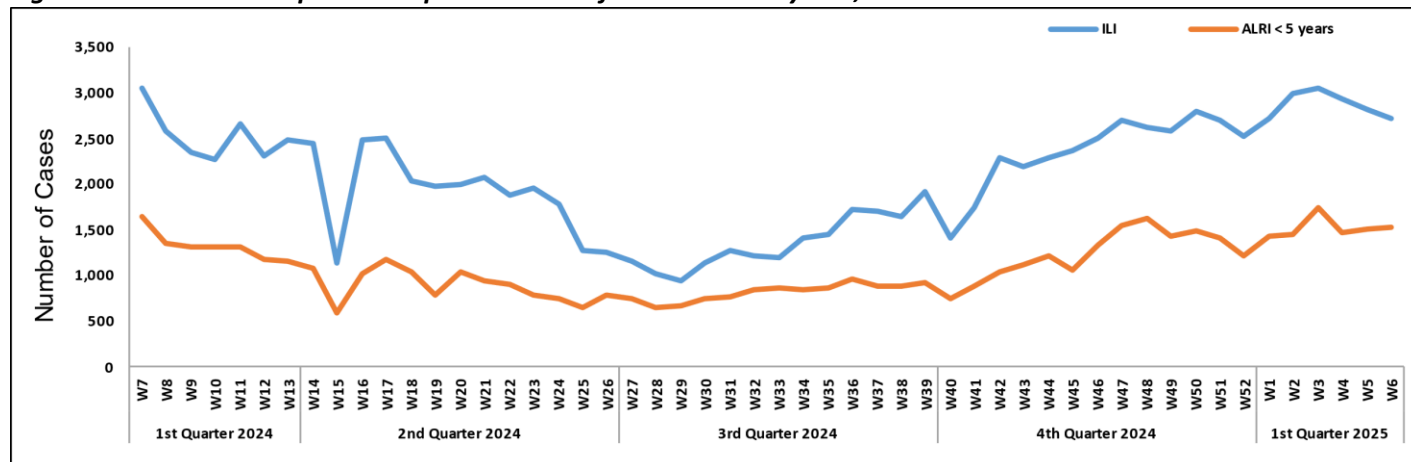
Figure 12: Most frequently reported suspected cases during Week 06, ICT
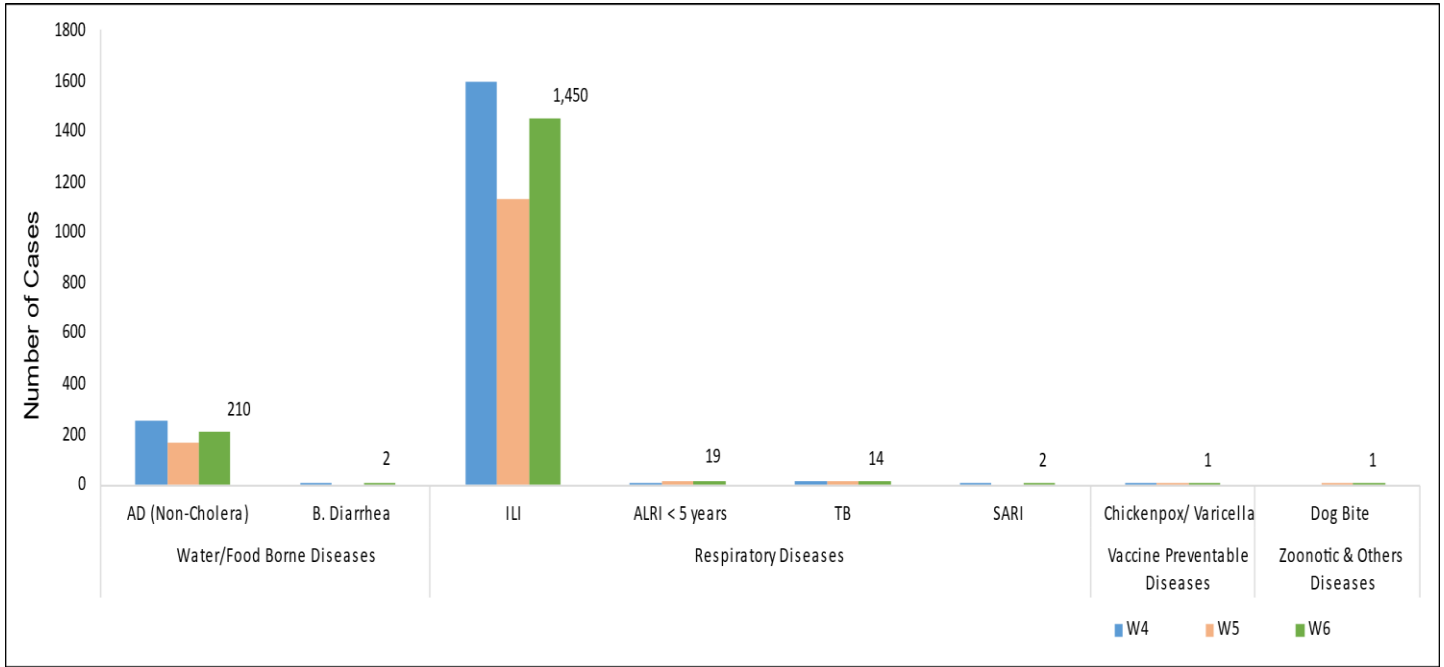
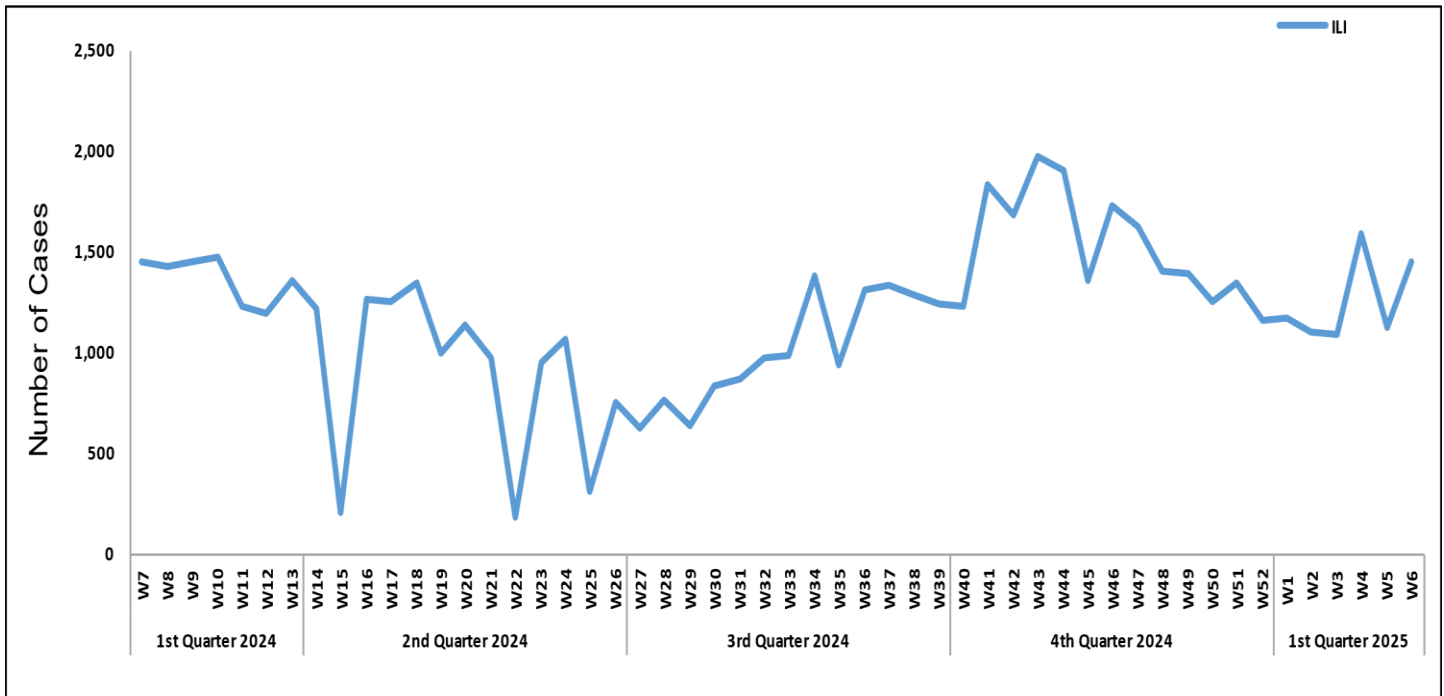**Figure 13: Week wise reported suspected cases of ILI, ICT**
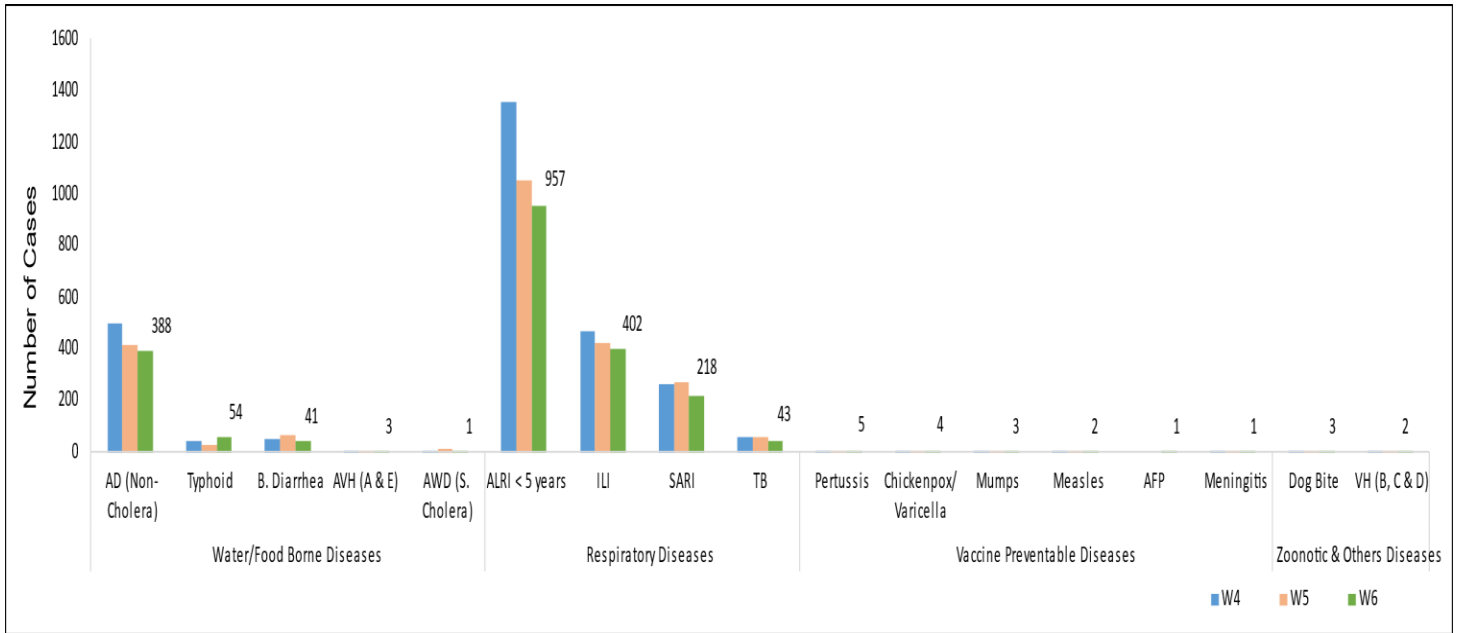
Figure 14: Most frequent cases reported during Week 06, GB

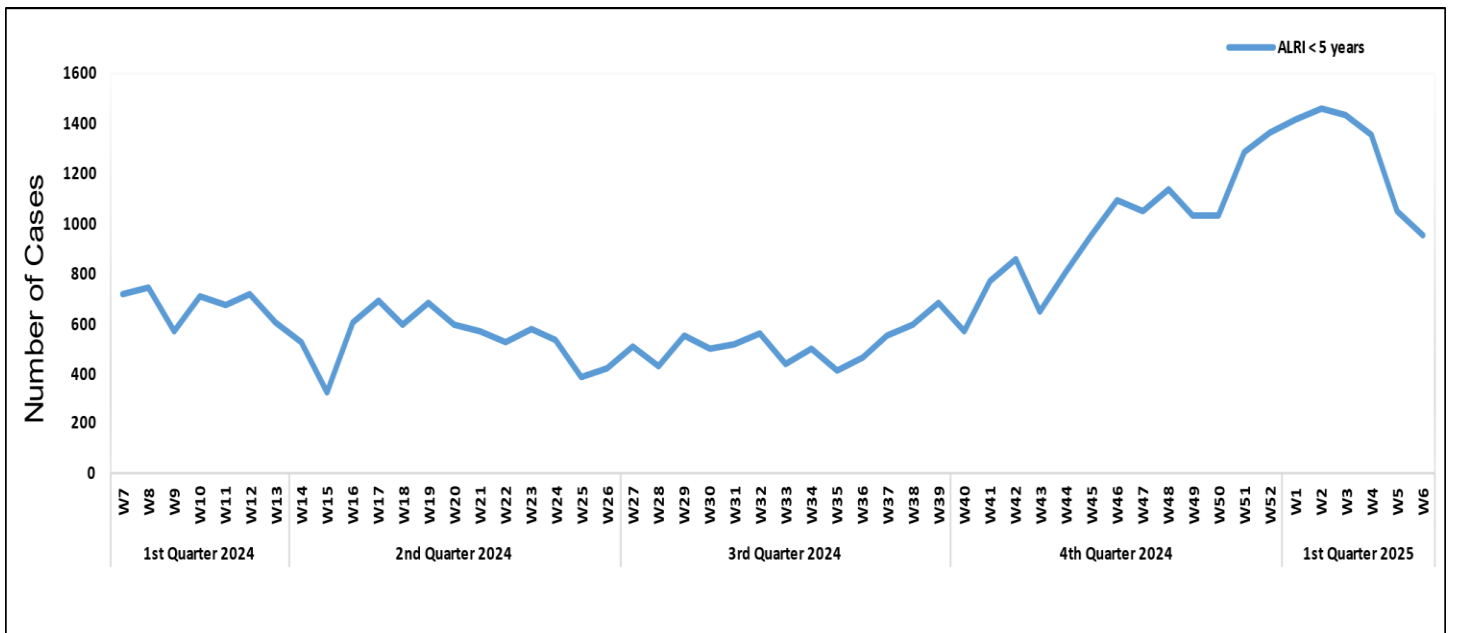**Figure 15: Week wise reported suspected cases of ALRI <5 years, GB**

Public Health Laboratories

Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 06

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)		141	-	-	-	-	-	-	-	-	-	-	-	-	-
AD (non-cholera)		210	4	-	-	-	-	-	-	-	-	-	-	28	-
Malaria		7,860	377	-	-	-	-	-	-	-	-	-	-	14	-
Dengue		1,492	94	-	-	-	-	4	-	-	-	-	-	4	-
VH (B)		9,671	321	-	-	-	-	-	-	-	-	-	-	854	2
VH (C)		9,984	1,032	-	-	-	-	-	-	-	-	-	-	868	2
VH (D)		1,087	51	-	-	-	-	-	-	-	-	-	-	-	-
VH (A)		184	59	-	-	-	-	-	-	-	-	-	-	234	-
VH (E)		83	24	-	-	-	-	-	-	-	-	-	-	-	-
Covid-19		63	2	-	-	-	-	3	-	-	-	-	-	-	-
Chikungunya		18	5	-	-	-	-	-	-	-	-	-	-	-	-
TB		439	45	-	-	-	-	-	-	-	-	-	-	9	-
HIV/ AIDS		2,461	16	-	-	-	-	-	-	-	-	-	-	-	-
Syphilis		1,235	28	-	-	-	-	-	-	-	-	-	-	1	-
B. Diarrhea		128	-	-	-	-	-	-	-	-	-	-	-	13	-
Typhoid		890	14	-	-	-	-	-	-	-	-	-	-	-	-
Pneumonia (ALRI)		171	37	-	-	-	-	-	-	-	-	-	-	-	-
Meningitis		11	-	-	-	-	-	-	-	-	-	-	-	-	-
Measles		209	113	38	20	209	113	6	3	-	-	174	31	12	4
Rubella		209	1	38	1	209	1	6	-	-	-	174	1	12	-
Rubella (CRS)		15	9	-	-	-	-	-	-	-	-	-	-	-	-
Covid-19	Out of SARI	40	-	-	-	20	-	71	-	-	-	154	-	-	-
Covid-19	Out of ILI	35	-	-	-	4	-	64	-	-	-	140	-	-	-
Influenza A	Out of SARI	40	2	-	-	20	1	71	3	-	-	154	22	-	-
Influenza A	Out of ILI	35	2	-	-	4	-	64	3	-	-	140	24	-	-
Influenza B	Out of SARI	40	2	-	-	20	-	71	2	-	-	154	39	-	-
Influenza B	Out of ILI	35	-	-	-	4	-	64	7	-	-	140	35	-	-
RSV	Out of SARI	40	-	-	-	20	-	71	13	-	-	154	-	-	-
RSV	Out of ILI	35	-	-	-	4	-	64	2	-	-	140	-	-	-

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 06, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	104	94%
	Bannu	238	136	57%
	Battagram	59	30	51%
	Buner	34	34	100%
	Bajaur	44	43	98%
	Charsadda	59	59	100%
	Chitral Upper	34	30	88%
	Chitral Lower	35	35	100%
	D.I. Khan	113	113	100%
	Dir Lower	74	74	100%
	Dir Upper	37	20	54%
	Hangu	22	21	95%
	Haripur	72	72	100%
	Karak	36	36	100%
	Khyber	53	40	75%
	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	6	14%
	Upper Kurram	41	26	63%
	Malakand	42	32	76%
	Mansehra	133	108	81%
	Mardan	80	70	88%
	Nowshera	55	51	93%
	North Waziristan	13	5	38%
	Peshawar	154	127	82%
	Shangla	37	31	84%
	Swabi	64	62	97%
	Swat	77	76	99%
	South Waziristan (Upper)	93	36	39%
	South Waziristan (Lower)	42	19	45%
	Tank	34	32	94%
	Torghar	14	14	100%
	Mohmand	68	55	81%
	SD Peshawar	5	0	0%
	SD Tank	58	13	22%
	Orakzai	69	10	14%
	Mirpur	37	37	100%
	Bhimber	42	20	48%

	Kotli	60	60	100%
	Muzaffarabad	45	44	98%
	Poonch	46	45	98%
Azad Jammu Kashmir	Haveli	39	39	100%
	Bagh	40	40	100%
	Neelum	39	36	92%
	Jhelum Velley	29	29	100%
Islamabad Capital Territory	Sudhnooti	27	27	100%
	ICT	21	21	100%
	CDA	15	8	53%
	Gwadar	26	21	81%
	Kech	44	0	0%
	Khuzdar	74	32	43%
	Killa Abdullah	26	0	0%
	Lasbella	55	55	100%
	Pishin	69	39	57%
	Quetta	55	37	67%
	Sibi	36	20	56%
	Zhob	39	33	85%
	Jaffarabad	16	16	100%
	Naserabad	32	32	100%
	Kharan	30	29	97%
	Sherani	15	0	0%
	Kohlu	75	45	60%
	Chagi	36	21	58%
	Kalat	41	40	98%
Balochistan	Harnai	17	0	0%
	Kachhi (Bolan)	35	0	0%
	Jhal Magsi	28	28	100%
	Sohbat pur	25	25	100%
	Surab	32	23	72%
	Mastung	45	45	100%
	Loralai	33	21	64%
	Killa Saifullah	28	26	93%
	Ziarat	29	12	41%
	Duki	31	0	0%
	Nushki	32	0	0%
	Dera Bugti	45	23	51%
	Washuk	46	30	65%
	Panjgur	38	4	11%
	Awaran	23	0	0%
	Chaman	24	0	0%
	Barkhan	20	20	100%
	Hub	33	0	0%
	Musakhel	41	21	51%
	Usta Muhammad	34	33	97%
Gilgit Baltistan	Hunza	32	32	100%
	Nagar	25	20	80%
	Ghizer	38	38	100%

	District	Target	Covered	%
	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	74	67	91%
	Ghotki	64	64	100%
	Umerkot	43	43	100%
	Naushahro Feroze	107	96	90%
	Tharparkar	276	236	86%
	Shikarpur	61	60	98%
	Thatta	52	51	98%
	Larkana	67	67	100%
	Kamber Shadadkot	71	71	100%
	Karachi-East	23	19	83%
	Karachi-West	20	20	100%
	Karachi-Malir	37	37	100%
	Karachi-Kemari	18	15	83%
	Karachi-Central	12	6	50%
	Karachi-Korangi	18	17	94%
	Karachi-South	4	4	100%
	Sujawal	55	47	85%
	Mirpur Khas	106	103	97%
	Badin	124	124	100%
	Sukkur	64	63	98%
	Dadu	90	84	93%
	Sanghar	100	98	98%
	Jacobabad	44	44	100%
	Khairpur	170	168	99%
	Kashmore	59	52	88%
	Matiari	42	42	100%
	Jamshoro	75	74	99%
	Tando Allahyar	54	54	100%
	Tando Muhammad Khan	41	41	100%
	Shaheed Benazirabad	125	121	97%

Table 7: IDSR reporting Tertiary care hospital Week 06, 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%

Advancing Healthcare Standards: NIH Leads IPC Training in Islamabad to Reduce Infections in Clinical Settings

The National Institute of Health (NIH), in collaboration with the World Health Organization (WHO) and Islamabad Medical and Dental College (IMDC), successfully conducted a comprehensive four-day training on Infection Prevention and Control (IPC) for medical students. This initiative represents a significant milestone in the ongoing efforts to strengthen IPC practices across healthcare institutions in Pakistan. By equipping future healthcare professionals with essential knowledge and hands-on experience, this training aims to foster a culture of infection control that can help reduce healthcare-associated infections and improve patient safety.

The training program, held at IMDC in Islamabad, covered a wide range of IPC topics essential for medical practice. Participants were introduced to fundamental concepts such as hand hygiene, personal protective equipment (PPE) donning and doffing, sterilization techniques, and proper waste disposal protocols. In addition to theoretical lectures, the program emphasized practical demonstrations and hands-on sessions to ensure that students gained a thorough understanding of IPC measures. This interactive approach allowed students to practice infection control techniques in a simulated clinical environment, enhancing their confidence and competence in applying these protocols in real-world healthcare settings.

By engaging medical students at an early stage of their careers, this initiative plays a crucial role in fostering a proactive approach to infection prevention. Proper IPC measures are vital in reducing the spread of infectious diseases within healthcare facilities, particularly in resource-limited settings where the burden of hospital-acquired infections remains high.

The successful collaboration between NIH, WHO, and IMDC highlights the shared commitment of these institutions to improving healthcare standards in Pakistan. By investing in structured training programs like this, the healthcare sector can ensure that future doctors and medical staff are well-prepared to implement effective infection control strategies. This initiative is part of broader efforts to align Pakistan's healthcare practices with international standards, reinforcing the importance of IPC in medical education and clinical practice

Notes from the field:

Outbreak Investigation of Chikungunya in Peri-Urban areas of Islamabad, November, 2024

Dr. Shafiq ur Rehman (FDSRU, Islamabad)
Dr. Faizan Saleem (PDSRU, Punjab)
Dr. Javariya (PDSRU, Punjab)
Dr. Jawad Ahmed (DDSRU, Rawalpindi)

Introduction:

Chikungunya is a viral disease transmitted by Aedes mosquitoes, characterized by symptoms like joint pain, fever, and rash. Globally, chikungunya cases have been increasing, with approximately 480,000 cases and 190 deaths reported in 2024, primarily from the Americas, Asia, and Africa. The first-ever case of chikungunya was reported in 1952 in southern Tanzania and. Since then, it has occurred in periodic outbreaks in countries in Asia, the Indian subcontinent and Africa. However, recently it has reportedly spread to Europe and America.

Pakistan has experienced recurrent chikungunya outbreaks, with the first confirmed cases in Karachi in 2017 and a major surge in 2024, reporting over 140 confirmed and 211 suspected cases. Given the widespread presence of Aedes mosquitoes, dengue fever remains a persistent public health threat. On 10th November 2024, the Department of Virology, National Institute of Health, reported the first case of Chikungunya in Islamabad. This information prompted an immediate outbreak investigation to better understand the situation and prevent further spread of the disease. After coordinating with PDSRU Punjab and DDSRU Rawalpindi, a joint multi-sectoral team composed of epidemiologists, medical officers, and entomologists was deputed to conduct the outbreak response with the following objectives.

Objectives:

- Active case finding of Chikungunya cases in affected area(s)
- Identification and control of vector in the affected areas to support further investigation
- To recommend necessary actions to prevent further transmission of disease

Methodology:

A descriptive study was conducted in this outbreak investigation. The case definition was based on the IDSR standard case definition i.e. A person with acute onset of fever (102°F) or more with severe arthralgia or arthritis not explained by other medical conditions (for endemic area, dengue cases must be excluded) belonging to Islamabad/Kotli satian from 14th October 2024 to 24th November 2024 while confirmed case was defined as: Any suspected case confirmed via lab through RT-PCR. Based on the exposure of the cases, affected areas of Islamabad (Mehrban town and Waris valley, Lehtrar road, PIMS doctors Colony) and Rawalpindi (THQ-Kotli Satian and surrounding area) were visited from 10th November to 18th November for active case finding. Medical ward, Peads ward, Outpatient Department and laboratory records were viewed to find cases as well. Standard Chikungunya case investigation form was used for data collection and face-to-face interviews from cases and close contacts were conducted. During the investigation, all suspected cases were traced and tested for both dengue fever and chikungunya. Moreover, vector surveillance was conducted in the area to support the outbreak response. All the collected information was recorded in Excel sheet and descriptive analysis was performed.
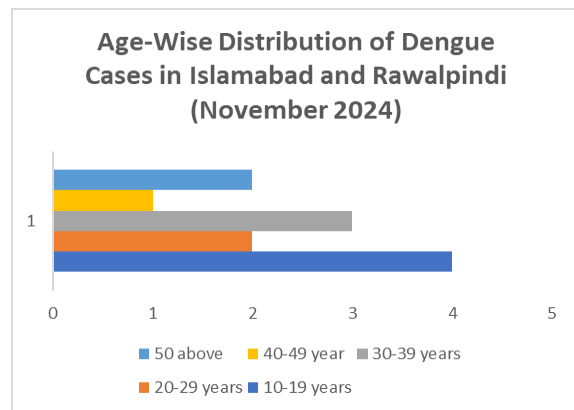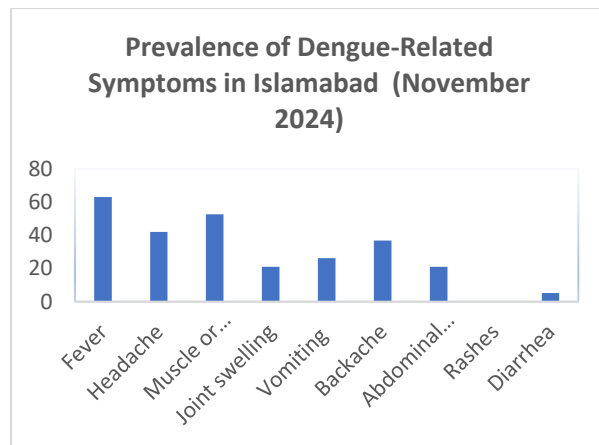
Results:

No additional case of chikungunya was found during active case finding however 12 suspected

dengue cases were recorded. Males accounted for a greater proportion of suspected dengue cases (68%) compared to females. The highest prevalence was observed in the 10–19 age group, followed by the 20–29 and 50 and above age groups. In contrast, the lowest number of cases was reported among individuals aged 40-49 years.

Fever (63%) was the most frequently reported symptom among probable dengue cases, followed by myalgia (52%) and headache (42%). Additional symptoms included backache (36%), vomiting (26%), joint pain (21%) and abdominal pain (21%), whereas diarrhea (5%) and rashes were observed in only a small number of cases.

Prevalence of Dengue-Related Symptoms in Islamabad (November 2024)

Age-Wise Distribution of Dengue Cases in Islamabad and Rawalpindi (November 2024)

One individual had a possible chickungunya exposure history linked to a visit to Kotli Satli Satian, District Rawalpindi. While no cases tested positive for chikungunya, three cases were confirmed positive for dengue fever.

Discussion

An important observation in this study was the diagnostic gap in chikungunya detection. Despite similar clinical presentations, healthcare providers focused primarily on diagnosing dengue fever, potentially overlooking chikungunya cases. This trend has been reported in previous outbreaks, where an emphasis on dengue diagnosis led to underreporting of co-circulating arboviral infections (Rodriguez-Morales et al., 2020). The absence of chikungunya-positive cases in this study may reflect either a true absence of infection or missed diagnoses due to testing biases.

One of the primary reasons for chikungunya underdiagnosis is its clinical similarity to dengue fever. Both viral infections present with acute febrile illness, headaches, rashes, and myalgia, making clinical differentiation challenging without laboratory confirmation (Rahman et al., 2021). Furthermore, both dengue and chikungunya viruses are transmitted by the same mosquito vector Aedes aegypti and Aedes albopictus which increases the likelihood of co-circulation and misdiagnosis in endemic regions (Simmons et al., 2022). Studies have shown that coinfections with dengue and chikungunya can occur, further complicating accurate diagnosis and case management (Muniaraj, 2019).

Given the potential for misdiagnosis and underreporting, integrated surveillance and dual diagnostic testing are essential for effective outbreak management. The reliance on clinical symptoms alone may lead to underestimation of chikungunya cases, as healthcare providers are more accustomed to recognizing dengue in endemic areas (Waggoner et al., 2016). testing.

The findings of this study highlight key epidemiological and clinical characteristics of probable dengue cases reported in Islamabad during November 2024. The highest prevalence was observed among adolescents and young adults, aligning with previous studies indicating increased susceptibility due to greater outdoor

exposure and mobility (Ahmad et al., 2022; WHO, 2023). The predominance of male cases is consistent with trends in dengue-endemic regions, where occupational and behavioral factors contribute to higher exposure to mosquito vectors (Khan et al., 2021; Gupta et al., 2020). Clinically, fever, headache, and muscle soreness were the most frequently reported symptoms, with other symptoms such as rashes, vomiting, joint pain, and abdominal pain occurring less frequently, while diarrhea was uncommon. These findings reinforce the variability in dengue presentations and underscore the need for early clinical suspicion and differential diagnosis to distinguish dengue from other febrile illnesses (Bhatt et al., 2019).

Conclusion:

In conclusion, the outbreak of Chikungunya in the peri-urban area of Islamabad requires ongoing attention and a balanced approach to diagnosis. It is crucial for healthcare providers to remain vigilant and consider all possible diseases when evaluating patients with similar symptoms. Continued collaboration between health departments and active surveillance will be essential in managing and controlling the outbreak effectively.

Recommendations:

- **Strengthen Disease Surveillance:** Focus disease surveillance activities on early detection and prevention of spread while enhancing mosquito control through integrated vector management (IVM), environmental sanitation, and insecticide resistance monitoring. Community awareness is key to reducing breeding sites.

- **Improve Diagnostics:** Expand laboratory infrastructure, ensure access to molecular and serological testing, and implement dual diagnostic protocols for dengue and chikungunya. Point-of-care testing should be widely available in endemic areas for early detection.

- **Train Healthcare Workers:** Focus on improving recognition of arboviral infections, emphasizing differential diagnosis and updated case management. Simulation-based training and continuous medical education (CME) programs can enhance preparedness.

- **Advance R&D for Better Surveillance:** Study dengue virus genetic diversity to track viral evolution and transmission. Improve diagnostic accuracy by assessing cross-reactivity in serological tests, reducing false positives and negatives.

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Knowledge Hub

Dengue and Chikungunya:-
A Comparison

Dengue and chikungunya are mosquito-borne viral diseases prevalent in tropical and subtropical regions. Both are transmitted by Aedes mosquitoes (Aedes aegypti and Aedes albopictus), sharing epidemiological and clinical features, yet requiring distinct management approaches. Dengue virus annual incidence of 100–400 million infections worldwide.

Caused by the chikungunya virus (CHIKV), an alphavirus first identified in Tanzania in 1952. The name "chikungunya" describes the stooped posture due to severe joint pain. Endemic in over 125 countries, dengue is prevalent in urban and

semi-urban areas, with increasing outbreaks in Asia, the Americas, and the Caribbean.

Causative Viruses and Transmission

Dengue is caused by the dengue virus (DENV), a flavivirus with four serotypes, while chikungunya is caused by the chikungunya virus (CHIKV), an alphavirus. Both viruses are transmitted by *Aedes aegypti* and *Aedes albopictus* mosquitoes. The incubation period for dengue ranges from 4 to 10 days, whereas chikungunya symptoms appear within 3 to 7 days of a mosquito bite.

Symptoms and Disease Severity

The primary symptoms of dengue include high fever, severe headache, retro-orbital pain, joint and muscle pain, rash, and mild bleeding (such as nosebleeds and gum bleeding). Chikungunya presents with high fever, severe joint pain (polyarthritis/polyarthralgia), rash, headache, nausea, and fatigue. While both illnesses cause joint pain, dengue-related pain is typically mild to moderate, whereas chikungunya can lead to severe, persistent joint pain lasting for months or even years.

Complications and Mortality

Complications from dengue can be severe, including dengue hemorrhagic fever or dengue shock syndrome, which may cause plasma leakage, severe bleeding, multi-organ failure, and death. In contrast, chikungunya rarely leads to fatal complications but can result in long-term joint pain resembling rheumatoid arthritis and chronic fatigue.

The risk of severe disease is higher in dengue, especially in secondary infections, whereas chikungunya is generally self-limiting with uncommon complications. Mortality rates for severe dengue range from 1–5% in untreated cases but drop below 1% with proper medical care. Chikungunya is rarely fatal (<0.1%), though it can cause significant morbidity due to chronic joint symptoms.

Diagnosis and Treatment

Diagnosis for both diseases relies on RT-PCR in the early phase, while serological tests (IgM/IgG antibody detection) help confirm later-stage infections. Treatment for both remains supportive; for dengue, fluid replacement and fever management are crucial, and NSAIDs should be avoided to prevent bleeding complications. In chikungunya, NSAIDs can be used once dengue is ruled out to manage joint pain and inflammation.

Immunity and Long-Term Effects

Immunity differs between the two infections. Dengue infection provides long-term immunity to a specific serotype, but reinfection with another serotype increases the risk of severe disease. In contrast, chikungunya infection typically confers long-lasting immunity against future infections.

Prevention and Control Strategies

1. Vector Control and Environmental Management

Since both dengue and chikungunya are transmitted by Aedes mosquitoes, controlling mosquito populations is the most effective way to prevent outbreaks. Key vector control measures include:

A. Eliminating Breeding Sites (Source Reduction)

- Aedes mosquitoes breed in stagnant water, so eliminating potential breeding grounds is crucial:
- Regularly emptying, cleaning, or covering water storage containers (buckets, barrels, tanks).
- Removing standing water from discarded tires, flowerpots, gutters, and open drains.

B. Chemical Control

- Indoor Residual Spraying (IRS): Spraying insecticides inside homes in areas with high transmission.
- Space Spraying (Fogging): Used during outbreaks to kill adult mosquitoes; however, effectiveness is temporary.

2. Personal Protection against Mosquito Bites

- Individuals can protect themselves from mosquito bites using the following strategies:
- Using insect repellent: Repellents containing DEET, picaridin, IR3535, or oil of lemon eucalyptus (OLE) are effective.
- Wearing protective clothing: Long-sleeved shirts, long pants, socks, and closed shoes minimize skin exposure.

3. Community Engagement and Public Awareness

- Health education campaigns: Governments and NGOs must educate communities about dengue and chikungunya prevention, early symptoms, and when to seek medical care.
- Community participation: Involving local communities in mosquito control efforts (e.g., "Clean-Up Days" to remove standing water).
- School and workplace programs: Encouraging preventive measures at educational institutions and workplaces.

4. Surveillance and Early Detection

- Strengthening disease surveillance systems: Monitoring case trends helps detect outbreaks early and implement timely interventions.
- Integrated Vector Management (IVM): Combining different control methods tailored to specific regions.
- Outbreak response plans: Rapid response teams can be deployed to control mosquito populations and provide medical care during outbreaks.

Key Takeaways

Dengue and chikungunya remain significant global public health threats, with overlapping epidemiology and symptoms. While dengue poses a higher risk of severe disease and death, chikungunya is notable for its prolonged joint symptoms. Prevention relies on effective vector control, personal protective measures, community engagement, and improved surveillance. Advancements in vaccine development for both diseases offer hope for future prevention strategies, but until then, integrated mosquito control efforts remain the cornerstone of public health interventions.

Chikungunya
Information for health workers

Source of infection
Vector-borne, transmitted by mosquitoes.

Type of **exposure & prevention**
Chikungunya is a viral disease transmitted to humans by infected mosquitoes. It is caused by the chikungunya virus.

Reduce mosquito breeding by:
- implementing emergency vector control measures such as spraying insecticides during outbreaks
- safely disposing of all items that can collect water
- covering all water tanks and storage and emptying unused water
- keeping grass short around hospitals and wards clean

Reduce mosquito bites by:
- using window screens, repellents, insecticide treated bed nets, coils and vaporizers
- wearing light coloured clothing that covers your arms and legs

Symptoms

Fever | Joint pain | Muscular pain | Joint swelling
Headaches | Nausea | Fatigue | Rash

Actions to take in case of symptoms:
Take a detailed medical history of any patient you may suspect of having chikungunya to perform a correct diagnosis. Fever and joint pain are key distinguishing symptoms of chikungunya. Inform the public health authorities if you have a confirmed case.

World Health Organization
Eastern Mediterranean

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✉	idsr-pak@nih.org.pk	f	https://www.facebook.com/NIH.PK/

UK Health Security Agency

World Health Organization

CDC
U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION