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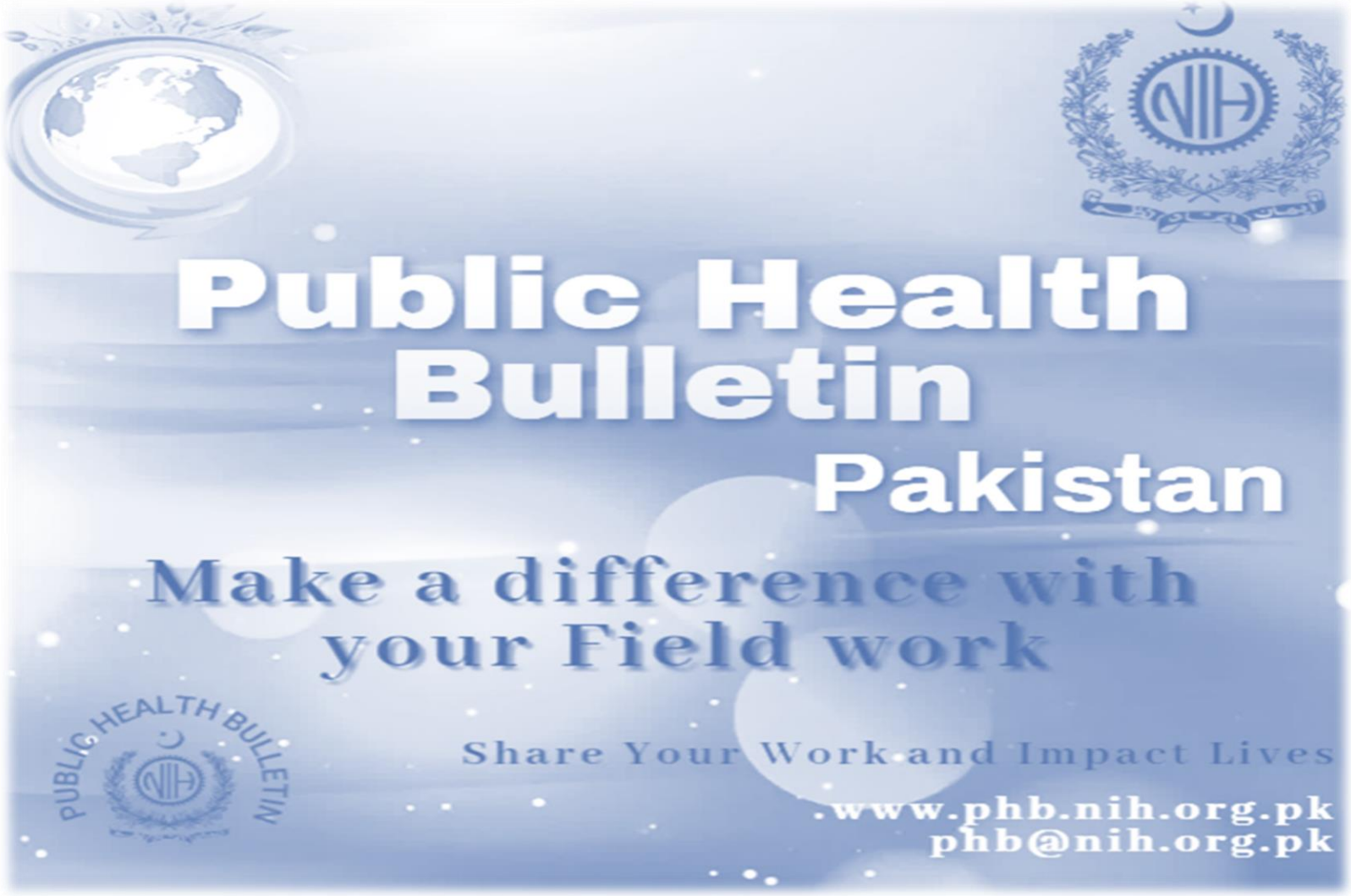
Integrated Disease Surveillance & Response (IDSR) Report

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.



Public Health Bulletin - Pakistan, Week 48, 2024

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

Beyond data compilation, this week's bulletin also includes updates on NIH Conducting a Multi Hazard Risk Assessment and profiling Workshop in Punjab-Pakistan, Outbreak Investigation of Dengue in District Kech, Balochistan and a knowledge review on Brucellosis

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

Sincerely,
The Chief Editor

- *During week 48, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, TB, ALRI <5 years, dog bite, VH (B, C & D), B. Diarrhea, Typhoid and SARI.*
- *Sixteen cases of AFP reported from Punjab, fifteen from KP, ten from Sindh and five from AJK. All are suspected cases and need field verification.*
- *Forty-two suspected cases of HIV/ AIDS reported from Punjab, seven from KP and six from Sindh. Field investigation required to verify the cases.*
- *Ten suspected cases of Brucellosis reported from KP. Field investigation required to verify the cases.*

IDSR compliance attributes

- *The national compliance rate for IDSR reporting in 158 implemented districts* is 82%
- *Gilgit Baltistan and AJK are the top reporting regions with a compliance rate of 96, followed by Sindh 94% and ICT 80%*
- *The lowest compliance rate was observed in KP 77% and Balochistan 70%.*

Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	*2319*	*1740*	*77*
Azad Jammu Kashmir	*405*	*381*	*96*
Islamabad Capital Territory	*36*	*29*	*80*
Balochistan	*1307*	*900*	*70*
Gilgit Baltistan	*407*	*385*	*96*
Sindh	*2094*	*1974*	*94*
National	*6568*	*5409*	*82*

Public Health Actions

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

Typhoid Fever

- **Safe Water and Sanitation:** Improve access to clean water and adequate sanitation facilities.
- **Vaccination of High Risk Population:** Vaccinate children under 15 with typhoid conjugate vaccine (TCV) in high-risk areas to prevent the spread of XDR *Salmonella Typhi* and reduce dependency on antibiotics
- **Food Safety:** Implement food safety practices, such as proper cooking and storage, to prevent foodborne transmission.
- **Community Awareness:** Leverage local health workers and community influencers to hold community awareness sessions.

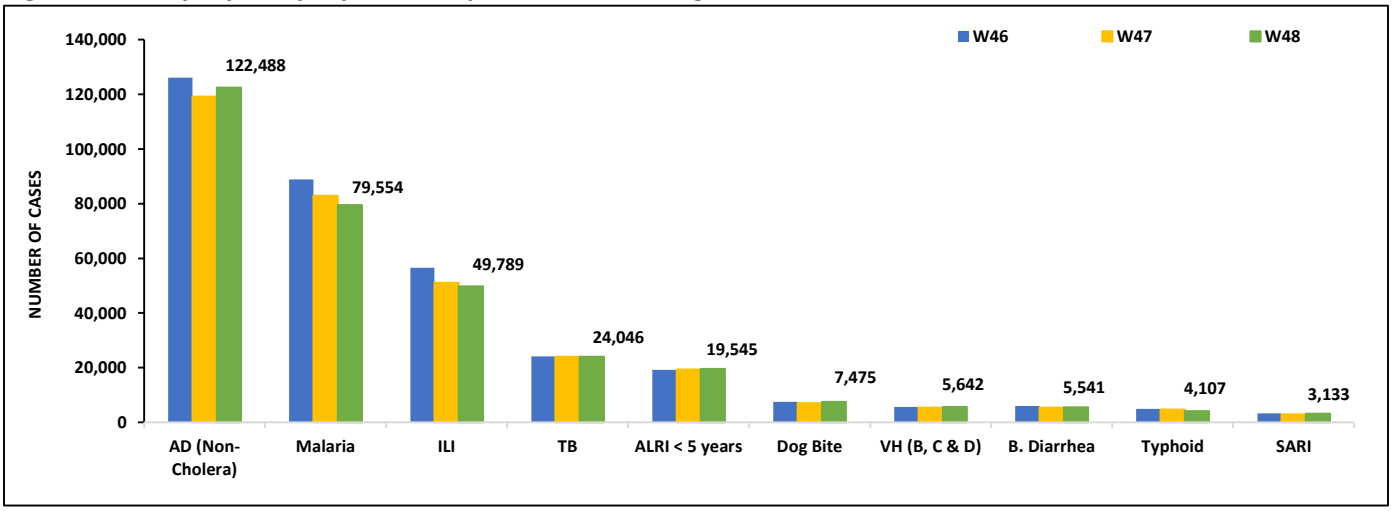
Influenza-Like Illness (ILI)

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

Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 48, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	998	4,799	686	240	16,332	63,539	35,894	122,488
Malaria	3	6,274	3	0	6,052	3,290	63,932	79,554
ILI	2,651	6,989	520	1,403	5,893	36	32,297	49,789
TB	85	133	74	0	534	10,225	12,995	24,046
ALRI < 5 years	1,651	1,571	1,139	0	1,411	1,323	12,450	19,545
Dog Bite	70	198	6	1	568	4,128	2,504	7,475
VH (B, C & D)	30	169	3	0	215	0	5,225	5,642
B. Diarrhea	41	1,070	48	0	709	684	2,989	5,541
Typhoid	21	564	54	0	621	1,921	926	4,107
SARI	346	614	294	1	1,691	0	187	3,133
Dengue	5	6	9	0	120	1,341	200	1,681
AVH (A & E)	30	20	6	0	451	0	693	1,200
AWD (S. Cholera)	32	106	7	0	39	622	23	829
Measles	10	34	1	0	241	151	55	492
Chikungunya	0	5	0	1	46	0	228	280
CL	7	104	0	0	154	2	2	269
Mumps	7	39	10	0	95	0	101	252
Chickenpox/ Varicella	13	3	13	2	68	12	9	120
Meningitis	8	0	1	0	10	80	15	114
Pertussis	1	48	5	0	6	0	1	61
Gonorrhea	0	36	0	0	11	0	13	60
HIV/AIDS	0	0	0	0	7	42	6	55
AFP	5	0	0	0	15	16	10	46
Diphtheria (Probable)	0	4	0	0	13	7	19	43
Syphilis	0	0	0	0	0	0	17	17
Rubella (CRS)	0	7	0	0	0	5	0	12
Brucellosis	0	0	0	0	10	0	0	10
NT	0	0	0	0	8	0	0	8
Leprosy	0	5	0	0	2	0	0	7
VL	0	0	0	0	1	0	0	1

Figure 1: Most frequently reported suspected cases during Week 48, Pakistan.



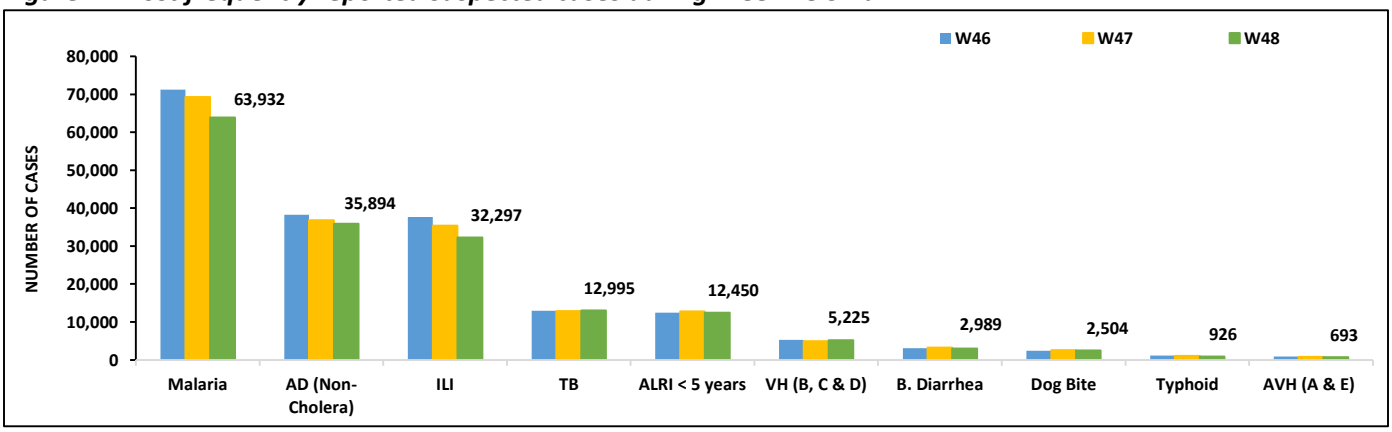
Sindh

- Malaria cases were maximum followed by AD (Non-Cholera), ILI, TB, ALRI<5 Years, VH (B, C, D), B. Diarrhea, dog bite, Typhoid and AVH (A & E).
- Malaria cases are mostly from Larkana, Khairpur and Dadu whereas AD (Non-Cholera) cases are from Mirpurkhas, Khairpur and Badin.
- Ten cases of AFP reported from Sindh. All are suspected cases and need field verification.
- Six suspected cases of HIV/ AIDS reported from Sindh. Field investigation required to verify the cases.

Table 2: District wise distribution of most frequently reported suspected cases during Week 48, Sindh

Districts	Malaria	AD (Non-Cholera)	ILI	TB	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Dog Bite	Typhoid	AVH (A&E)
Badin	2,135	1,966	3,172	1051	792	320	184	89	55	7
Dadu	4,999	1,768	602	495	827	65	415	211	76	45
Ghotki	1,311	582	108	209	458	194	67	193	3	3
Hyderabad	449	1,383	1,756	69	87	32	0	0	10	0
Jacobabad	1,877	778	758	156	395	247	101	124	39	5
Jamshoro	3,167	1,399	163	630	415	203	82	114	57	5
Kamber	4,491	1,832	0	1105	368	235	136	201	14	0
Karachi Central	12	367	883	13	1	6	3	0	40	0
Karachi East	52	324	624	9	20	6	6	18	2	0
Karachi Keamari	7	380	274	4	33	0	1	0	5	0
Karachi Korangi	30	290	0	18	8	0	3	0	3	2
Karachi Malir	388	934	2,939	186	145	38	29	34	10	5
Karachi South	29	96	0	0	0	0	2	0	0	0
Karachi West	287	817	1,251	142	160	134	28	37	30	6
Kashmore	3,644	488	435	526	258	9	49	156	11	0
Khairpur	6,228	2,561	6,639	1172	1,072	125	310	210	179	4
Larkana	6,648	1,587	9	1032	574	133	344	45	20	6
Matiari	1,863	1,259	6	539	396	239	55	54	10	3
Mirpurkhas	2,814	2,654	4,287	755	781	341	129	111	18	2
Naushero Feroze	2,414	1,128	1,254	520	523	20	124	223	129	1
Sanghar	4,047	1,579	44	1276	892	1,277	53	145	27	3
Shaheed Benazirabad	1,701	1,590	17	367	259	126	72	122	105	0
Shikarpur	3,435	1,101	0	293	214	815	172	131	3	0
Sujawal	896	1,193	0	131	321	3	100	43	4	13
Sukkur	3,500	1,190	1,964	594	537	84	124	92	1	0
Tando Allahyar	1,725	988	1,302	579	358	292	105	44	9	1
Tando Muhammad Khan	999	703	7	130	128	10	50	5	2	0
Tharparkar	1,926	1,913	2,101	482	1,182	122	102	2	16	41
Thatta	1,257	1,475	1,702	66	651	67	61	100	21	538
Umerkot	1,601	1,569	0	446	595	82	82	0	27	3
Total	63,932	35,894	32,297	12,995	12,450	5,225	2,989	2,504	926	693

Figure 2: Most frequently reported suspected cases during Week 48 Sindh

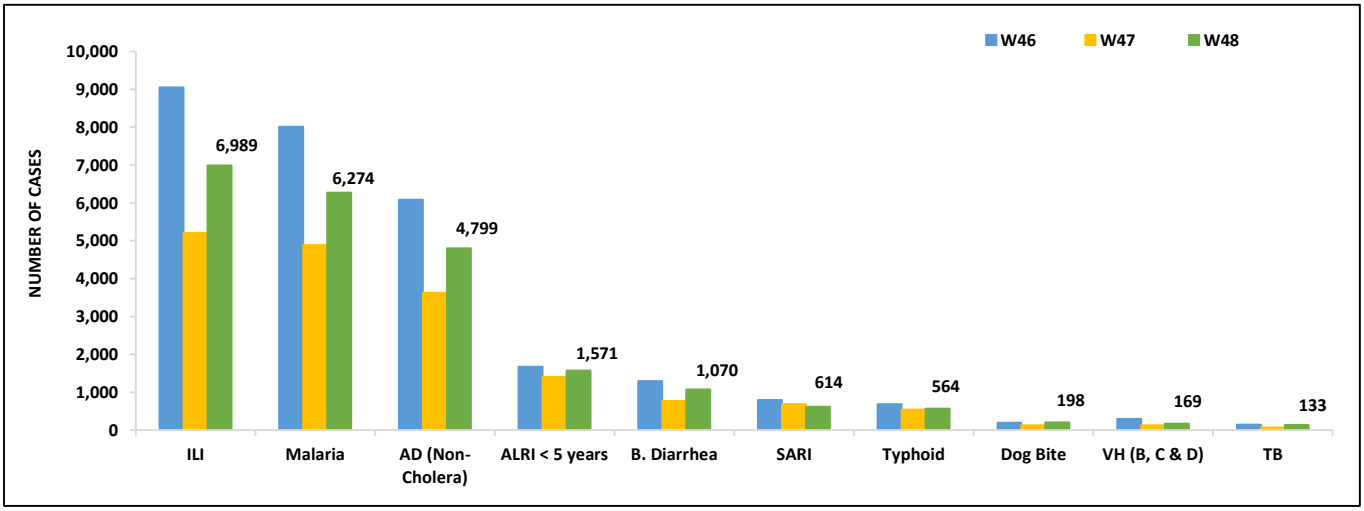


- ILI, Malaria, AD (Non-Cholera), ALRI <5 years, B. Diarrhea, SARI, Typhoid, dog bite ,VH (B, C & D) and TB cases were the most frequently reported diseases from Balochistan province.
- ILI cases are mostly reported from Gwadar, Quetta and Jhal Magsi while Malaria cases are mostly reported from Jhal Magsi, Jaffarabad and Lasbella.

Table 3: District wise distribution of most frequently reported suspected cases during Week 48, Balochistan

Districts	AD (Non-Cholera)	Malaria	ILI	B. Diarrhea	ALRI < 5 years	Typhoid	SARI	AWD (S.Cholera)	TB	CL
Barkhan	76	84	90	41	14	5	31	19	0	6
Dera Bugti	86	187	63	69	26	7	22	0	0	0
Gwadar	1,530	280	560	18	126	0	25	0	2	0
Hub	55	267	177	12	6	0	3	7	12	3
Jaffarabad	145	843	315	13	64	14	6	27	59	62
Jhal Magsi	542	995	258	291	1	2	17	17	0	11
Kalat	6	22	36	25	7	5	24	0	0	0
Kharan	430	66	140	0	61	6	0	0	0	0
Khuzdar	414	274	251	11	114	58	59	3	0	0
Killa Abdullah	118	18	79	24	29	41	33	0	0	1
Killa Saifullah	0	94	133	133	52	0	15	0	0	0
Kohlu	366	112	153	15	68	53	57	NR	NR	NR
Lasbella	119	703	372	88	56	2	20	14	4	2
Loralai	287	31	128	48	28	114	26	0	0	0
MusaKhel	27	83	19	17	1	12	1	1	0	0
Naseerabad	247	586	350	24	33	3	88	98	60	1
Panjgur	236	216	206	91	39	45	2	0	0	0
Pishin	237	8	54	9	22	2	4	0	0	0
Quetta	969	44	370	100	59	72	56	1	1	1
Sherani	17	1	4	0	0	17	0	0	0	0
Sibi	120	158	70	40	27	51	24	1	1	0
Sohbat pur	21	608	242	163	80	19	29	7	7	10
Surab	165	40	55	0	0	0	0	0	0	0
Usta Muhammad	195	290	416	133	55	16	8	3	20	0
Washuk	405	187	191	3	83	7	9	0	0	0
Zhob	176	77	67	203	19	63	5	0	3	36
Total	6,989	6,274	4,799	1,571	1,070	614	564	198	169	133

Figure 3: Most frequently reported suspected cases during Week 48, Balochistan

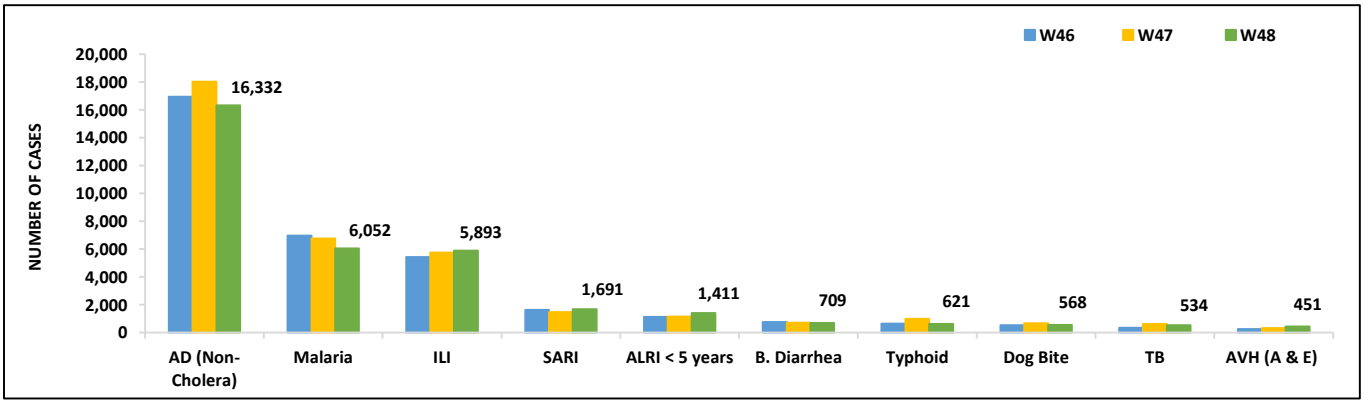


- Cases of AD (Non-Cholera) were maximum followed by Malaria, ILI, SARI, ALRI<5 Years, B. Diarrhea, Typhoid, dog bite, TB and AVH (A & E) cases.
- Fifteen cases of AFP, Seven suspected cases of HIV/ AIDS, Ten suspected cases of Brucellosis reported from KP. All are suspected cases and need field verification.

Table 4: District wise distribution of most frequently reported suspected cases during Week 48, KP

Districts	AD (Non-Cholera)	Malaria	ILI	B.Diarrhea	SARI	ALRI <5 Years	Typhoid	Dog Bite	TB	AVH (A&E)
Abbottabad	773	69	317	181	163	6	79	112	179	2
Bajaur	822	192	86	106	44	53	2	46	11	51
Bannu	684	1,729	29	3	18	42	90	3	10	2
Battagram	123	39	563	NR	NR	1	0	17	32	NR
Buner	187	169	25	0	0	0	6	13	1	0
Charsadda	820	391	445	19	234	45	75	4	12	8
Chitral Lower	340	15	209	31	19	23	7	10	2	1
Chitral Upper	101	5	15	8	18	5	9	1	1	0
D.I. Khan	1,111	610	0	0	13	13	0	17	46	0
Dir Lower	941	285	2	0	104	98	52	41	16	27
Dir Upper	449	5	80	0	12	1	4	5	12	175
Hangu	37	1	0	0	5	0	0	0	10	0
Haripur	517	11	285	20	51	3	3	1	11	20
Karak	297	188	81	266	12	0	3	15	9	1
Khyber	374	185	90	38	26	105	56	23	8	3
Kohat	335	160	115	74	3	28	11	4	2	0
Kohistan Lower	60	1	0	0	0	3	2	1	0	0
Kohistan Upper	307	16	3	2	23	10	3	1	0	0
Kolai Palas	63	0	3	8	7	2	2	0	0	0
L & C Kurram	5	12	2	0	0	4	0	2	0	0
Lakki Marwat	621	506	0	0	38	21	4	23	9	0
Malakand	501	26	75	31	41	45	28	0	3	18
Mansehra	308	0	357	101	14	0	1	0	0	0
Mardan	514	33	0	0	101	9	0	13	6	0
Mohmand	110	253	174	128	8	25	5	8	0	1
North Waziristan	6	29	0	0	1	0	2	0	1	0
Nowshera	918	91	40	6	1	10	5	7	8	16
Orakzai	4	5	12	0	0	7	0	9	0	0
Peshawar	2,174	63	1,353	261	88	69	40	4	11	13
SD Tank	5	7	2	0	0	1	0	0	0	0
Shangla	439	248	0	21	16	4	29	13	44	0
SWA	41	33	203	37	4	5	16	4	5	0
Swabi	709	57	782	48	177	5	39	110	58	24
Swat	1,099	31	98	59	134	20	4	28	9	85
Tank	364	518	173	0	16	3	35	0	15	0
Tor Ghar	46	61	0	37	3	19	4	20	0	4
Upper Kurram	119	8	274	206	17	24	5	13	3	0
Total	16,332	6,052	5,893	1,691	1,411	709	621	568	534	451

Figure 4: Most frequently reported suspected cases during Week 48, KP



ICT, AJK & GB

ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and Chikenpox/ Varicella.

AJK: ILI cases were maximum followed by ALRI < 5years, AD (Non-Cholera), SARI, TB, dog bite, B. Diarrhea, AWD (S.Cholera), VH (B, C & D) and AVH (A & E) cases. Five suspected cases of AFP reported from AJK. Field investigation required to verify the cases.

GB: A ALRI <5 Years cases were the most frequently reported diseases followed by AD (Non-Cholera), ILI, SARI, TB, Typhoid and B. Diarrhea cases.

Figure 5: Most frequently reported suspected cases during Week 48, ICT

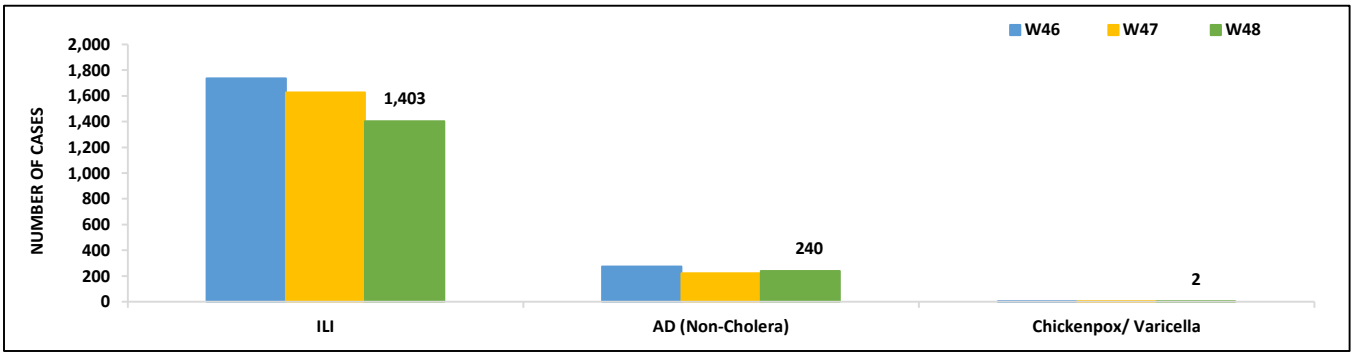


Figure 6: Week wise reported suspected cases of ILI, ICT

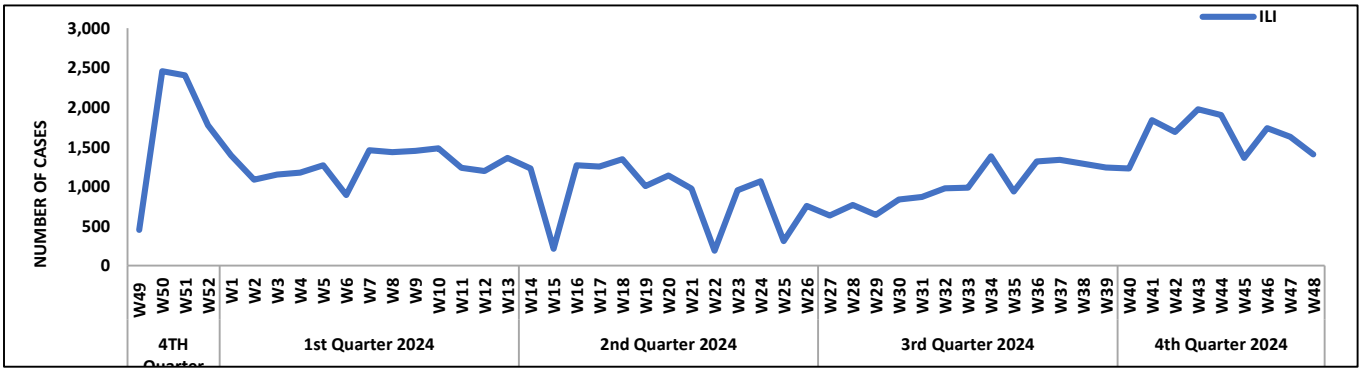


Figure 7: Most frequently reported suspected cases during Week 48, AJK

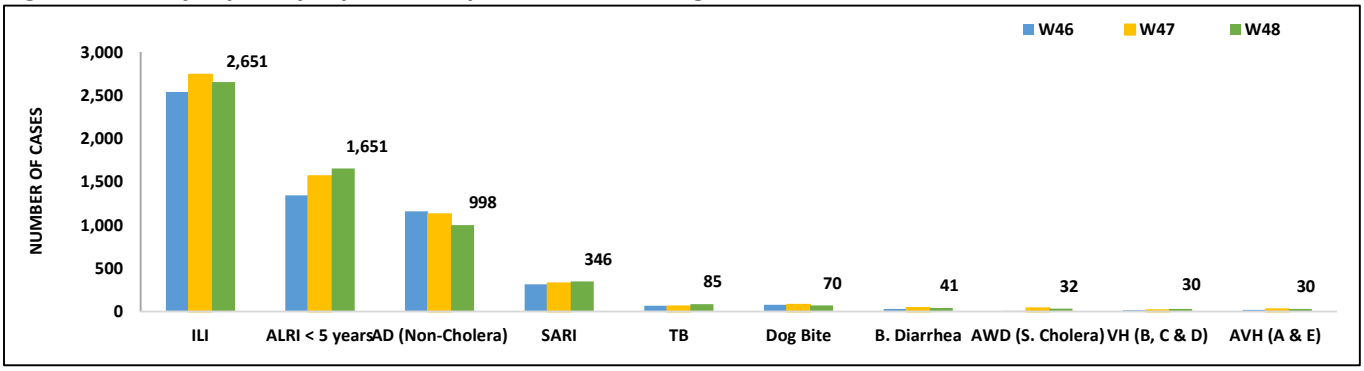


Figure 8: Week wise reported suspected cases of ILI and AD (Non-Cholera) AJK

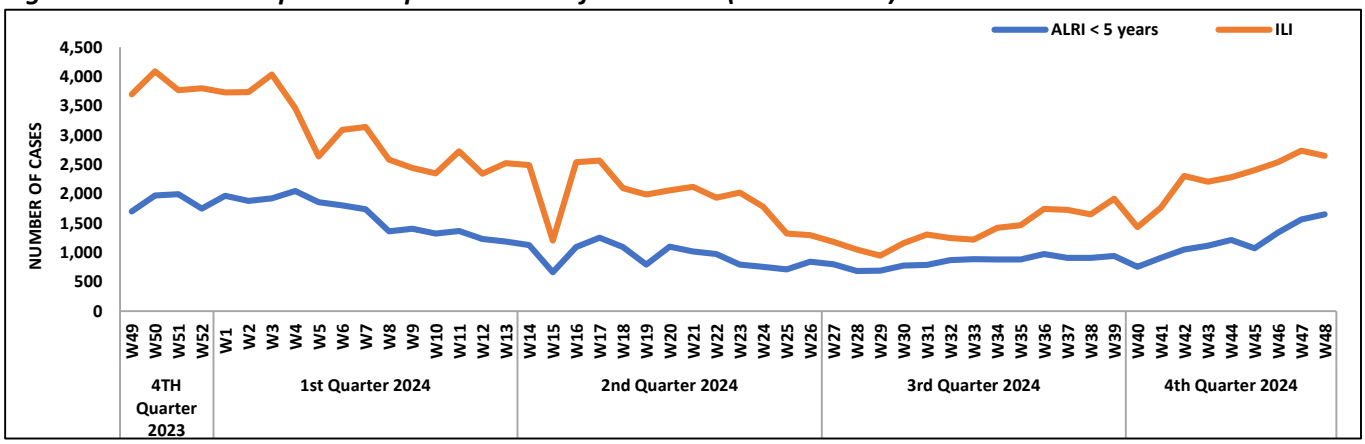


Figure 9: Most frequent cases reported during Week 48, GB

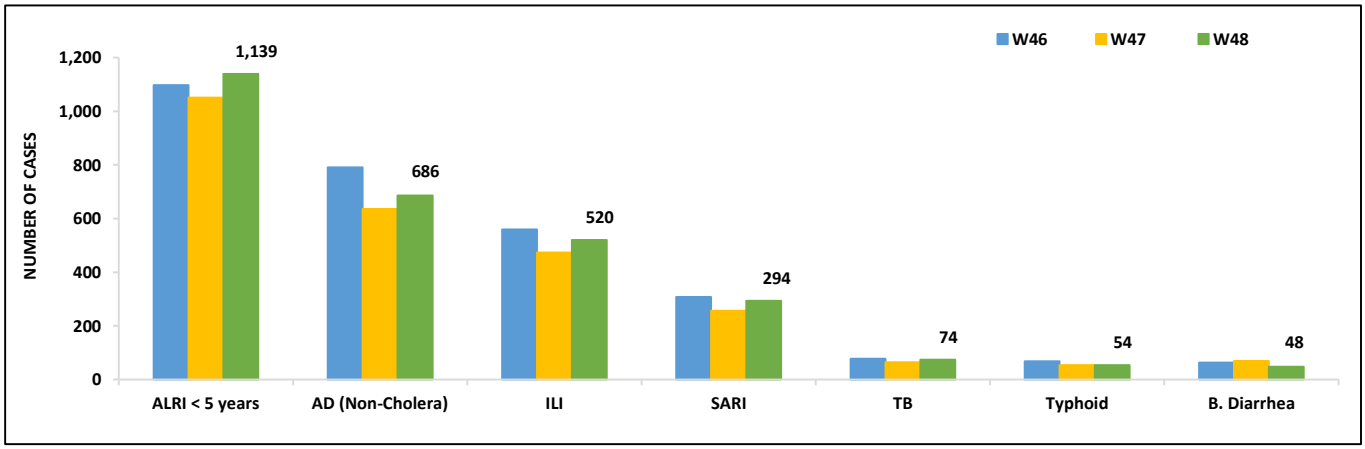
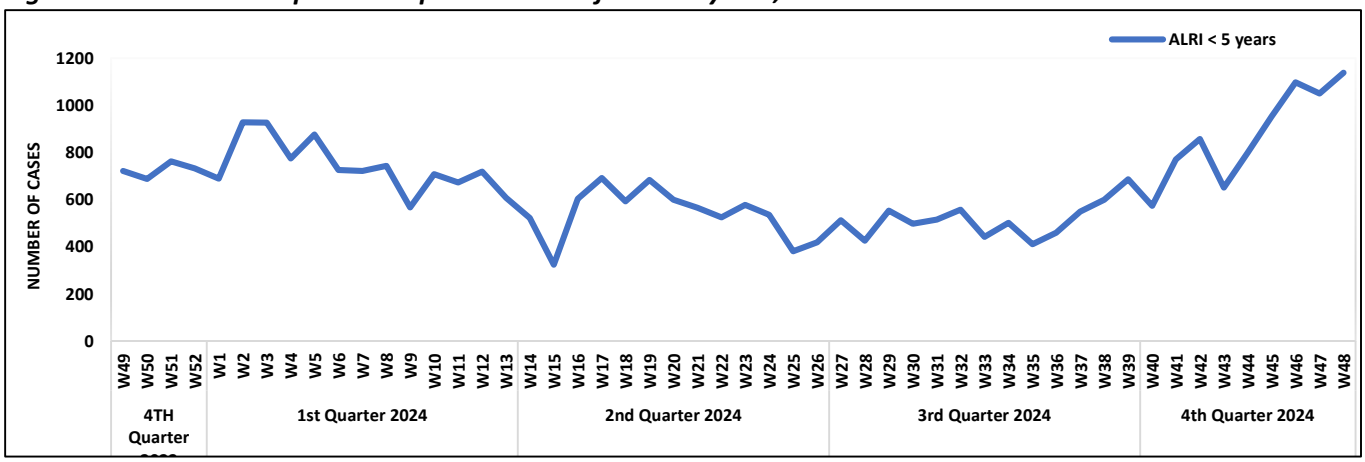


Figure 10: Week wise reported suspected cases of ALRI <5 years, GB



Punjab

- AD (Non-Cholera) cases were maximum followed by TB, dog bite, Malaria, Typhoid, ALRI<5 Years, B.Diarrhea, AWD (S. Cholera) and Measles cases.
- Forty-two suspected cases of HIV/ AIDS reported from Punjab. Field investigation required to verify the cases.
- Sixteen cases of AFP reported from Punjab. All are suspected cases and need field verification.

Figure 11: Most frequently reported suspected cases during Week 48, Punjab.

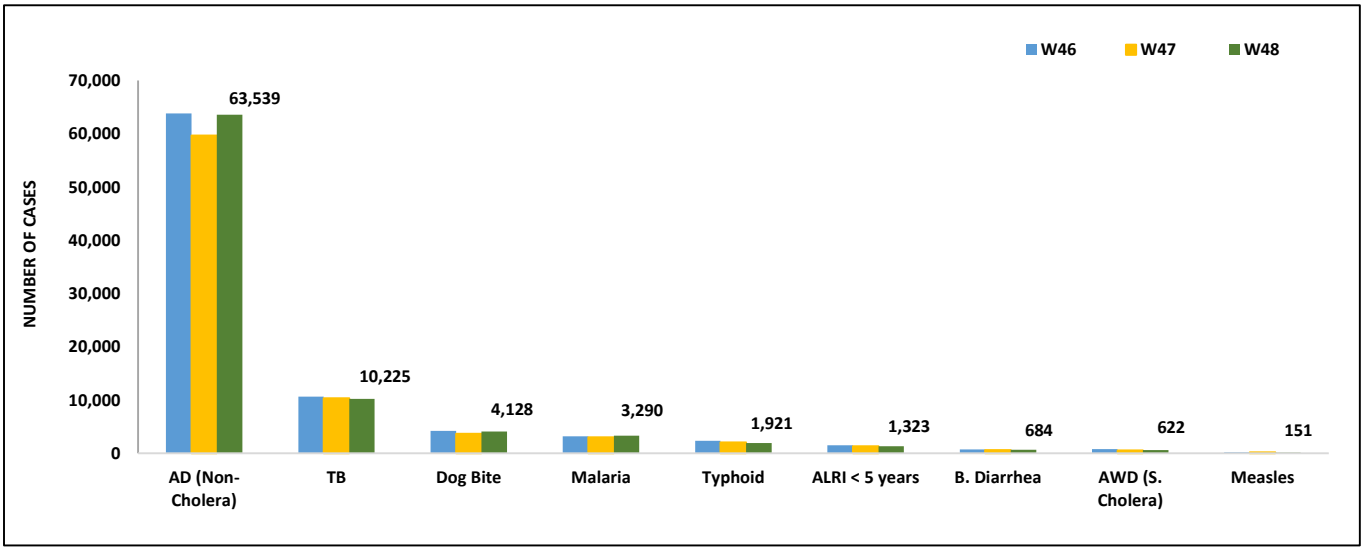


Figure 12: Week wise reported suspected cases of AD (Non-Cholera), Punjab.

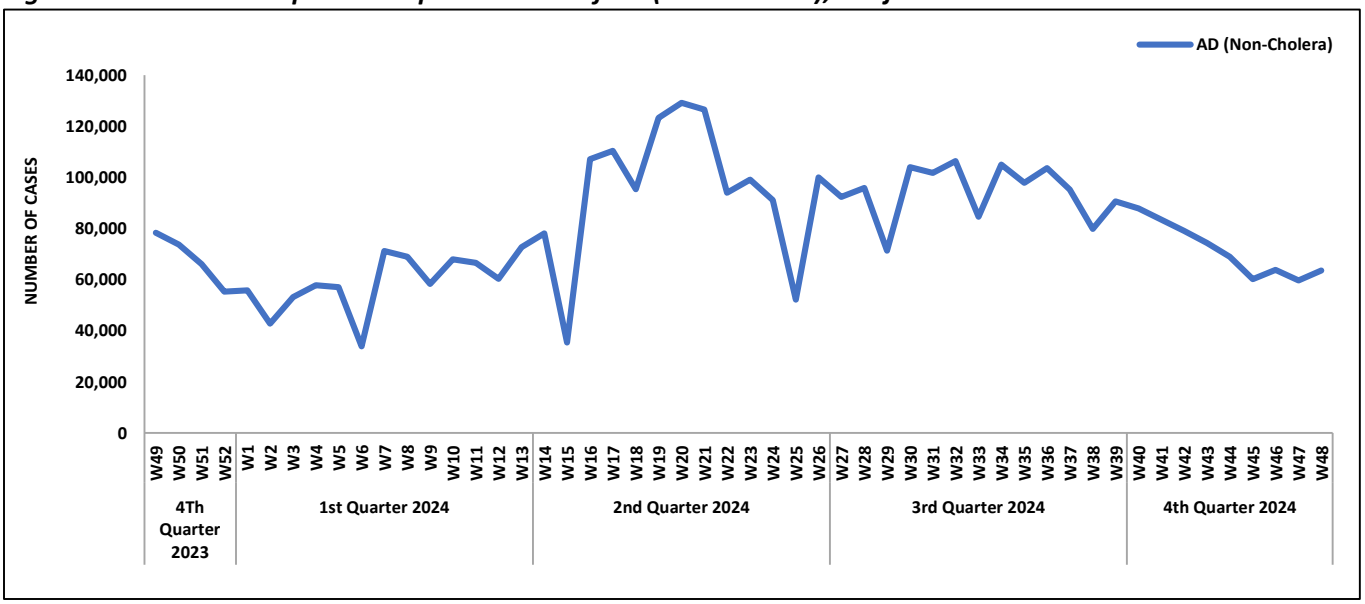


Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 48

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)		11	0	-	-	-	-	0	0	-	-	-	-	12	0
AD (Non-Cholera)		93	0	-	-	-	-	-	-	-	-	-	-	35	0
Malaria		950	83	-	-	-	-	-	-	-	-	-	-	62	0
CCHF		-	-	-	-	-	-	1	0	-	-	-	-	0	0
Dengue		751	28	-	-	-	-	7	3	-	-	-	-	63	5
VH (B)		2,904	99	-	-	-	-	-	-	180	1	-	-	1,045	5
VH (C)		2,925	202	-	-	-	-	-	-	180	0	-	-	1,046	22
Covid-19		-	-	-	-	-	-	1	0	-	-	-	-	15	0
Chikungunya		-	-	-	-	-	-	1	0	-	-	-	-	0	0
TB		-	-	-	-	-	-	-	-	-	-	-	-	89	3
Syphilis		-	-	-	-	-	-	-	-	-	-	-	-	1	0
B. Diarrhea		-	-	-	-	-	-	-	-	-	-	-	-	14	0
Typhoid		490	7	-	-	-	-	3	0	-	-	-	-	0	0
Diptheria (Probabale)		-	-	-	-	-	-	-	-	-	-	-	-	0	0
Pertussis		-	-	-	-	-	-	0	0	-	-	-	-	0	0
M-POX		-	-	-	-	-	-	-	-	-	-	-	-	0	0
Measles		72	29	37	29	227	102	0	0	0	0	181	38	12	4
Rubella		72	1	37	1	227	1	0	0	0	0	181	4	12	1
Covid-19	Out of SARI	3	0	0	0	12	0	37	1	0	0	92	0	0	0
	Out of ILI	0	0	0	0	1	0	47	0	0	0	76	1	0	0
Influenza A	Out of SARI	3	0	0	0	12	0	37	0	0	0	92	5	0	0
	Out of ILI	0	0	0	0	1	0	47	1	0	0	76	3	0	0
Influenza B	Out of SARI	3	0	0	0	12	0	37	0	0	0	92	5	0	0
	Out of ILI	0	0	0	0	1	0	47	0	0	0	76	3	0	0
RSV	Out of SARI	3	0	0	0	12	0	37	0	0	0	92	0	0	0
	Out of ILI	0	0	0	0	1	0	47	0	0	0	76	0	0	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 48, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	101	91%
	Bannu	238	136	57%
	Battagram	63	35	56%
	Buner	34	31	91%
	Bajaur	44	43	98%
	Charsadda	59	54	92%
	Chitral Upper	34	28	82%
	Chitral Lower	35	35	100%
	D.I. Khan	114	112	98%
	Dir Lower	74	73	99%
	Dir Upper	37	24	65%
	Hangu	22	3	14%
	Haripur	72	65	90%
	Karak	35	35	100%
	Khyber	52	20	38%
	Kohat	61	61	100%
	Kohistan Lower	11	10	91%
	Kohistan Upper	20	20	100%
	Kolai Palas	10	10	100%
	Lakki Marwat	70	68	97%
	Lower & Central Kurram	42	11	26%
	Upper Kurram	41	27	66%
	Malakand	42	32	76%
	Mansehra	136	110	81%
	Mardan	80	74	93%
	Nowshera	55	52	95%
	North Waziristan	13	2	15%
	Peshawar	154	129	84%
	Shangla	37	33	89%
	Swabi	64	57	89%
	Swat	77	69	90%
	South Waziristan	135	55	41%
	Tank	34	29	85%
	Torghar	14	14	100%
	Mohmand	68	54	79%
	SD Peshawar	5	0	0%
	SD Tank	58	5	9%
	Orakzai	69	7	10%
	Mirpur	37	37	100%
	Bhimber	42	20	48%
	Kotli	60	60	100%

Azad Jammu Kashmir	Muzaffarabad	45	42	93%
	Poonch	46	46	100%
	Haveli	40	40	100%
	Bagh	40	40	100%
	Neelum	39	28	72%
	Jhelum Vellay	29	23	79%
	Sudhnooti	27	27	100%
Islamabad Capital Territory	ICT	21	21	100%
	CDA	15	8	53%
Balochistan	Gwadar	25	22	88%
	Kech	44	0	0%
	Khuzdar	74	59	80%
	Killa Abdullah	26	18	69%
	Lasbella	55	55	100%
	Pishin	69	13	19%
	Quetta	55	33	60%
	Sibi	36	14	39%
	Zhob	39	24	62%
	Jaffarabad	16	16	100%
	Naserabad	32	32	100%
	Kharan	30	30	100%
	Sherani	15	8	53%
	Kohlu	75	42	56%
	Chagi	36	0	0%
	Kalat	41	40	98%
	Harnai	17	0	0%
	Kachhi (Bolan)	35	0	0%
	Jhal Magsi	28	27	96%
	Sohbat pur	25	24	96%
	Surab	32	26	81%
	Mastung	45	0	0%
	Loralai	33	22	67%
	Killa Saifullah	28	25	89%
	Ziarat	29	0	0%
	Duki	31	0	0%
	Nushki	32	0	0%
	Dera Bugti	45	30	67%
	Washuk	46	33	72%
	Panjgur	38	23	61%
	Awaran	23	0	0%
	Chaman	24	0	0%
	Barkhan	20	18	90%
	Hub	33	32	97%
	Musakhel	41	6	15%
	Usta Muhammad	34	34	100%
Gilgit Baltistan	Hunza	32	32	100%
	Nagar	25	20	80%
	Ghizer	38	38	100%
	Gilgit	40	40	100%

	Diamer	62	62	100%
	Astore	54	54	100%
	Shigar	27	25	93%
	Skardu	52	52	100%
	Ganche	29	29	100%
	Kharmang	46	25	54%
Sindh	Hyderabad	74	52	70%
	Ghotki	64	64	100%
	Umerkot	43	43	100%
	Naushahro Feroze	107	96	90%
	Tharparkar	276	242	88%
	Shikarpur	60	59	98%
	Thatta	52	52	100%
	Larkana	67	67	100%
	Kamber Shadadkot	71	71	100%
	Karachi-East	23	19	83%
	Karachi-West	20	20	100%
	Karachi-Malir	37	26	70%
	Karachi-Kemari	18	16	89%
	Karachi-Central	11	8	73%
	Karachi-Korangi	18	16	89%
	Karachi-South	4	4	100%
	Sujawal	55	55	100%
	Mirpur Khas	106	102	96%
	Badin	124	124	100%
	Sukkur	64	63	98%
	Dadu	90	88	98%
	Sanghar	100	100	100%
	Jacobabad	44	44	100%
	Khairpur	170	166	98%
	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	125	121	97%

Table 7: IDSR reporting Tertiary care hospital Week 48, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
AJK	Mirpur	2	2	100%
	Bhimber	1	1	100%
	Kotli	1	1	100%
	Muzaffarabad	2	2	100%
	Poonch	2	2	100%
	Haveli	1	1	100%
	Bagh	1	1	100%
	Neelum	1	1	100%
	Jhelum Vellay	1	1	100%
	Sudhnooti	1	1	100%
Sindh	Karachi-South	1	0	0%
	Sukkur	1	0	0%
	Shaheed Benazirabad	1	1	100%
	Karachi-East	1	1	100%
	Karachi-Central	1	0	0%

NIH conducted Multi-sectorial Workshop on Multi Hazard Public Health Risk Assessment & Profiling – Lahore, Punjab.

The National Institute of Health (NIH) and the Punjab Health Department, in collaboration with the United Kingdom Health Security Agency (UK-HSA), convened a multi-sectoral workshop in Karachi from December 10-13, 2024. The workshop's primary objective was to conduct a comprehensive strategic risk assessment and profiling of public health hazards and threats of concern in context of Punjab, leveraging the Threat Hazard Identification and Risk Assessment (THIRA) Tool.

By identifying and prioritizing key risks, the workshop aimed to establish a solid foundation for future public health preparedness and response planning at both national and provincial levels. This initiative aligned with the principles outlined in the International Health Regulations (IHR) 2005, addressing the gaps in public health emergency management (PHEM) identified in the Joint External Evaluation (JEE, 2023). This demonstrates Pakistan's commitment to strengthening its public health infrastructure and building a more resilient nation.

The workshop brought together a diverse group of stakeholders, including diverse representatives from government departments, healthcare providers, academic institutions, and non-governmental organizations. Through a series of interactive sessions, participants engaged in discussions on various public health hazards, such as natural disasters, infectious diseases, and environmental contaminants. By applying the THIRA methodology, they were able to assess the likelihood and impact of these risks and identify potential vulnerabilities in the province of Punjab.

The outcomes of the workshop will inform the development of targeted public health interventions and strategies to handle future crisis situations. These interventions may include early warning systems, emergency response plans, and community-based programs to enhance public health resilience. By addressing the identified risks proactively, Pakistan can better protect its citizens from the adverse

effects of public health emergencies and ensure a safer and healthier future for all.

Notes from the field:

Outbreak Investigation of Dengue in UC Absor, Dist. Kech, Balochistan 16 April-20th May,2024.

Introduction

Dengue is a viral illness caused by the dengue virus (DENV), which has four distinct serotypes: DEN-1, DEN-2, DEN-3, and DEN-4. The disease is transmitted by Aides aegypti and Aides albopictus mosquitoes and is a significant public health concern in tropical and subtropical regions. Kech district, located in Balochistan, Pakistan, has experienced periodic dengue outbreaks, with the first reported case in 2011. Since 2014, dengue has been endemic in the coastal belts of Mekran. This study aimed to investigate a potential outbreak of dengue in the region during April and May 2024, assess its magnitude, and provide recommendations for controlling future outbreaks.

Objective

The primary objectives of this investigation were:

1. To confirm the existence of a dengue outbreak in Kech district.
2. To assess the magnitude of the outbreak through a person, place, and time analysis.
3. To conduct entomological surveillance to identify risk factors associated with the outbreak.
4. To provide recommendations for controlling future outbreaks and improving response strategies.

Methods

This was a descriptive, cross-sectional study conducted in MC Turbat, which includes four union councils (UCs) in Kech district, Balochistan, Pakistan. Data were collected using a combination of active case finding, vector surveillance, and community-based reporting. To identify cases, a standard dengue case investigation form was used, and interviews were conducted with patients and their relatives. A suspected dengue case was defined as any person with acute onset of fever (≥38°C for 2-7 days) and at least three of the following symptoms: vomiting, nausea, retro-orbital pain, low blood pressure, arthralgia, positive tourniquet test, leukopenia, thrombocytopenia, or signs of severe dengue such as mucosal bleeding, haematuria, or hypovolemic shock. Inclusion criteria for the study were any individuals residing in Kech district who met the case definition for suspected dengue during the study period (February 1 to May 20, 2024 Individuals who did not meet the case definition were excluded. Active case finding was performed through door-to-door surveillance in the most affected areas, while vector surveillance involved inspecting households for potential mosquito breeding sites. Additionally, an active dengue surveillance Whatsapp group was established to facilitate real-time reporting of new cases by public and private hospitals. Laboratory and hospital data were also reviewed to capture any dengue-related cases reported in the region. Data was analysed using Microsoft Excel. Descriptive statistics were calculated to assess the number of cases, demographic characteristics of affected individuals, attack rate, and case fatality rate (CFR).

Results

A total of 20,936 individuals were screened during the investigation, and 5,374 suspected cases of dengue were reported. The age of affected individuals ranged from 1 to 80 years, with the male population representing 55% of the cases and females comprising 45%.The case fatality rate (CFR) was calculated at 0.24%, with 13 deaths attributed to the disease during the study period. The attack rate was 51 cases per 10,000 population, and on average, 105 new cases were reported daily during the outbreak.

Entomological data revealed significant mosquito breeding in the region. In the Absor area, out of 4,070 houses inspected, 348 houses were found to have mosquito breeding sites, resulting in a House Index of 8.6%. In the Shahitump area, 101 containers were inspected,

and 7 were found to have positive mosquito breeding sites, yielding a Container Index of 7%. Laboratory analysis of dengue samples identified only DENV-2 in samples. This indicates that DENV-2 was the dominant serotype circulating during the current outbreak in Kech district.

Community Interventions

- Awareness campaigns through Lady Health Workers (LHWs).
- Community meetings with local notables, imams, and district officials to promote prevention and control measures.
- Social mobilization efforts for better community participation in vector control.
- Active case finding and vector surveillance in collaboration with the Government of Balochistan (GoB) and partner organizations.
- Training for LHWs in affected UCs for larval source management.

Discussion

The dengue outbreak in Kech district was marked by a significant number of suspected cases, with a notable increase in cases during April and May 2024. This pattern aligns with previous trends, as dengue cases typically increase in the early months of the year before declining due to high temperatures in the summer months. The identification of DEN-2 as the predominant serotype during this outbreak suggests that immunity gaps may exist in the population, particularly among those who were not previously exposed to this serotype.

The entomological data revealed a high level of mosquito breeding in the region, indicating insufficient vector control measures. The House Index of 8.6% in the Absor area and the Container Index of 7% in Shahitump reflect the need for intensified vector surveillance and larviciding efforts to reduce mosquito populations and prevent further transmission.

The community interventions, including awareness campaigns, active case finding, and vector surveillance, were critical in identifying cases and controlling the spread of the disease. However, challenges such as insufficient funding, inadequate surveillance infrastructure, and limited community engagement were evident. Previous studies have shown that early detection, continuous vector control, and community involvement are essential components of successful dengue management (Wilder-Smith et al., 2019).

Recommendations

1. **Resource Allocation**: A dedicated budget for dengue surveillance and control should be allocated to Kech district to ensure the availability of resources for ongoing prevention and response efforts.
2. **Strengthen Vector Control**: Intensify vector surveillance and control measures, including the reduction of mosquito breeding sites and widespread larviciding efforts.
3. **Community Engagement**: Enhance community participation through volunteer programs and collaboration with local social organizations to improve awareness and vector control activities.
4. **Healthcare Provider Training**: Capacity building of healthcare providers for the early diagnosis and management of dengue should be prioritized.

References

1. Wilder-Smith, A., Ooi, E. E., Horstick, O., & Wills, B. (2019). Dengue. *The Lancet*, 393(10169), 452-465. https://doi.org/10.1016/S0140-6736(18)32678-4
2. World Health Organization. (2023). *Dengue and severe dengue*. Retrieved from https://www.who.int/news-room/fact-sheets/detail/dengue-and-severe-dengue
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Knowledge Hub

Brucellosis: A Zoonotic Threat

Brucellosis, also known as Malta fever or Mediterranean fever, is a zoonotic bacterial

infection primarily affecting animals but can be transmitted to humans. It's caused by bacteria in the genus Brucella, which includes several species that infect different animals.

Transmission

Humans can contract brucellosis through various routes:

Consumption of contaminated animal products: Unpasteurized milk and dairy products, undercooked meat from infected animals.

Direct contact with infected animals or their tissues: This includes contact with aborted fetuses, placentas, or infected animal fluids.

Inhalation of contaminated aerosols: This can occur in occupations involving animal handling or slaughter.

Symptoms

Brucellosis symptoms are often nonspecific and can vary widely in severity. They may include:

- Fever
- Fatigue
- Chills
- Sweats
- Muscle aches
- Joint pain
- Headache
- Loss of appetite
- Weight loss
- In severe cases, complications can arise, such as:
- Endocarditis (infection of the heart valves)
- Meningitis (infection of the membranes surrounding the brain and spinal cord)
- Osteomyelitis (bone infection)

Diagnosis

Diagnosing brucellosis can be challenging due to the nonspecific symptoms. Laboratory tests are crucial for confirmation, including:

Blood tests to detect antibodies against Brucella bacteria

Culture of blood or other body fluids to isolate the bacteria

Treatment

Brucellosis is typically treated with a combination of antibiotics, usually for several weeks. The specific antibiotics and duration of treatment may vary depending on the severity of the infection and the individual's response to therapy.

Preventing brucellosis involves several measures:

Pasteurization of milk and dairy products: This kills the Brucella bacteria.

Thorough cooking of meat: Ensure that meat is cooked to a safe internal temperature to kill any bacteria.

Avoiding direct contact with infected animals or their tissues: Wear protective gloves and clothing when handling animals or their products.

Vaccination of livestock: Vaccination can help reduce the prevalence of brucellosis in animals, thereby reducing the risk of human infection.

Occupational health measures: Implement appropriate safety measures in occupations involving animal handling or slaughter to minimize exposure to Brucella bacteria.

Public Health Significance

Brucellosis remains a significant public health concern in many parts of the world, particularly in regions with a high prevalence of animal infections. Early diagnosis and prompt treatment are essential to prevent complications and reduce transmission. Public health efforts should focus on raising awareness about the disease, promoting preventive measures, and implementing effective control strategies.

WHO:

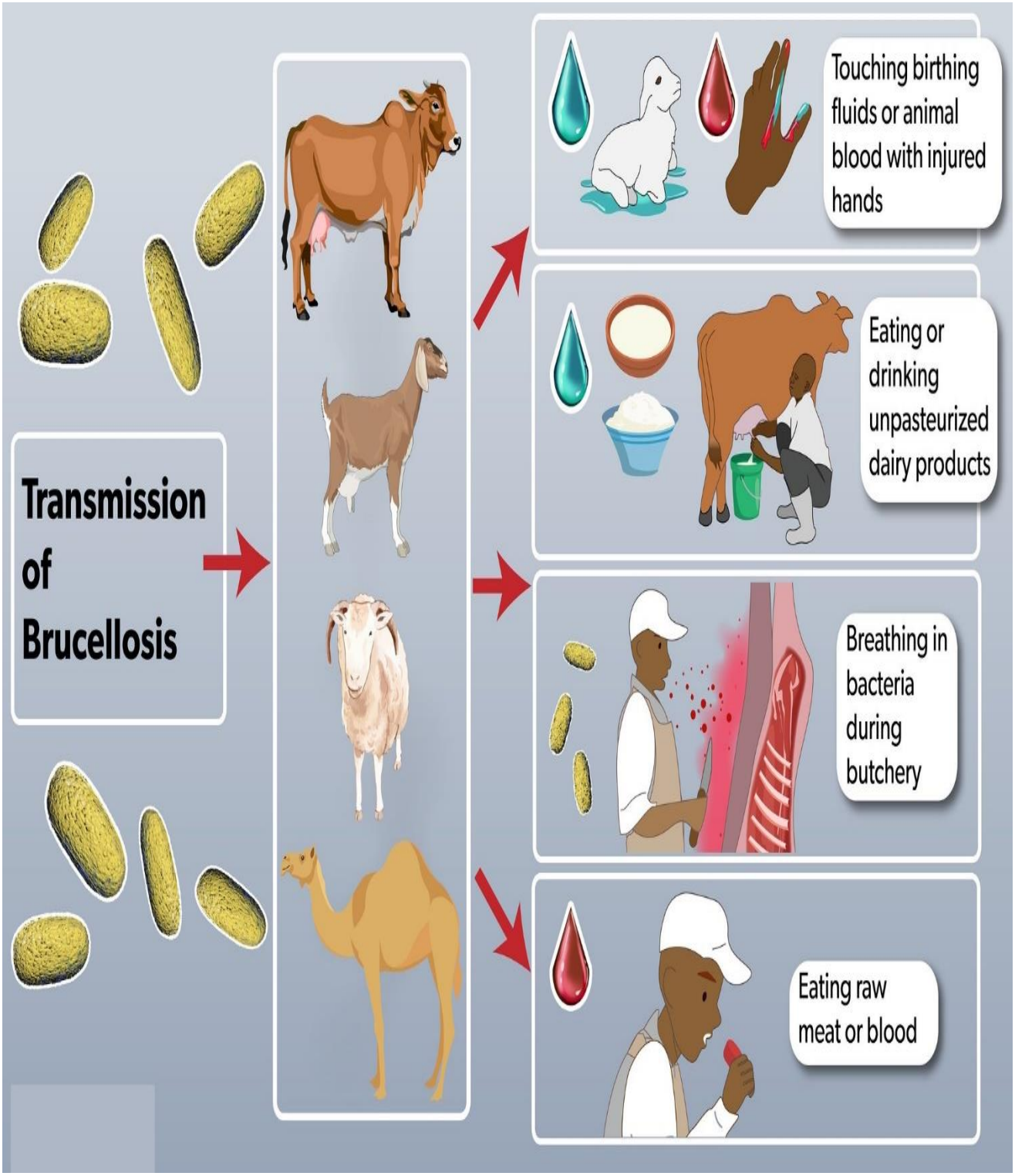
Brucellosis: https://www.who.int/news-room/fact-sheets/detail/brucellosis

Brucellosis in humans and animals: https://www.who.int/publications/i/item/9789241547130

Brucellosis - WOAH - World Organisation for Animal Health: https://www.woah.org/en/disease/brucellosis/

CDC:

About Brucellosis: https://www.cdc.gov/brucellosis/about/index.html


Transmission of Brucellosis
Touching birthing fluids or animal blood with injured hands
Eating or drinking unpasteurized dairy products
Breathing in bacteria during butchery
Eating raw meat or blood