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.

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Public Health Bulletin - Pakistan, Week 51, 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 a Letter to Editor, Outbreak Investigation of Purtusis in Balochistan and a knowledge review on Leprosy

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 51, 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.*

- *Forty-one cases of AFP reported from KP, seventeen from Punjab, eleven from Sindh, three from AJK, two from Balochistan and one from GB. All are suspected cases and need field verification.*

- *Forty-four suspected cases of HIV/ AIDS reported from Punjab and three each from Sindh and Balochistan. Field investigation required to verify the cases.*

- *Six 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 81%*
- *AJK and Gilgit Baltistan are the top reporting regions with a compliance rate of 96% and 95%, followed by ICT 78% KPK 76%.*
- *The lowest compliance rate was observed in Sindh 74% and Balochistan 60%.*

Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	2320	1759	76
Azad Jammu Kashmir	404	378	96
Islamabad Capital Territory	36	28	78
Balochistan	1307	691	60
Gilgit Baltistan	405	367	95
Sindh	2903	2001	74
National	7375	5224	81

Public Health Actions

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

Chikungunya

Enhance Case Detection and Reporting: Strengthen chikungunya surveillance within IDSR by training healthcare workers on clinical and laboratory-based case identification and ensuring timely reporting of outbreaks.

Control Mosquito Vectors: Implement targeted vector control measures, such as eliminating breeding sites, promoting larvicides, and community-based initiatives to reduce Aedes mosquito populations.

Expand Public Awareness Campaigns: Conduct education campaigns on chikungunya prevention, including personal protective measures like using insect repellents, wearing long-sleeved clothing.

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, 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 51, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	909	5,068	513	211	14,407	58,056	31,494	110,658
Malaria	0	5,980	1	0	4,316	2,571	50,731	63,599
ILI	2,705	9,355	476	1,350	7,233	1	31,883	53,003
TB	41	179	59	0	442	9,575	12,089	22,385
ALRI < 5 years	1,415	2,351	1,284	22	1,813	1,611	13,446	21,942
Dog Bite	78	128	2	1	630	4,600	2,926	8,365
VH (B, C & D)	20	170	4	1	140	0	5,254	5,589
B. Diarrhea	25	959	49	5	728	560	2,860	5,186
Typhoid	11	401	43	0	471	1,575	730	3,231
SARI	233	772	298	4	1,397	0	316	3,020
AVH (A & E)	4	9	4	0	408	0	643	1,068
Dengue	0	3	0	0	10	895	85	993
AWD (S. Cholera)	0	93	3	0	30	492	3	621
Measles	4	31	3	0	240	141	54	473
CL	0	86	0	0	218	0	4	308
Mumps	5	34	4	0	83	2	47	175
Chikungunya	0	0	0	0	0	0	107	107
Meningitis	3	0	0	0	12	66	9	90
Chickenpox/ Varicella	2	5	10	0	47	10	14	88
Pertussis	0	50	9	0	13	0	3	75
AFP	3	2	1	0	41	17	11	75
Gonorrhea	0	36	0	0	12	0	16	64
HIV/AIDS	0	3	0	0	0	44	3	50
Syphilis	0	0	0	0	0	0	20	20
Leprosy	0	0	0	0	18	0	0	18
Diphtheria (Probable)	0	1	0	0	4	8	5	18
NT	0	0	0	0	7	0	0	7
Brucellosis	0	0	0	0	6	0	0	6

Figure 1: Most frequently reported suspected cases during Week 51, Pakistan.
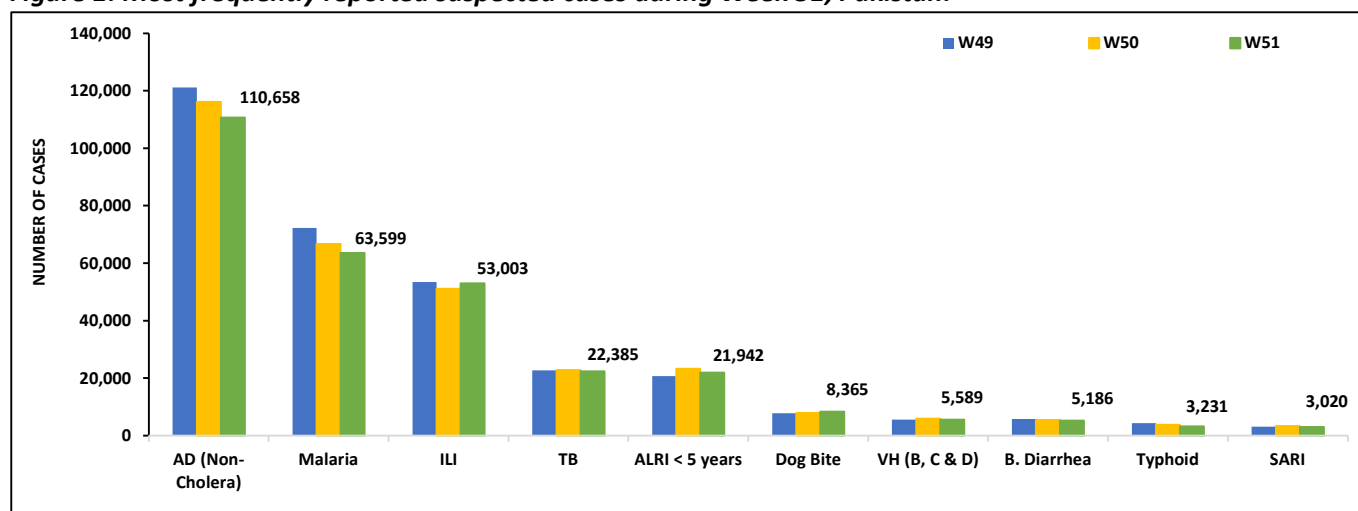
- Malaria cases were maximum followed by ILI, AD (Non-Cholera), ALRI<5 Years, TB, VH (B, C, D), dog bite, B. Diarrhea, Typhoid and AVH (A & E).
- Malaria cases are mostly from Larkana, Dadu and Khairpur whereas ILI cases are from Khairpur, Mirpurkhas and Karachi Malir.
- Eleven cases of AFP reported from Sindh. All are suspected cases and need field verification.
- Three suspected cases of HIV/ AIDS reported from Sindh. Field investigation required to verify the case.

Table 2: District wise distribution of most frequently reported suspected cases during Week 51, Sindh

Districts	Malaria	AD (Non-Cholera)	ILI	TB	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Dog Bite	Typhoid	AVH (A&E)
Badin	1,491	1,401	1,507	461	820	706	124	163	29	5
Dadu	5,341	1,181	1,860	1,365	498	117	321	405	128	72
Ghotki	1,004	80	516	536	258	248	205	57	4	4
Hyderabad	407	1,725	1,422	121	106	31	0	0	12	0
Jacobabad	1,860	1,143	707	467	158	305	132	108	34	1
Jamshoro	2,228	92	1,141	459	480	197	70	91	63	1
Kamber	2,895	0	1,630	374	865	131	231	108	19	0
Karachi Central	1	1,398	480	13	12	6	0	6	33	3
Karachi East	46	645	323	40	20	1	17	10	0	0
Karachi Keamari	0	342	371	53	0	0	1	1	6	1
Karachi Korangi	49	2	234	2	8	2	1	1	1	3
Karachi Malir	233	2,840	1,006	190	143	24	38	18	6	1
Karachi South	25	4	78	0	0	0	0	0	0	0
Karachi West	245	1,321	863	170	163	111	32	27	27	3
Kashmore	3,385	780	537	281	409	22	253	26	3	0
Khairpur	4,909	8,187	1,988	1,180	1070	156	198	290	116	4
Larkana	5,708	0	1,564	634	1080	70	40	367	8	7
Matiari	1,556	7	1,012	388	571	195	50	39	7	2
Mirpurkhas	1,887	3,810	1,891	751	744	190	110	93	4	2
Naushero Feroze	1,919	1,185	961	602	459	80	266	84	53	1
Sanghar	3,544	87	1,608	921	1191	1,184	167	108	19	0
Shaheed Benazirabad	1,264	8	1,284	279	343	97	128	56	75	0
Shikarpur	2,756	0	1,103	316	347	778	237	202	9	0
Sujawal	946	0	1,064	552	211	61	55	45	6	15
Sukkur	2,602	1,946	1,006	743	551	93	103	152	9	0
Tando Allahyar	1,011	1,146	781	404	428	178	35	137	3	0
Tando Muhammad Khan	390	20	578	227	483	19	11	41	0	0
Tharparkar	1,019	1,350	1,321	673	290	60	0	81	6	18
Thatta	895	1,183	1,266	576	35	108	101	58	15	499
Umerkot	1,115	0	1,392	668	346	84	0	86	35	1
Total	50,731	31,883	31,494	13,446	12,089	5,254	2,926	2,860	730	643

*Figure 2: Most frequently reported suspected cases during Week 51 Sindh*
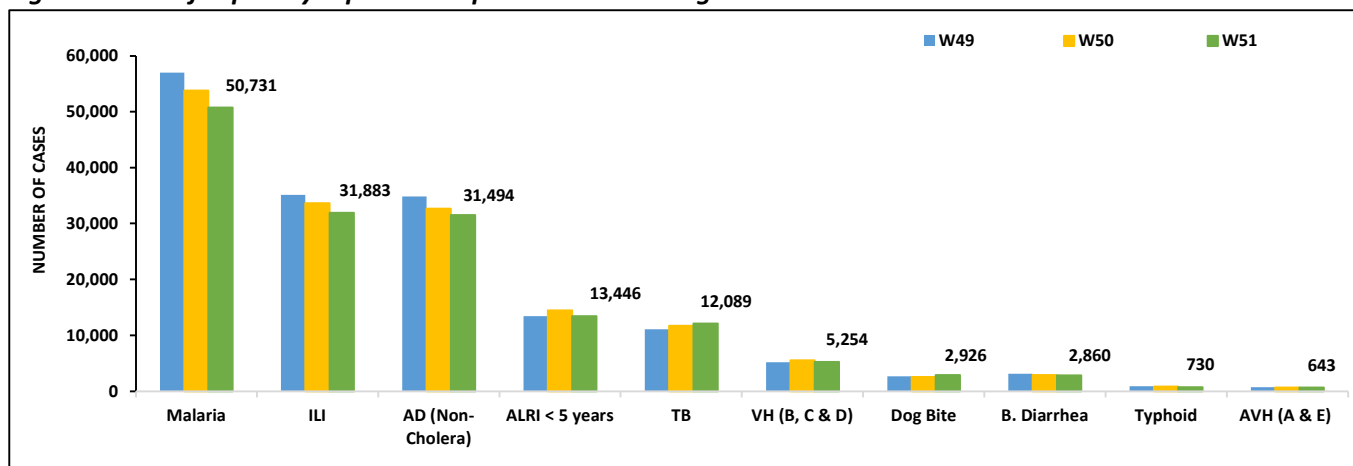
- ILI, Malaria, AD (Non-Cholera), ALRI <5 years, B. Diarrhea, SARI, Typhoid, TB, VH (B, C & D) and dog bite cases were the most frequently reported diseases from Balochistan province.
- ILI cases are mostly reported from Gwadar, Quetta and Kech (Turbat) while Malaria cases are mostly reported from Kech (Turbat), Jhal Magsi and Jaffarabad.
- Two cases of AFP reported from Balochistan. These are suspected cases and need field verification.
- Three suspected cases of HIV/ AIDS reported from Balochistan. Field investigation required to verify the cases.

Table 3: District wise distribution of most frequently reported suspected cases during Week 51, Balochistan

Districts	AD (Non-Cholera)	Malaria	ILI	B. Diarrhea	ALRI < 5 years	Typhoid	SARI	AWD (S.Cholera)	TB	CL
Barkhan	60	39	64	23	2	9	23	9	3	9
Chagai	336	39	98	0	36	0	9	0	0	1
Chaman	23	1	14	0	5	0	7	0	0	2
Dera Bugti	63	66	39	55	13	0	0	0	0	0
Gwadar	1,700	193	479	33	55	0	10	0	0	0
Harnai	11	78	81	201	67	0	1	2	2	2
Hub	78	149	66	1	8	0	0	0	1	0
Jaffarabad	186	674	258	45	53	23	9	70	52	28
Jhal Magsi	470	758	217	196	0	3	14	7	0	4
Kalat	6	14	30	25	6	7	19	0	0	0
Kech (Turbat)	1,088	895	246	86	37	8	NR	NR	15	NR
Kharan	560	34	102	0	42	16	0	0	0	0
Khuzdar	334	122	245	10	94	17	21	0	0	0
Killa Saifullah	0	75	116	235	24	10	5	0	0	0
Kohlu	418	85	183	23	50	47	31	NR	1	NR
Lasbella	71	588	319	102	33	3	9	1	4	19
Loralai	355	21	92	45	24	67	5	0	0	4
Mastung	156	21	116	6	8	84	18	1	3	18
MusaKhel	37	65	20	26	7	4	4	0	0	0
Naseerabad	22	649	360	49	13	2	56	29	56	21
Nushki	22	9	110	2	38	0	0	0	0	0
Panjgur	129	84	131	93	16	11	0	0	0	0
Pishin	737	13	234	106	60	46	21	0	0	3
Quetta	1,183	9	419	131	39	97	14	0	1	1
Sherani	8	1	2	0	0	7	0	0	0	0
Sibi	47	323	96	122	39	126	65	0	4	1
Sohbat pur	58	431	185	117	44	33	27	2	6	0
Surab	195	15	51	16	0	0	0	1	0	0
Usta Muhammad	211	355	419	225	50	14	8	1	22	12
Washuk	401	146	141	0	59	13	14	0	0	1
Zhob	228	18	77	349	21	120	4	56	0	0
Ziarat	162	10	58	29	16	5	7	0	0	2
Total	9,355	5,980	5,068	2,351	959	772	401	179	170	128

**Figure 3: Most frequently reported suspected cases during Week 51, Balochistan**
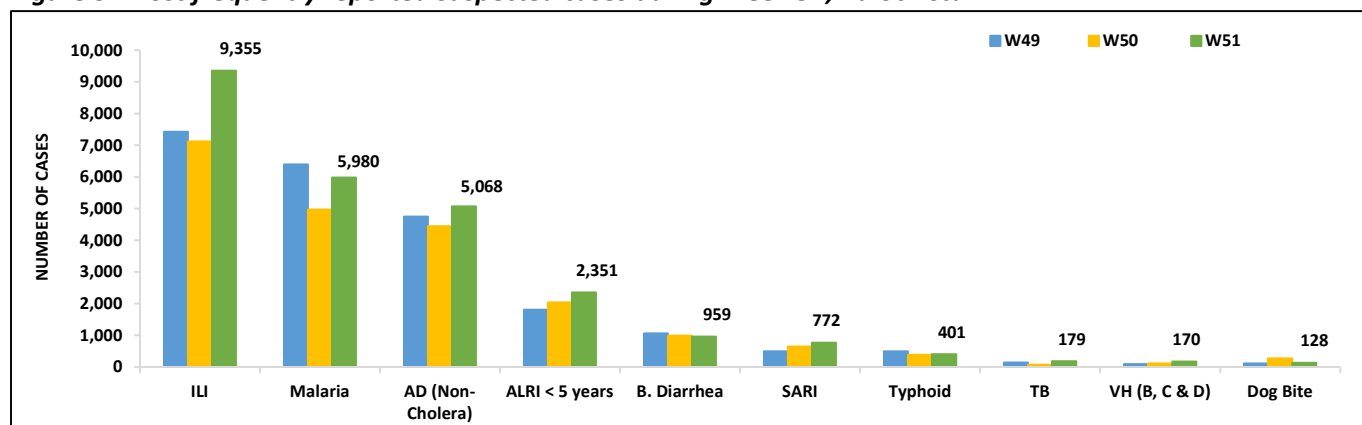
- Cases of AD (Non-Cholera) were maximum followed by ILI, Malaria, ALRI<5 Years, SARI, B. Diarrhea, dog bite, Typhoid, TB and AVH (A & E) cases.
- AD (Non-Cholera), Malaria, ALRI<5 Years, SARI, B. Diarrhea, dog bite, Typhoid and TB cases showed a decreasing trend this week.
- Forty-one cases of AFP reported from KP. All are suspected cases and need field verification.
- 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 51, KP

Districts	AD (Non-Cholera)	Malaria	ILI	B.Diarrhea	SARI	ALRI <5 Years	Typhoid	Dog Bite	TB	AVH (A&E)
Abbottabad	467	277	28	122	43	6	75	58	52	0
Bajaur	286	19	94	32	91	65	53	2	11	43
Bannu	516	54	1,034	17	0	18	4	100	31	1
Battagram	121	561	35	9	10	0	9	0	41	1
Buner	80	30	90	0	0	0	0	3	2	0
Charsadda	1,080	1,324	444	149	3	97	5	18	28	9
Chitral Lower	331	254	7	31	35	15	5	7	9	0
Chitral Upper	73	15	1	16	9	1	0	11	1	0
D.I. Khan	1,325	0	489	19	0	20	13	2	45	0
Dir Lower	898	9	176	125	0	82	34	34	13	12
Dir Upper	429	141	5	22	6	22	3	2	9	0
Hangu	80	121	186	10	7	0	4	1	3	0
Haripur	486	363	0	136	30	4	0	11	3	15
Karak	316	31	110	29	36	22	9	1	5	2
Khyber	277	74	84	34	34	98	22	29	6	4
Kohat	339	65	56	6	53	8	10	1	0	0
Kohistan Lower	93	0	1	1	0	3	1	0	0	0
Kohistan Upper	204	17	9	4	0	11	0	0	0	0
Kolai Palas	5	0	0	1	0	0	0	0	0	0
L & C Kurram	8	0	1	0	8	0	0	0	0	0
Lakki Marwat	470	34	318	28	0	19	15	0	4	0
Malakand	465	7	13	76	17	66	0	11	2	66
Mansehra	348	211	0	3	89	6	0	1	1	0
Mardan	434	0	2	64	15	2	58	12	5	0
Mohmand	94	207	160	16	190	17	17	6	1	0
North Waziristan	0	0	15	3	0	0	0	2	1	0
Nowshera	704	90	39	6	16	11	12	24	9	14
Orakzai	26	13	5	0	0	4	3	0	1	0
Peshawar	1,807	1,537	29	88	251	65	8	58	18	17
SD Tank	5	2	7	0	0	0	0	0	0	0
Shangla	626	0	284	384	42	5	88	7	65	2
SWA	7	7	14	3	20	0	0	0	0	0
South Waziristan (Lower)	21	201	15	9	48	2	8	13	6	0
Swabi	611	807	50	93	72	3	103	43	36	19
Swat	793	236	19	194	0	12	31	1	16	58
Tank	438	171	465	16	0	6	0	5	14	0
Tor Ghar	42	0	24	33	39	13	29	2	0	145
Upper Kurram	101	355	7	34	233	25	11	6	4	0
Total	**14,407**	**7,233**	**4,316**	**1,813**	**1,397**	**728**	**630**	**471**	**442**	**408**

Figure 4: Most frequently reported suspected cases during Week 51, KP
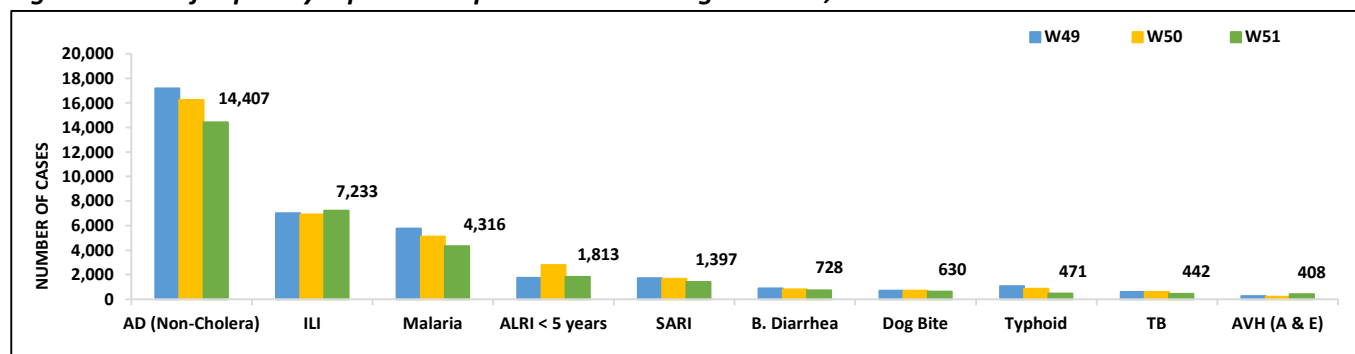
ICT, AJK & GB

ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and ALRI <5 years.

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

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

Figure 5: Most frequently reported suspected cases during Week 51, ICT
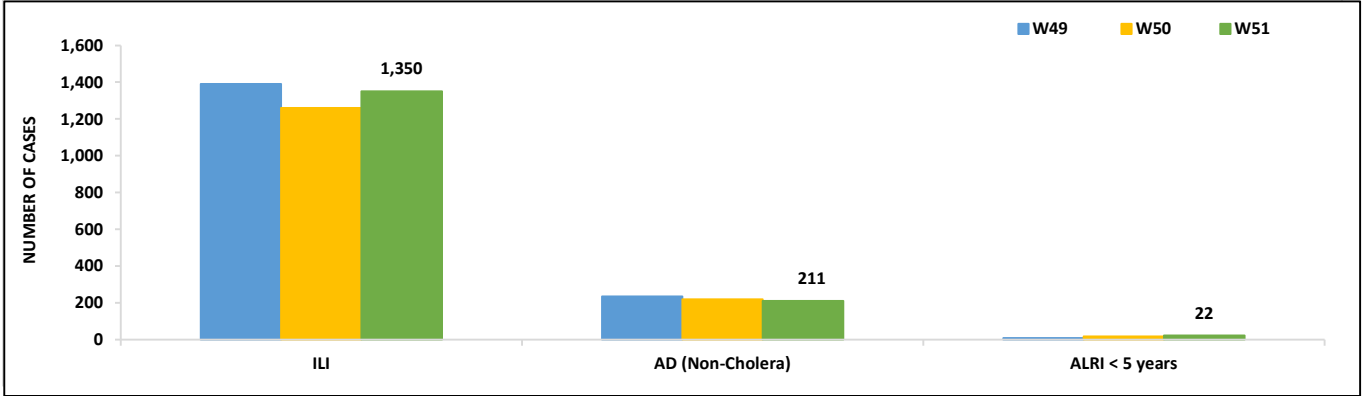
Figure 6: Week wise reported suspected cases of ILI, ICT
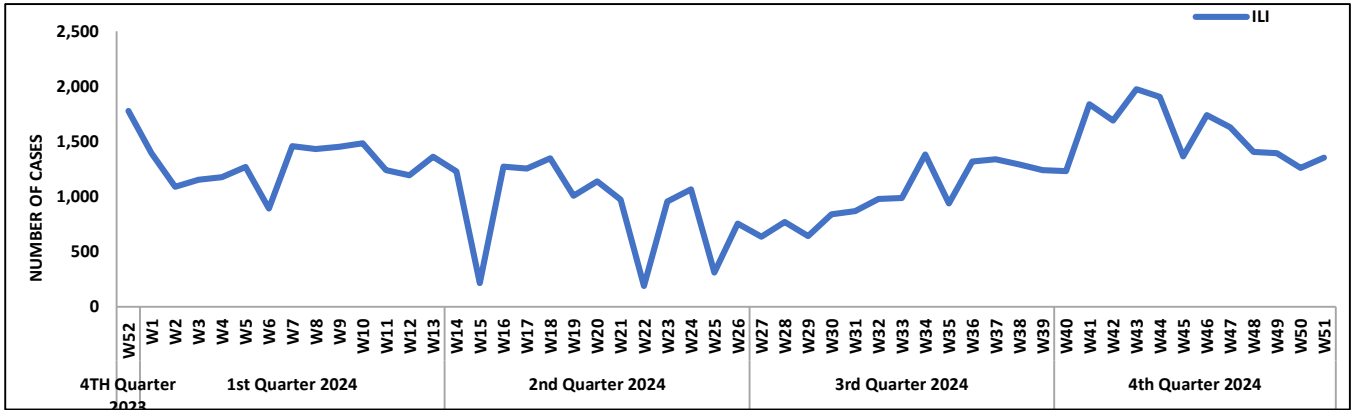
Figure 7: Most frequently reported suspected cases during Week 51, AJK
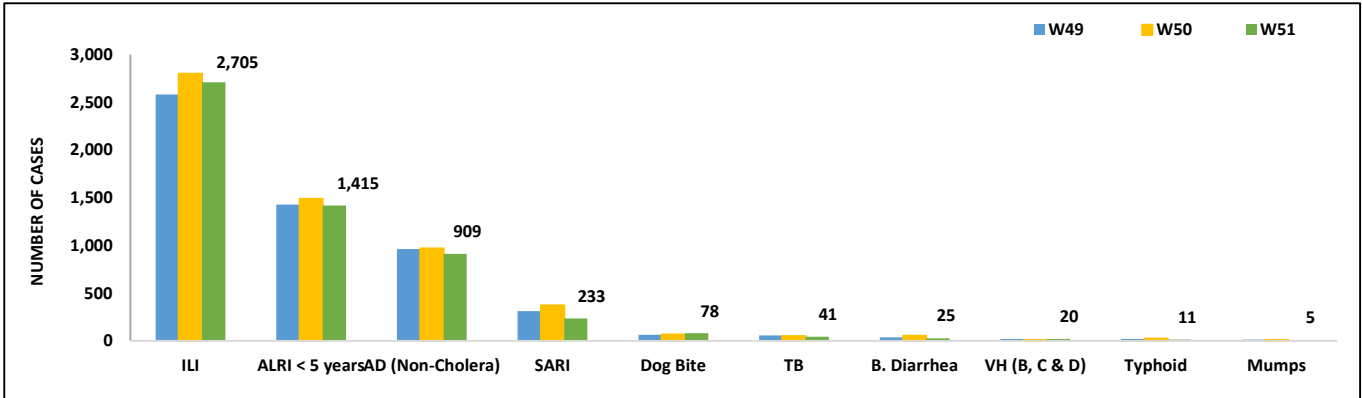
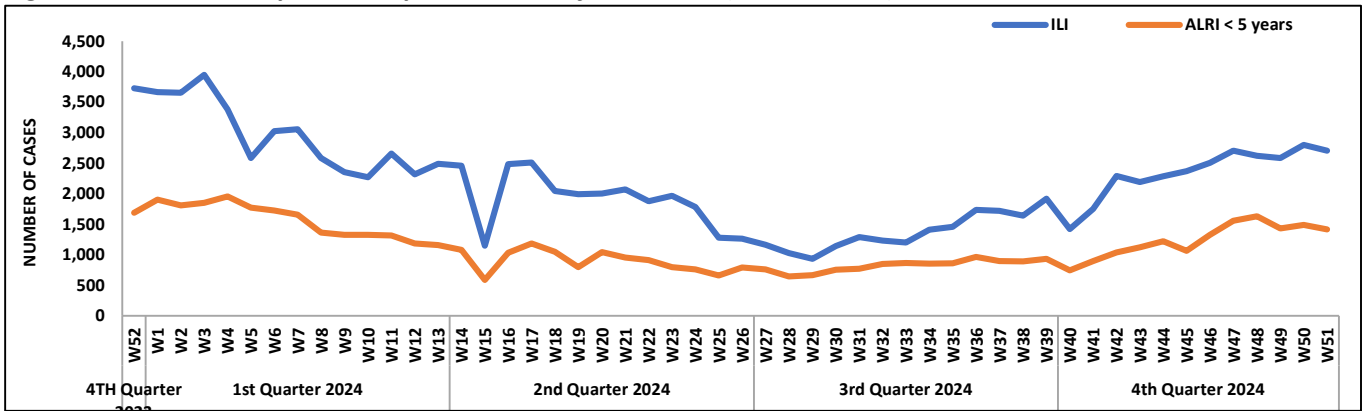**Figure 8: Week wise reported suspected cases of ILI and AD (Non-Cholera) AJK**

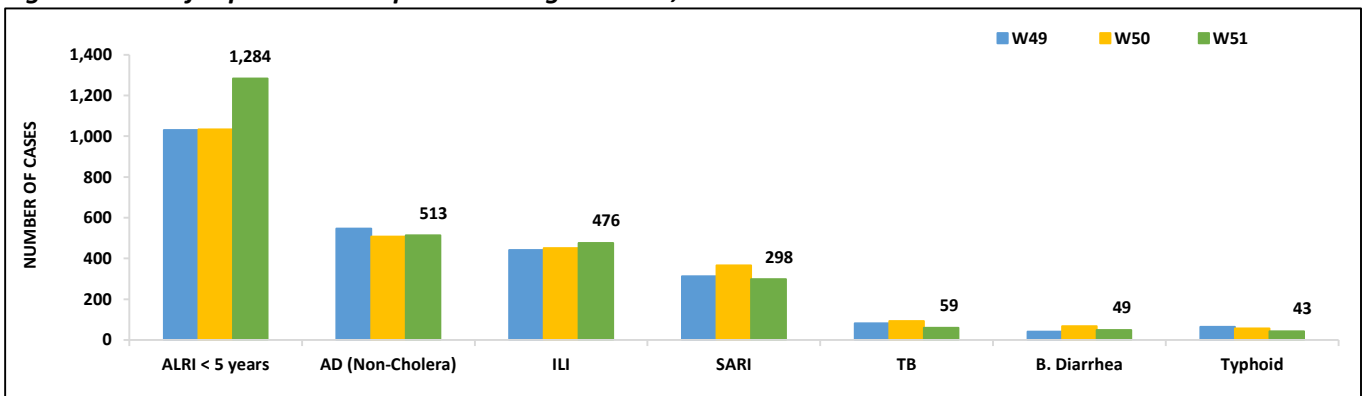**Figure 9: Most frequent cases reported during Week 51, GB**

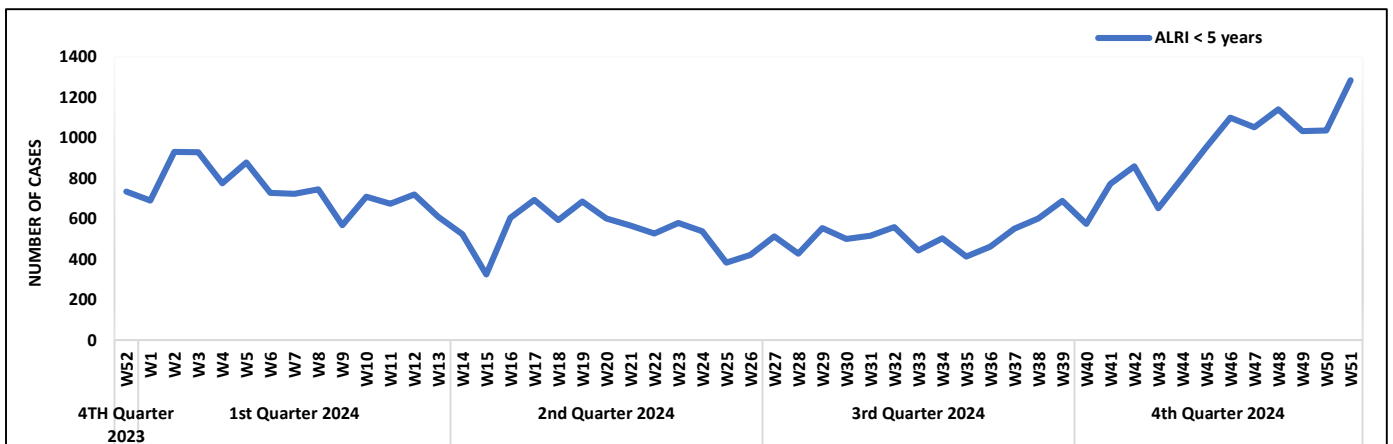**Figure 10: Week wise reported suspected cases of ALRI <5 years, GB**

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-four suspected cases of HIV/ AIDS reported from Punjab. Field investigation required to verify the cases.
- Seventeen cases of AFP reported from Punjab. All are suspected cases and need field verification.

Figure 11: Most frequently reported suspected cases during Week 51, Punjab.
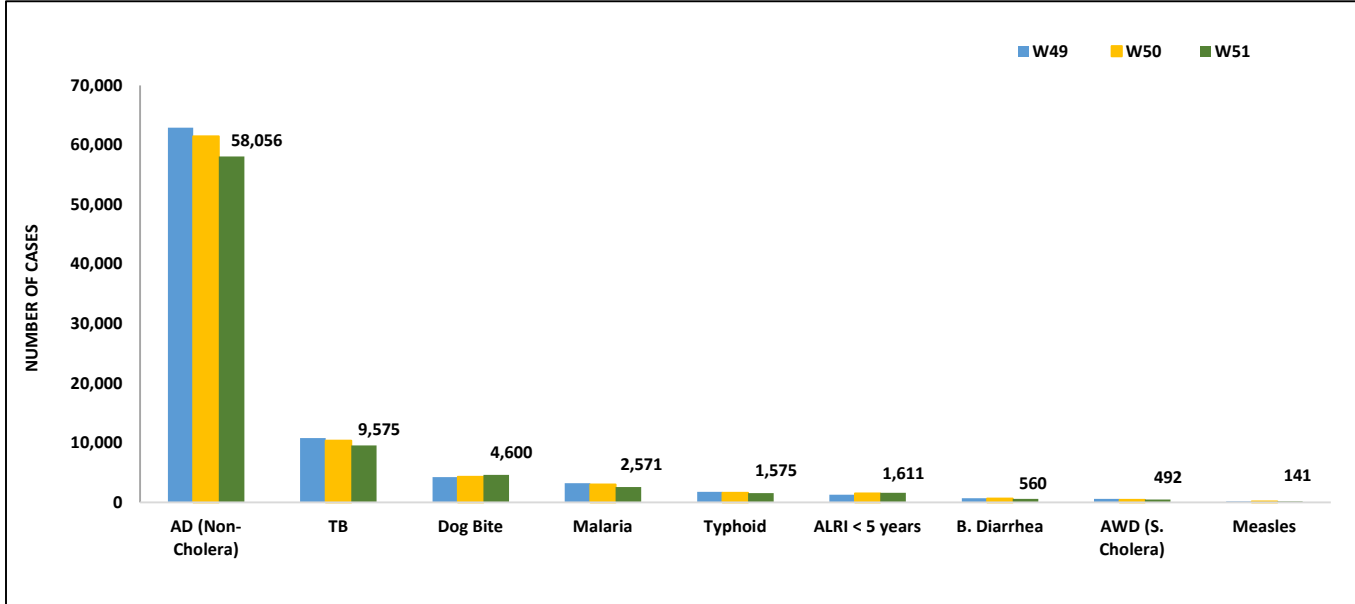

Figure 12: Week wise reported suspected cases of AD (Non-Cholera), Punjab.
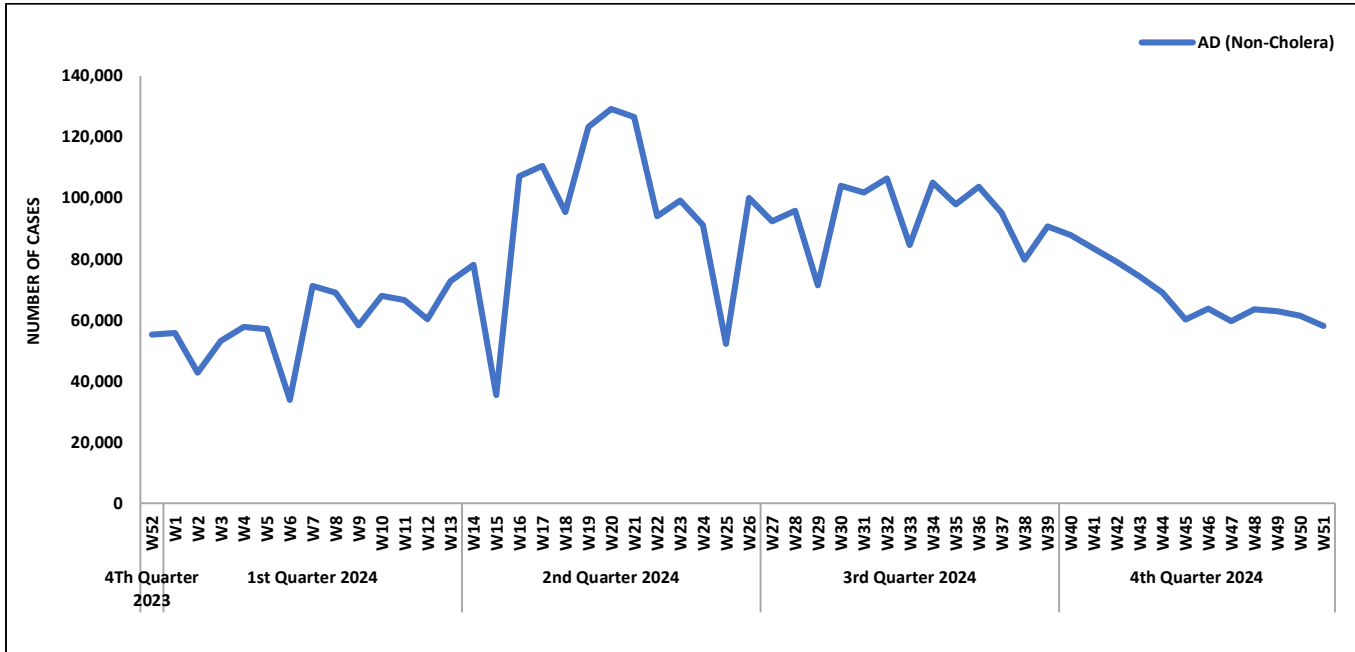
Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 51

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)		15	0	-	-	17	0	-	-	-	-	-	-	35	0
AD (Non-Cholera)		62	0	-	-	17	4	-	-	-	-	-	-	25	0
Malaria		660	44	-	-	179	2	-	-	-	-	-	-	13	0
CCHF		-	-	4	0	1	0	-	-	-	-	-	-	0	0
Dengue		541	9	0	0	29	1	-	-	-	-	-	-	2	0
VH (B)		2,679	80	62	45	634	11	-	-	121	0	-	-	345	5
VH (C)		2,685	254	48	17	634	13	-	-	121	0	-	-	150	4
VH (A & E)		-	-	-	-	0	0	-	-	-	-	-	-	113	0
Covid-19		-	-	6	0	0	0	-	-	-	-	-	-	15	0
Chikungunya		-	-	-	-	0	0	-	-	-	-	-	-	0	0
TB		-	-	-	-	0	0	-	-	-	-	-	-	60	3
HIV/ AIDS		-	-	-	-	606	0	-	-	-	-	-	-	31	0
Syphilis		-	-	-	-	0	0	-	-	-	-	-	-	0	0
B. Diarrhea		-	-	-	-	17	0	-	-	-	-	-	-	15	0
Typhoid		507	12	-	-	21	3	-	-	-	-	-	-	0	0
Diptheria (Probabale)		-	-	-	-	0	0	-	-	-	-	-	-	0	0
Pertussis		-	-	-	-	0	0	-	-	-	-	-	-	0	0
M-POX		-	-	-	-	0	0	-	-	-	-	-	-	0	0
Leishmaniansis (cutaneous)		-	-	-	-	0	0	-	-	-	-	-	-	0	0
Meningitis		-	-	-	-	0	0	-	-	-	-	-	-	0	0
Pneumonial (ALRI)		-	-	-	-	0	0	-	-	-	-	-	-	3	1
Brucellosis		-	-	-	-	0	0	-	-	-	-	-	-	0	0
Measles		95	47	36	23	210	113	10	5	2	2	165	53	11	3
Rubella		95	1	36	0	210	3	10	0	2	0	165	2	11	0
Covid-19	Out of SARI	0	0	0	0	47	0	56	0	36	0	147	0	0	0
	Out of ILI	0	0	0	0	4	0	45	0	25	0	162	0	0	0
Influenza A	Out of SARI	0	0	0	0	47	4	56	5	36	8	147	23	0	0
	Out of ILI	0	0	0	0	4	0	45	2	25	0	162	20	0	0
Influenza B	Out of SARI	0	0	0	0	47	3	56	5	36	1	147	21	0	0
	Out of ILI	0	0	0	0	4	0	45	4	25	0	162	22	0	0
RSV	Out of SARI	0	0	0	0	47	0	56	24	36	3	147	0	0	0
	Out of ILI	0	0	0	0	4	0	45	7	25	0	162	0	0	0

IDSR Reports Compliance

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

Table 6: IDSR reporting districts Week 51, 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	114	48%
	Battagram	62	37	60%
	Buner	34	33	97%
	Bajaur	44	41	93%
	Charsadda	59	58	98%
	Chitral Upper	34	27	79%
	Chitral Lower	35	34	97%
	D.I. Khan	114	112	98%
	Dir Lower	74	71	96%
	Dir Upper	37	30	81%
	Hangu	22	17	77%
	Haripur	72	68	94%
	Karak	35	35	100%
	Khyber	53	20	38%
	Kohat	61	61	100%
	Kohistan Lower	11	10	91%
	Kohistan Upper	20	20	100%
	Kolai Palas	10	2	20%
	Lakki Marwat	70	69	99%
	Lower & Central Kurram	42	6	14%
	Upper Kurram	41	26	63%
	Malakand	42	26	62%
	Mansehra	136	107	79%
	Mardan	80	76	95%
	Nowshera	55	54	98%
	North Waziristan	13	1	8%
	Peshawar	152	133	88%
	Shangla	37	32	86%
	Swabi	64	61	95%
	Swat	77	68	88%
	South Waziristan	93	36	39%
	South Waziristan (Lower)	42	19	45%
	Tank	34	30	88%
	Torghar	14	14	100%
	Mohmand	68	65	96%
	SD Peshawar	5	0	0%
	SD Tank	58	5	9%
	Orakzai	69	9	13%
	Mirpur	37	37	100%
	Bhimber	42	20	48%
	Kotli	60	60	100%
	Muzaffarabad	45	43	96%

Region	District			
Azad Jammu Kashmir	Poonch	46	46	100%
	Haveli	39	39	100%
	Bagh	40	40	100%
	Neelum	39	31	79%
	Jhelum Vellay	29	29	100%
Islamabad Capital Territory	Sudhnooti	27	27	100%
	ICT	21	21	100%
Balochistan	CDA	15	8	53%
	Gwadar	25	25	100%
	Kech	44	20	45%
	Khuzdar	74	57	77%
	Killa Abdullah	26	0	0%
	Lasbella	55	55	100%
	Pishin	69	46	67%
	Quetta	55	40	73%
	Sibi	36	15	42%
	Zhob	39	28	72%
	Jaffarabad	16	16	100%
	Naserabad	32	32	100%
	Kharan	30	30	100%
	Sherani	15	3	20%
	Kohlu	75	47	63%
	Chagi	36	21	58%
	Kalat	41	40	98%
	Harnai	17	17	100%
	Kachhi (Bolan)	35	0	0%
	Jhal Magsi	28	27	96%
	Sohbat pur	25	25	100%
	Surab	32	27	84%
	Mastung	45	45	100%
	Loralai	33	28	85%
	Killa Saifullah	28	27	96%
	Ziarat	29	12	41%
	Duki	31	0	0%
	Nushki	32	29	91%
	Dera Bugti	45	26	58%
	Washuk	46	31	67%
	Panjgur	38	18	47%
	Awaran	23	0	0%
	Chaman	24	3	13%
	Barkhan	20	19	95%
	Hub	33	13	39%
	Musakhel	41	18	44%
Gilgit Baltistan	Usta Muhammad	34	34	100%
	Hunza	32	32	100%
	Nagar	25	20	80%
	Ghizer	38	38	100%
	Gilgit	40	38	95%
	Diamer	62	61	98%

UK Health Security Agency

World Health Organization

USAID

	Astore	54	54	100%
	Shigar	27	25	93%
	Skardu	52	52	100%
	Ganche	29	29	100%
Sindh	Kharmang	46	24	52%
	Hyderabad	72	67	93%
	Ghotki	64	64	100%
	Umerkot	43	43	100%
	Naushahro Feroze	96	96	100%
	Tharparkar	276	210	76%
	Shikarpur	59	59	100%
	Thatta	52	52	100%
	Larkana	67	67	100%
	Kamber Shadadkot	71	71	100%
	Karachi-East	21	17	81%
	Karachi-West	20	20	100%
	Karachi-Malir	37	24	65%
	Karachi-Kemari	18	16	89%
	Karachi-Central	11	7	64%
	Karachi-Korangi	18	17	94%
	Karachi-South	4	4	100%
	Sujawal	55	55	100%
	Mirpur Khas	106	102	96%
	Badin	123	123	100%
	Sukkur	63	63	100%
	Dadu	88	88	100%
	Sanghar	100	98	98%
	Jacobabad	44	44	100%
	Khairpur	169	163	96%
	Kashmore	59	59	100%
	Matiari	42	42	100%
	Jamshoro	81	64	79%
	Tando Allahyar	55	54	98%
	Tando Muhammad Khan	41	41	100%
	Shaheed Benazirabad	122	122	100%

Table 7: IDSR reporting Tertiary care hospital Week 51, 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%

Letter to Editor

Dear Editor,

The winter season brings a surge in respiratory illnesses, posing significant public health challenges. Respiratory infections such as influenza, respiratory syncytial virus (RSV), pneumonia, and exacerbations of chronic respiratory diseases become more prevalent, increasing morbidity and placing strain on healthcare systems. Smog, a recurring phenomenon in Pakistan during winter, further exacerbates respiratory health risks, particularly in urban areas like Lahore and Karachi.

Globally, respiratory illnesses contribute substantially to morbidity and mortality. The World Health Organization (WHO) estimates that influenza causes 3 to 5 million cases of severe illness and up to 650,000 respiratory deaths annually [1]. Similarly, RSV is responsible for approximately 33 million acute lower respiratory tract infections in children under five, with 3.2 million requiring hospitalization and an estimated 118,000 deaths annually [2]. Smog, with its high concentrations of particulate matter (PM2.5 and PM10), is a known trigger for respiratory and cardiovascular conditions, compounding the burden of disease in vulnerable populations.

Regionally, South Asia experiences a significant burden of respiratory diseases due to high population density, limited healthcare access, and environmental factors. In Pakistan, acute respiratory infections (ARIs) account for 15-20% of childhood mortality, with pneumonia being a leading cause of death [3]. In 2024, the NIH-IDSR national sentinel site surveillance reported a total of 5,389 cases of suspected influenza-like illness. Among these cases, 103 were identified as COVID-19, 17 as Influenza A, 125 as Influenza B, and 15 as RSV. The winter season worsens the situation through increased indoor activities, poor ventilation, and heightened smog levels resulting from biomass burning, vehicular emissions, and industrial pollution.

To mitigate the impact of respiratory illnesses during winter, a comprehensive strategy is essential:

1. **Surveillance Systems**: Strengthen disease surveillance systems to facilitate early detection of respiratory outbreaks and monitor air quality indices to guide public health interventions.

2. **Healthcare Preparedness**: Ensure healthcare system readiness by maintaining adequate supplies of antiviral medications, oxygen, and other essential resources. Training healthcare professionals to manage respiratory outbreaks effectively is critical.

3. **Enhanced Laboratory Networks**: Strengthen laboratory networks and surveillance at various levels to improve diagnostic capacity, ensuring timely and accurate identification of respiratory pathogens. This includes upgrading laboratory infrastructure, training personnel, and enhancing coordination between regional and national facilities.

4. **Public Awareness and vaccine advocacy**: Conduct health education campaigns emphasizing hand hygiene, respiratory etiquette, mask use in crowded or poorly ventilated areas, and the importance of avoiding unnecessary outdoor activities during smog episodes. Increase public awareness regarding influenza and pneumococcal vaccination programs, particularly targeting high-risk groups such as healthcare workers, children, the elderly,

pregnant women, and individuals with chronic conditions [4].

5. **Community Engagement**: Encourage community participation in reducing indoor air pollution by promoting clean cooking and heating methods and ensuring adequate ventilation in homes.

As Pakistan struggles with the dual burden of communicable and non-communicable diseases, tackling respiratory illnesses requires coordinated efforts from government and non-governmental organizations, healthcare providers, and the community. Addressing smog as a critical environmental determinant is equally essential to reduce the health and economic burden of respiratory diseases during winter.

Sincerely,

Dr. Maryam Tanveer

Scientific Officer- CDC National Institute of Health.

References

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Notes from the field:

Outbreak Investigation of suspected pertussis at Killi Adam Zai, District Killa Abdullah, June 2024.

Dr. Olis Yar- FETP Frontline 18th Cohort
Mentor: Dr Samiullah Tareen

Introduction

Pertussis, caused by the bacterium *Bordetella pertussis*, is a vaccine-preventable disease. The threshold alert for pertussis is one suspected case, while an outbreak is defined as one laboratory-confirmed case with at least five suspected cases.

On May 30, 2024, the Provincial Disease Surveillance and Response Unit (PDSRU) in Quetta, Balochistan, was notified of six suspected pertussis cases, including one suspected death, through DHIS2 (IDSR) from Village Killi Adam Zai, District Killa Abdullah. Following confirmation of the cases, the PDSRU team was deployed on June 1, 2024, to investigate the outbreak and implement control measures.

Objectives

- To identify and confirm cases
- To determine the magnitude of the outbreak
- To evaluate associated risk factors
- To implement control measures

Methods

The investigation was conducted using a cross-sectional study design followed by a case-control study. Data were collected using a standardized CDC questionnaire, and an active search for cases was performed. A case was defined as any individual with cough, fever, vomiting, inspiratory whooping, and apnea lasting more than a week in Killi Adam Zai from March 1, 2024, to June 4, 2024. Controls were defined as individuals who did not develop pertussis symptoms in the same area and timeframe, regardless of vaccination status. A line list was maintained, and including culture

and sensitivity analysis. Nasopharyngeal swabs were collected from suspected cases for laboratory testing. Data were analyzed using MS Excel to calculate frequencies, percentages, attack rates, odds ratios, and the case fatality rate (CFR).

Results

A total of 20 cases were identified, Females were more affected (60%) as compared to males (40%), with a female-to-male ratio of 3:2. Children aged 3-5 years were the most affected group, accounting for 65% of cases, followed by those aged <3 years (20%) and >5 years (15%). Clinical symptoms included fever (100%), cough (100%), vomiting (70%), inspiratory whooping (65%), and apnea (30%). The overall attack rate was 4 per 100 population and case fatality rate was 5% with a case-to-control ratio of 1:1.

The odds of developing pertussis were 2.9 times higher among those who attended madrasa compared to those who did not. Exposure to pertussis cases increased the odds by 1.3 times, and a history of travel was associated with 1.4 times higher odds of developing the disease. Person-to-person transmission was the primary mode of spread, exacerbated by close-contact environments such as madrasa settings. Key risk factors identified included low vaccination coverage, close contact in madrasa settings, exposure to initial cases, and travel history.

Action Taken

- Conducted a mop-up immunization activity in Killi Adam Zai.
- Held awareness sessions for the community.
- Isolated suspected cases to limit transmission.

Discussion

The pertussis outbreak in Killi Adam Zai underscores the critical need for robust immunization programs, particularly in remote and underserved areas. Vaccination remains the cornerstone of pertussis prevention, and the low coverage in this region highlights systemic challenges, such as inadequate healthcare infrastructure, vaccine hesitancy, and logistical barriers to immunization outreach. Similar studies have documented the role of vaccination in reducing pertussis morbidity and mortality, even in high-risk settings [1,2].

Close-contact environments, such as madrasas, further amplified disease transmission in this outbreak. This finding aligns with previous research that emphasizes the significance of social clustering in the spread of pertussis [3]. Additionally, the higher odds of disease among those with travel history and prior exposure to cases underscore the importance of timely case isolation and contact tracing to limit spread.

Community awareness and education were pivotal in controlling the outbreak. However, sustained public health efforts, including enhanced disease surveillance, improved health facility functionality, and targeted outreach campaigns, are necessary to prevent recurrence.

Recommendations

1. **Enhanced Surveillance:** Appoint a District Surveillance Officer in Killa Abdullah to improve disease monitoring.
2. **Strengthen Vaccination Coverage:** Conduct enhanced outreach activities and functionalize health facilities to improve pertussis vaccination rates.
3. **Implement Control Measures:** Educate the community about the importance of isolating symptomatic cases and maintaining hygiene to prevent disease spread.

Conclusion

The pertussis outbreak in Killi Adam Zai highlighted gaps in vaccination coverage and the role of close-contact settings in disease transmission. Immediate response measures, including immunization campaigns and community awareness, successfully controlled the outbreak. Strengthened surveillance and vaccination efforts are critical to preventing future outbreaks.

References

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Knowledge Hub

Leprosy: A Comprehensive Public Health Perspective

Overview

Leprosy, also known as Hansen's disease, is a chronic infectious disease caused by the bacterium *Mycobacterium leprae*. It primarily affects the skin, peripheral nerves, mucosa of the upper respiratory tract, and eyes. Despite being curable with multidrug therapy (MDT), leprosy remains a significant public health challenge in many parts of the world, particularly in low- and middle-income countries, including Pakistan.

> Dr. Ruth Pfau, a German doctor, dedicated over 55 years to eradicating leprosy in Pakistan, founding the Mary Adelaide Leprosy Center and helping the country become the first in Asia to control the disease in 1996. She also led disaster relief efforts and was honored with Pakistan's highest civilian awards. Dr. Pfau passed away in 2017, receiving a state funeral for her unparalleled humanitarian service

Epidemiology

Globally, leprosy continues to affect vulnerable populations. According to the World Health Organization (WHO), over 200,000 new cases are reported annually. Although Pakistan has achieved the elimination target of less than one case per 10,000 population at the national level, pockets of endemicity persist in certain regions, particularly in marginalized communities and areas with limited access to healthcare.

Transmission

Leprosy is transmitted via droplets, from the nose and mouth, during close and frequent contact with untreated cases. However, the disease has a long incubation period (average 5-7 years), and most individuals have natural immunity, making it challenging to track transmission dynamics.

Clinical Manifestations

Leprosy presents in a spectrum, ranging from paucibacillary (PB) to multibacillary (MB) forms, depending on the bacterial load and host immune response. Key symptoms include:

- Skin lesions: Hypopigmented or reddish patches with loss of sensation.
- Nerve damage: Numbness, muscle weakness, and deformities.
- Other complications: Blindness, chronic ulcers, and disabilities.

Diagnosis

Early diagnosis is critical to prevent disabilities and interrupt transmission. Diagnostic methods include:

- **Clinical Examination**: Identifying characteristic skin lesions and nerve involvement.
- **Slit-Skin Smear**: Microscopic detection of acid-fast bacilli.
- **Molecular Techniques**: PCR-based methods, though limited in resource-constrained settings.

Treatment

The cornerstone of leprosy management is WHO-recommended multidrug therapy (MDT), which is provided free of charge globally. The regimen includes:

- **Paucibacillary Leprosy**: Rifampicin and dapsone for 6 months.
- **Multibacillary Leprosy**: Rifampicin, dapsone, and clofazimine for 12 months.

Treatment adherence is crucial to prevent relapse and resistance.

Public Health Challenges

1. **Delayed Diagnosis**: Stigma and lack of awareness often lead to late presentation.
2. **Social Stigma**: Leprosy is highly stigmatized, leading to discrimination and social isolation.
3. **Disability Management**: Many patients present with irreversible disabilities due to delayed treatment.
4. **Healthcare Access**: Limited healthcare infrastructure in rural and underserved areas hampers case detection and management.

Public Health Strategies

1. **Enhanced Surveillance and Reporting**: Strengthen active case finding and integrate leprosy surveillance into the national Integrated Disease Surveillance and Response (IDSR) system.

2. **Community-Based Interventions**: Train community health workers to recognize early symptoms and facilitate timely referrals.

3. **Contact Tracing and Prophylaxis**: Conduct contact screening and provide single-dose rifampicin (SDR) as post-exposure prophylaxis to close contacts.

4. **Health Education and Awareness**: Develop culturally sensitive campaigns to reduce stigma and promote early care-seeking behaviors.

5. **Disability Prevention and Rehabilitation**: Establish programs for reconstructive surgery, physiotherapy, and social reintegration of affected individuals.

Global and National Commitments

- **Global Leprosy Strategy (2021-2030)**: Focuses on zero leprosy-related disabilities in children, zero discrimination, and zero autochthonous cases in previously non-endemic countries.

- **Pakistan's Response**: The Ministry of Health, in collaboration with NGOs like the Marie Adelaide Leprosy Centre (MALC), continues to play a pivotal role in case management, rehabilitation, and community engagement.

Key Takeaway

Leprosy remains a public health challenge despite being curable. Strengthening surveillance, ensuring access to free treatment, and addressing stigma are crucial for its elimination. By integrating leprosy control into broader health systems and fostering multi-sectoral collaboration, Pakistan can move closer to achieving a leprosy-free status.

Leprosy is NOT a disease of the past.

FIVE facts about Leprosy

2. Globally, over 200 000 new cases are detected every year.

3. Leprosy is curable with multidrug therapy (MDT).

1. Leprosy is caused by a bacteria called Mycobacterium leprae.

4. Untreated, it can cause long-term damage to the skin, nerves, limbs, and eyes.

5. Up to 50% of people who experience leprosy face mental health challenges such as depression or anxiety.

World Health Organization
Bhutan

NIH

UK Health Security Agency

World Health Organization

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