PUBLIC HEALTH BULLETIN-PAKISTAN

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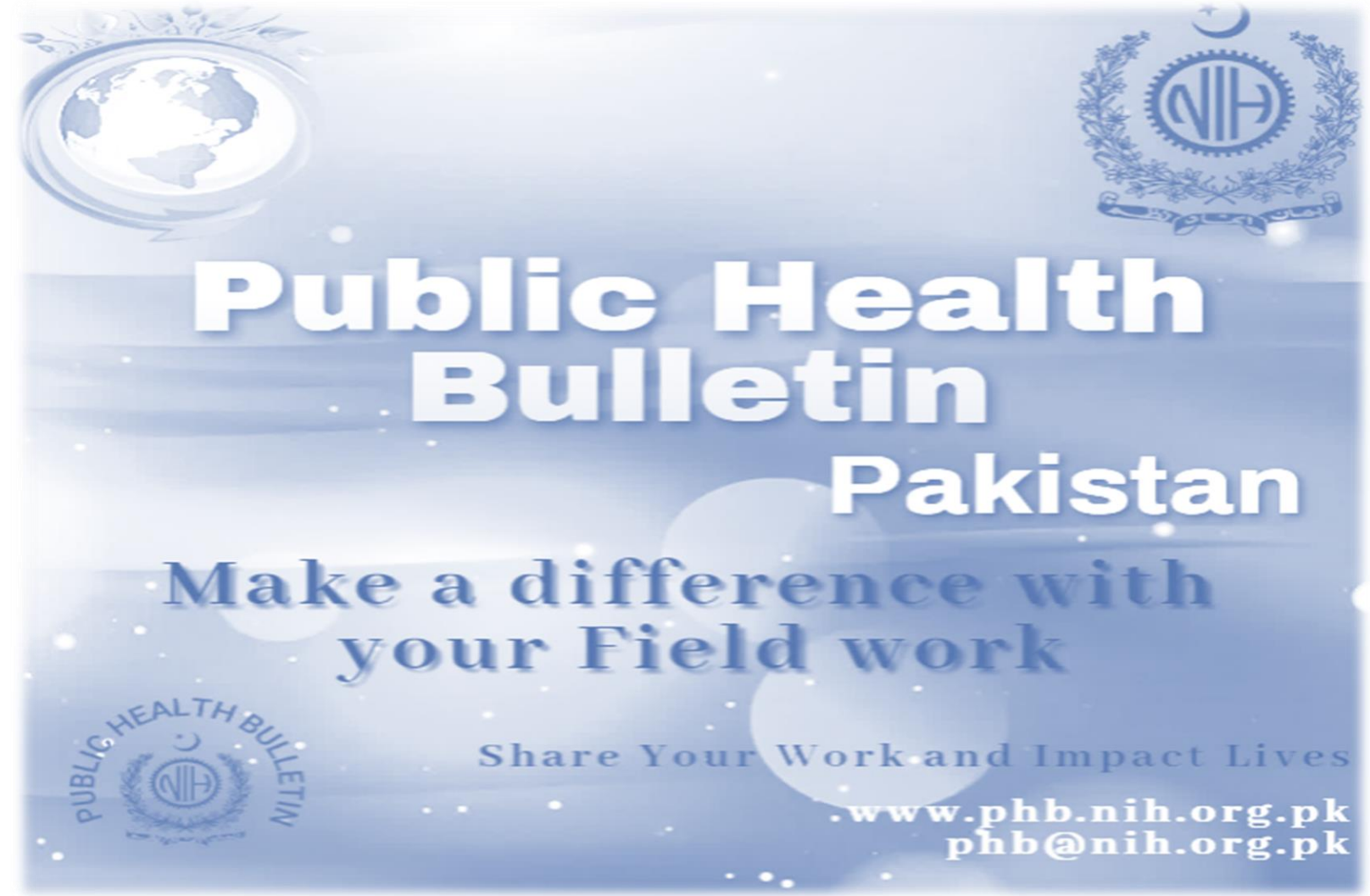
Integrated Disease Surveillance & Response (IDSR) Report

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 20, 2024

Overview

IDSR Reports

Ongoing Events

Field Reports

The Public Health Bulletin is revolutionizing how we stay informed about public health in Pakistan. It's no longer just a dry list of illnesses; it's a comprehensive resource for both healthcare professionals and the public.

Beyond the basics, the Bulletin offers in-depth analysis of prevalent diseases like *Malaria, ILI, TB, ALRI <5 years, B. Diarrhea, dog bite, VH (B, C & D), Typhoid and AWD (S. Cholera)*, providing detailed data for stakeholders to tailor preventive measures and address emerging threats. The Bulletin also acts as an early warning system, identifying concerning trends like the rise in Acute Diarrhea (Non-Cholera) and Malaria. This allows for proactive investigations into potential outbreaks, enabling swift responses to prevent the spread of diseases like Acute Flaccid Paralysis and Brucellosis.

Looking for a deeper dive? The Bulletin features in-depth reports on specific issues like the resurgence of polio, the recent measles outbreak in Nowshera, and suspected typhoid outbreaks. Public health professional also contribute commentary on topics like antibiotic resistance. Furthermore, a dedicated "Knowledge Hub" empowers individuals with resources like informative articles on tuberculosis.

By staying informed through the Public Health Bulletin and acting on its insights, we can all play a vital role in building a healthier Pakistan. This essential tool empowers everyone – from healthcare professionals to the general public – to safeguard the nation's health and well-being.

Sincerely,

The Chief Editor

Overview

- *During week 20, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, TB, ALRI <5 years, B. Diarrhea, dog bite, VH (B, C & D), Typhoid and AWD (S. Cholera).*
- *Twenty-seven cases of AFP reported from KP, ten from Sindh and Punjab each, four from Balochistan, three from AJK and two from GB. All are suspected cases and need field verification.*
- *Thirteen suspected cases of HIV/ AIDS reported from Sindh and six each from Punjab and KP. Field investigation required to verify the cases.*
- *Six cases of Brucellosis reported from KP and four from Balochistan. These are suspected cases and require field verification.*
- *There is an increasing trend observed for Acute Diarrhea (Non-Cholera) and Malaria cases while almost the same trend for TB, B. Diarrhea, dog bite, VH (B, C & D), Typhoid and AWD (S. Cholera) cases this week.*

IDSR compliance attributes

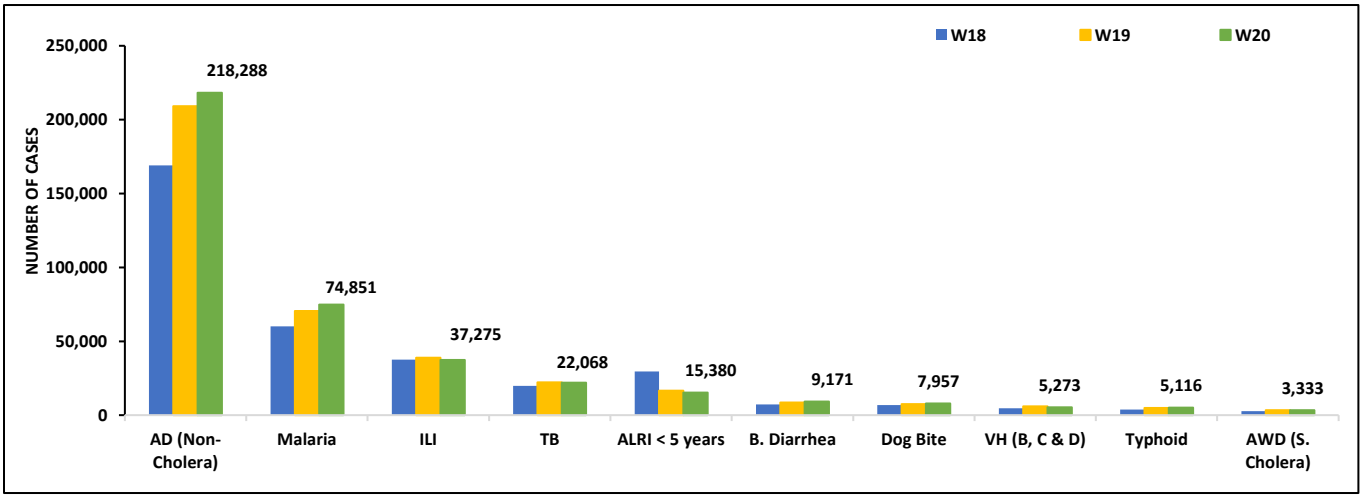
- *The national compliance rate for IDSR reporting in 149 implemented districts* is 77%
- *Gilgit Baltistan and AJK are the top reporting regions with a compliance rate of 99%, followed by Sindh 90% and ICT 80%*
- *The lowest compliance rate was observed in KPK.*

Region	**Expected Reports**	**Received Reports**	**Compliance (%)**
Khyber Pakhtunkhwa	*2740*	*1654*	*60*
Azad Jammu Kashmir	*382*	*380*	*99*
Islamabad Capital Territory	*35*	*28*	*80*
Balochistan	*1220*	*948*	*78*
Gilgit Baltistan	*374*	*371*	*99*
Sindh	*2086*	*1868*	*90*
National	*6837*	*5249*	*77*

Table 1: Province/Area wise distribution of most frequently reported suspected cases during week 20, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	2,236	8,239	906	526	28,360	129,168	48,853	218,288
Malaria	2	8,423	0	6	5,006	3,354	58,060	74,851
ILI	2058	7,293	443	1137	4,464	12	21,868	37,275
TB	59	112	78	14	512	10,519	10,774	22,068
ALRI < 5 years	1100	1774	599	0	1,918	919	9,070	15,380
B.Diarrhea	76	1944	84	7	1,284	1,786	3,990	9,171
Dog Bite	66	110	1	0	635	5,259	1,886	7,957
VH (B, C & D)	11	96	1	1	125	0	5,039	5,273
Typhoid	41	684	41	0	765	2,293	1,292	5,116
AWD (S. Cholera)	47	288	65	5	103	2,730	95	3,333
SARI	231	801	290	1	1,405	0	306	3,034
Dengue	1	1728	0	0	34	916	116	2,795
AVH (A&E)	29	20	1	1	229	0	1,345	1,625
Measles	12	38	19	1	461	153	196	880
CL	0	220	0	0	383	2	3	608
Mumps	14	64	5	1	60	4	227	375
Chikungunya	0	0	0	0	0	0	249	249
Chickenpox/ Varicella	2	28	8	1	53	33	59	184
Gonorrhea	0	78	0	0	17	0	5	100
VL	0	59	0	0	21	0	9	89
Pertussis	0	47	1	0	22	1	2	73
AFP	3	4	2	0	27	10	10	56
Meningitis	4	11	1	0	5	6	13	40
Diphtheria (Probable)	0	20	0	0	7	0	0	27
HIV/AIDS	0	0	0	0	6	6	13	25
Syphilis	0	4	0	0	1	0	12	17
Brucellosis	0	4	0	0	6	0	0	10
NT	0	0	0	0	4	0	0	4
Rubella (CRS)	0	4	0	0	0	0	0	4
Leprosy	0	0	0	0	2	0	0	2

Figure 1: Most frequently reported suspected cases during week 20, Pakistan.



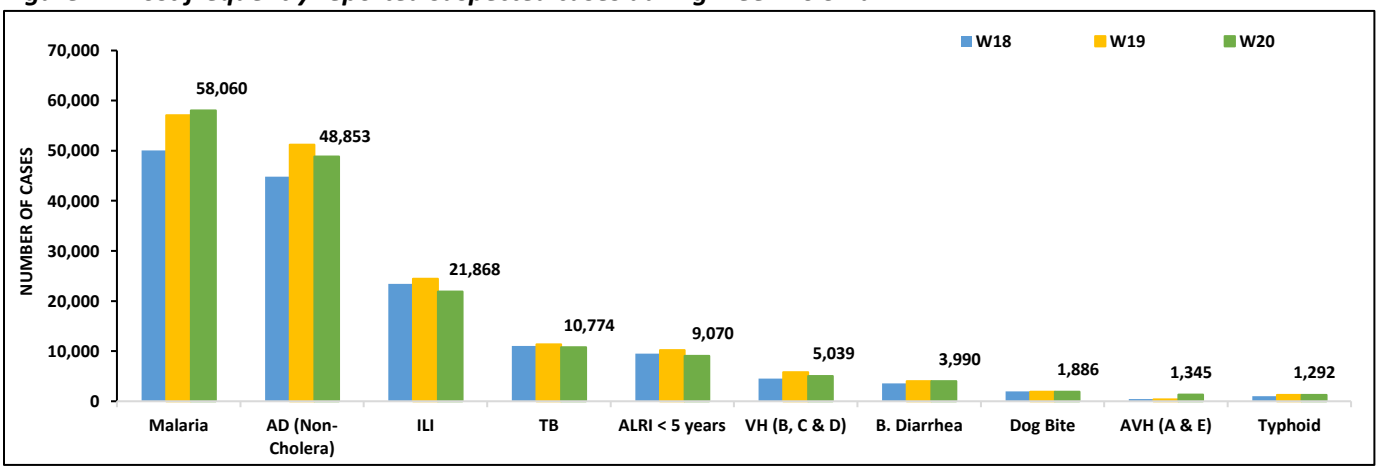
Sindh

- Malaria cases were maximum followed by AD (Non-Cholera), ILI, TB, ALRI<5 Years, VH (B, C, D), B. Diarrhea, dog bite, AVH (A & E) and Typhoid.
- Malaria cases are mostly from Larkana, Khairpur and Badin whereas AD (Non-Cholera) cases are from Dadu, Khairpur and Badin.
- Ten cases of AFP and Thirteen suspected cases of HIV/ AIDS reported from Sindh. All are suspected cases and need field verification.
- There is an increasing trend observed for Malaria, AVH (A & E) and Typhoid cases whereas a decreasing trend for AD (Non-Cholera), ILI, TB, ALRI<5 Years and VH (B, C, D) cases this week.

Table 2: District wise distribution of most frequently reported suspected cases during week 20, Sindh

Districts	Malaria	AD (Non-Cholera)	ILI	TB	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Dog Bite	AVH (A&E)	Typhoid
Badin	4,456	3,697	377	830	583	200	262	20	6	122
Dadu	3,933	4,436	253	439	906	87	532	152	8	98
Ghotki	1,046	1,301	0	291	275	342	196	148	29	0
Hyderabad	195	753	6	32	9	51	0	0	0	13
Jacobabad	1,058	1,035	319	139	468	147	178	163	1	49
Jamshoro	1,834	2,726	29	395	166	71	72	28	4	44
Kamber	3,903	1,910	0	838	312	132	209	169	0	24
Karachi Central	98	1,308	1,080	542	94	158	17	1	2	61
Karachi East	48	489	163	17	11	3	3	9	0	0
Karachi Keamari	2	212	50	0	0	0	1	0	2	0
Karachi Korangi	38	192	0	4	2	0	0	0	0	1
Karachi Malir	232	1,938	2,796	74	238	77	49	48	4	31
Karachi South	51	108	21	1	0	0	3	0	0	0
Karachi West	171	1,155	1,717	139	122	115	54	132	22	32
Kashmore	1,860	591	383	252	152	28	95	163	1	13
Khairpur	5,656	3,703	5,532	1022	995	243	586	181	4	419
Larkana	6,145	2,482	0	914	370	73	381	0	1	16
Matiari	1,651	2,264	5	487	301	298	95	38	6	7
Mirpurkhas	3,173	2,744	2,610	615	600	125	156	49	6	35
Naushero Feroze	947	634	840	326	124	41	68	130	0	56
Sanghar	4,214	1,306	0	939	339	1,179	21	104	2	25
Shaheed Benazirabad	1,592	2,122	0	358	351	233	98	164	0	156
Shikarpur	2,258	1,353	2	190	122	929	153	59	0	0
Sujawal	1,104	286	0	57	65	0	62	0	0	0
Sukkur	1,837	1,588	988	332	200	46	201	34	0	10
Tando Allahyar	1,680	1,743	777	382	231	119	161	22	32	12
Tando Muhammad Khan	1,499	1,380	0	376	133	29	82	0	0	2
Tharparkar	2,482	1,824	1,462	399	862	107	124	0	57	25
Thatta	2,426	1,972	2,458	23	523	146	77	72	1,154	18
Umerkot	2,471	1,601	0	361	516	60	54	0	4	23
Total	58,060	48,853	21,868	10,774	9,070	5,039	3,990	1,886	1,345	1,292

Figure 2: Most frequently reported suspected cases during week 20 Sindh



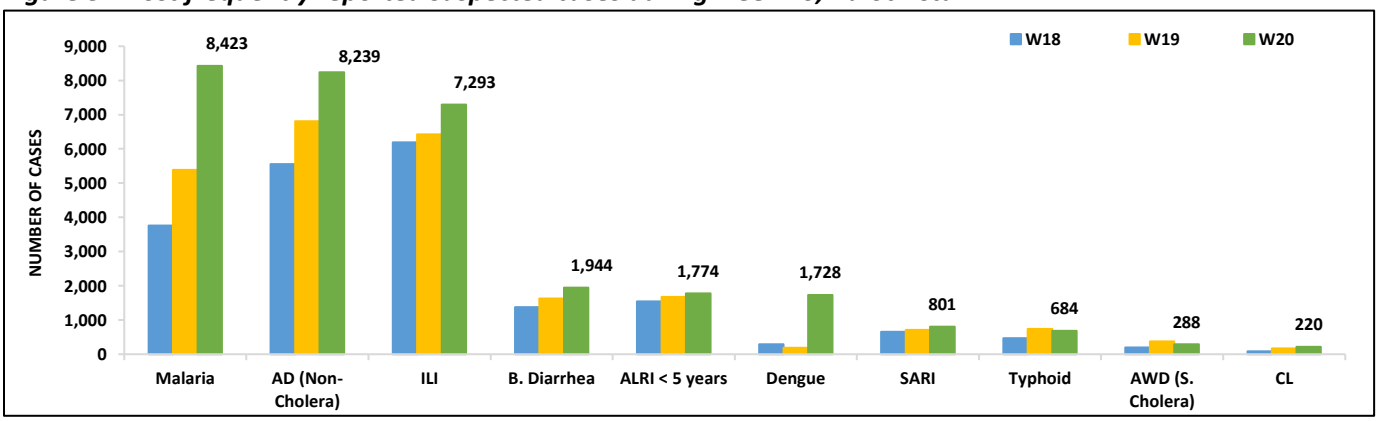
Balochistan

- Malaria, AD (Non-Cholera), ILI, B. Diarrhea, ALRI <5 years, Dengue, SARI, Typhoid, AWD (S. Cholera) and CL cases were the most frequently reported diseases from Balochistan province.
- Malaria cases are mostly reported from Kech (Turbat), Jaffarabad and Sohbatpur while AD (Non-Cholera) cases are mostly reported from Usta Muhammad, Jaffarabad and Gwadar.
- Malaria, AD (Non-Cholera), ILI, B. Diarrhea, ALRI <5 years, Dengue, SARI and CL cases showed an increasing trend while Typhoid and AWD (S. Cholera) cases showed a decreasing trend this week.

Table 3: District wise distribution of most frequently reported suspected cases during week 20, Balochistan

Districts	Malaria	AD Non-Cholera)	ILI	B. Diarrhea	ALRI < 5 years	Dengue	SARI	Typhoid	AWD (S.Cholera)	CL
Awaran	76	11	60	16	0	0	1	6	17	0
Barkhan	97	183	69	29	37	0	1	51	14	0
Chagai	77	192	280	58	3	0	1	24	13	0
Chaman	18	147	268	161	56	0	60	43	4	7
Dera Bugti	105	61	40	32	23	0	31	22	0	0
Duki	54	164	62	92	19	0	49	16	23	2
Gwadar	162	557	983	98	9	32	1	34	0	4
Harnai	56	103	18	90	171	0	0	1	11	0
Hub	239	431	52	46	17	24	0	2	3	5
Jaffarabad	1,213	663	125	68	46	0	43	7	0	71
Jhal Magsi	563	312	170	16	33	0	4	9	21	4
Kachhi (Bolan)	151	92	30	25	7	1	37	40	21	1
Kalat	24	36	2	4	6	0	0	26	0	0
Kech (Turbat)	1,865	495	1,107	103	81	1,671	6	NR	1	2
Kharan	54	183	357	73	0	0	18	4	0	19
Khuzdar	103	143	111	28	7	0	3	6	1	6
Killa Abdullah	10	19	0	13	7	0	3	17	16	2
Killa Saifullah	195	192	4	83	126	0	20	20	1	1
Kohlu	166	292	443	144	30	0	109	47	23	0
Lasbella	521	388	110	28	93	0	3	8	0	3
Loralai	51	224	316	53	37	0	102	18	1	0
Mastung	69	211	142	48	87	0	28	13	18	2
Naseerabad	434	340	7	11	26	0	0	59	0	2
Nushki	5	242	8	42	0	0	3	0	3	0
Panjgur	211	279	59	79	119	0	16	13	13	0
Pishin	36	214	242	72	23	0	7	16	27	14
Quetta	12	389	1,025	70	54	0	12	21	14	60
Sherani	18	21	51	14	0	0	12	6	5	10
Sibi	318	140	232	46	89	0	71	38	17	4
Sohbat pur	832	294	2	71	143	0	21	34	4	0
Surab	24	75	206	0	10	0	0	36	0	0
Usta Muhammad	510	732	155	76	133	0	21	8	1	0
Washuk	33	116	142	40	0	0	0	0	0	0
Zhob	40	156	213	54	250	0	84	12	0	0
Ziarat	81	142	202	61	32	0	34	27	16	1

Figure 3: Most frequently reported suspected cases during week 20, Balochistan

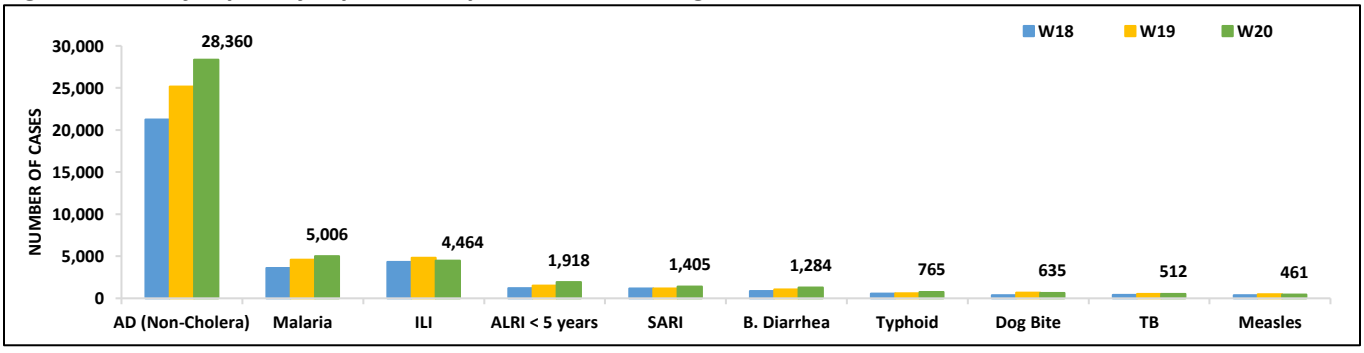


- Cases of AD (Non-Cholera) were maximum followed by Malaria, ILI, ALRI<5 Years, SARI, B. Diarrhea, Typhoid, dog bite, TB and Measles cases.
- AD (Non-Cholera), Malaria, ALRI<5 Years, SARI, B. Diarrhea and Typhoid cases showed an increasing trend, ILI and Measles showed a decreasing trend while dog bite and TB cases showed almost the same trend this week.
- Twenty-seven cases of AFP reported from KP. All are suspected cases and need field verification.
- Six suspected cases of HIV/ AIDS and Brucellosis reported from KP. Field investigation required to verify the cases

Table 4: District wise distribution of most frequently reported suspected cases during week 20, KP

Districts	AD (Non-Cholera)	Malaria	ILI	ALRI <5 Years	SARI	B. Diarrhea	Typhoid	Dog Bite	TB	Measles
Abbottabad	729	20	57	19	10	1	21	6	36	10
Bajaur	909	318	29	334	33	59	13	37	43	22
Bannu	1,099	1,725	14	20	12	22	84	1	32	24
Battagram	117	0	188	0	0	0	0	0	0	0
Buner	571	252	0	28	0	0	19	5	1	4
Charsadda	1,715	273	419	257	4	144	84	1	6	19
Chitral Lower	320	19	60	28	62	28	9	12	7	3
Chitral Upper	114	7	11	6	7	5	13	0	2	0
D.I. Khan	1,991	291	0	4	0	29	0	8	28	92
Dir Lower	1,080	234	2	108	1	69	66	6	10	10
Dir Upper	360	20	45	14	0	1	39	0	35	2
Hangu	12	35	10	0	0	0	0	0	0	0
Haripur	1,777	22	419	49	5	57	40	0	25	24
Karak	276	132	2	20	0	0	6	23	9	39
Khyber	404	121	38	16	31	81	32	24	14	4
Kohat	49	58	59	0	5	0	2	0	0	0
Kohistan Lower	166	2	0	5	0	9	0	4	0	2
Kohistan Upper	397	7	25	7	0	51	29	2	0	0
Kolai Palas	89	3	0	13	10	14	14	0	2	0
L & C Kurram	20	7	49	0	0	12	1	0	0	0
Lakki Marwat	759	247	3	6	0	26	8	44	12	7
Malakand	868	6	54	25	12	50	15	0	4	8
Mansehra	829	1	603	57	82	7	11	50	6	6
Mardan	968	13	0	369	0	16	0	1	10	2
Mohmand	241	180	64	2	36	22	4	6	1	2
NWA	36	4	0	2	2	12	0	0	0	4
Nowshera	2,248	80	51	2	6	81	20	9	21	23
Orakzai	55	29	20	2	0	23	1	46	1	4
Peshawar	3,926	79	525	82	263	250	70	26	41	53
SD Peshawar	5	1	0	0	0	1	0	0	0	0
SD Tank	8	43	0	0	0	1	0	1	0	0
Shangla	596	302	0	20	0	3	17	21	46	6
SWA	95	129	160	43	113	26	40	9	2	4
Swabi	2,160	72	989	276	177	39	27	183	91	55
Swat	2,530	41	179	57	0	59	21	87	14	2
Tank	571	115	43	29	0	2	39	2	3	24
Tor Ghar	88	77	0	5	15	18	5	10	0	0
Upper Kurram	182	41	346	13	519	66	15	11	10	6
Total	28,360	5,006	4,464	1,918	1,405	1,284	765	635	512	461

Figure 4: Most frequently reported suspected cases during week 20, KP



ICT, AJK & GB

ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and TB. ILI, AD (Non-Cholera) and TB showed an increasing trend in cases this week.

AJK: AD (Non-Cholera) cases were maximum followed by ILI, ALRI <5 years, SARI, B. Diarrhea, dog bite, TB, AWD (S. Cholera), Typhoid and AVH (A & E) cases. Cases of AD (Non-Cholera), ILI, ALRI <5 years, B. Diarrhea, dog bite, TB, AWD (S. Cholera) and AVH (A & E) showed an increasing trend while SARI and Typhoid cases showed a decreasing trend this week. Three cases of AFP reported from AJK. All are suspected cases and need field verification.

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

Figure 5: Week wise reported suspected cases of ILI, ICT

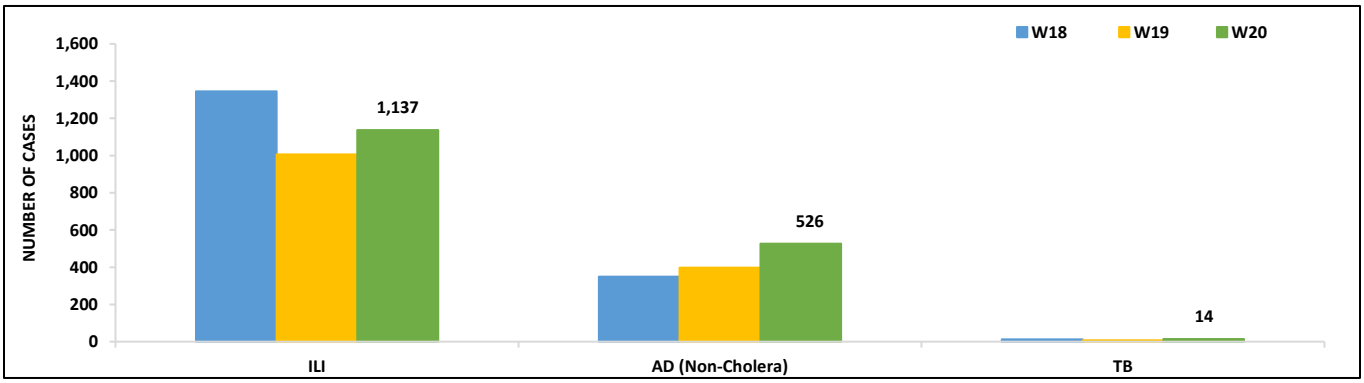


Figure 6: Week wise reported suspected cases of ILI, ICT

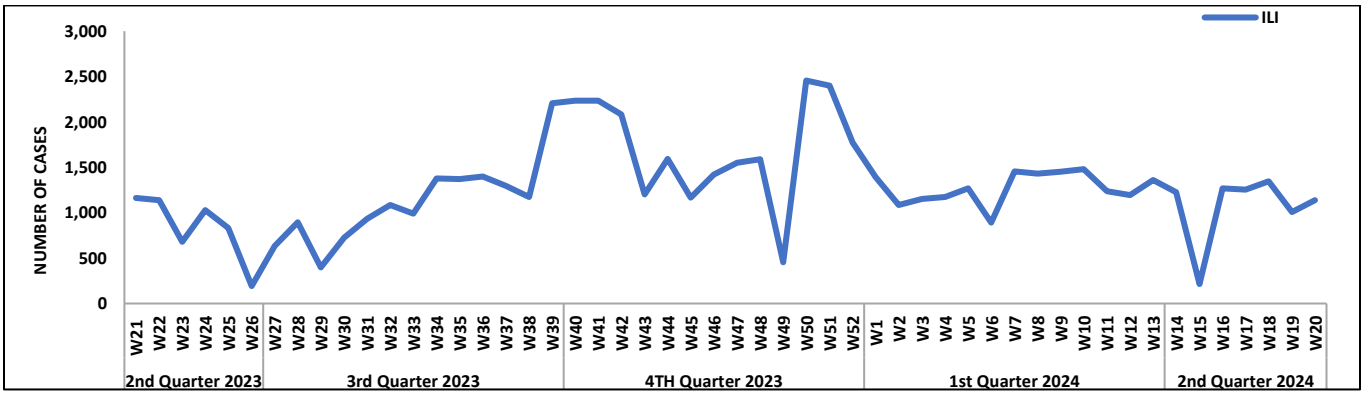


Figure 7: Most frequently reported suspected cases during week 20, AJK

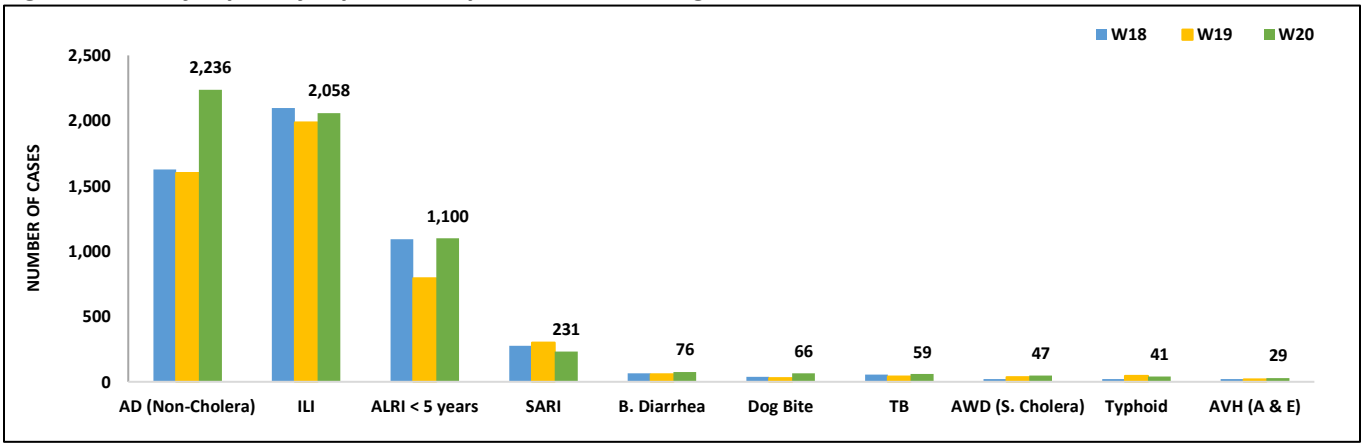


Figure 8: Week wise reported suspected cases of ILI and AD (Non-Cholera) AJK

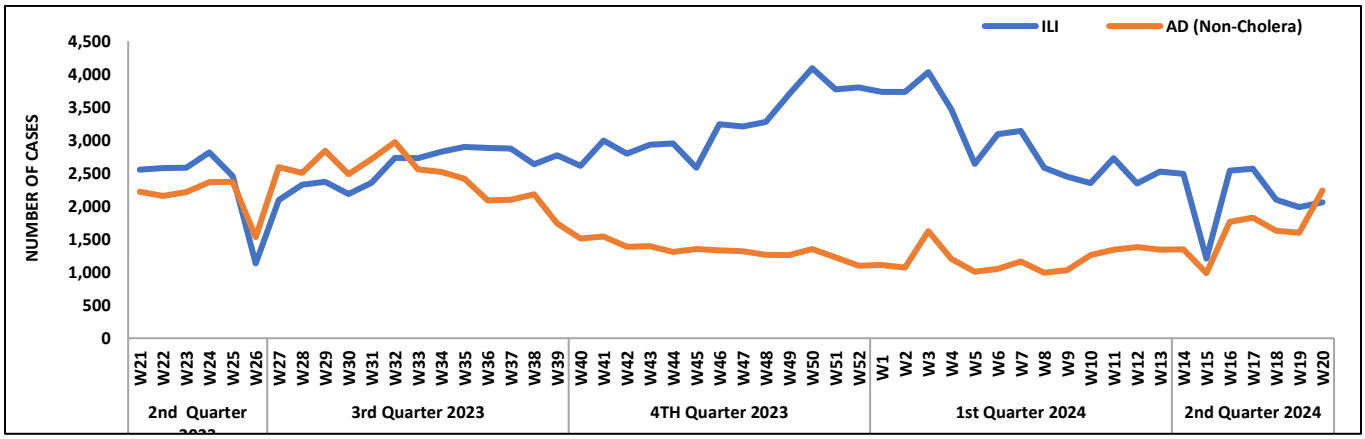


Figure 9: Most frequent cases reported during Week 20, GB

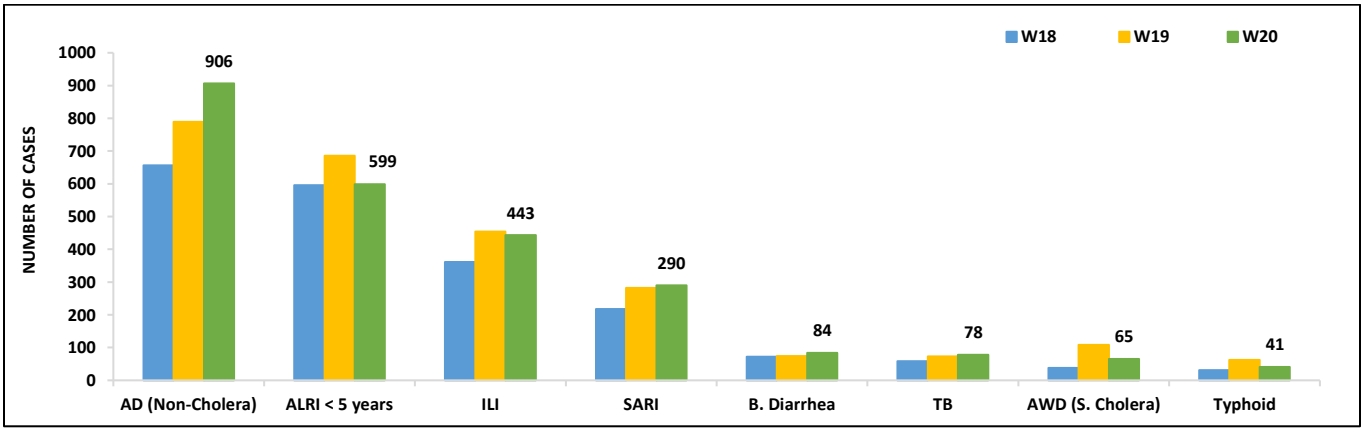
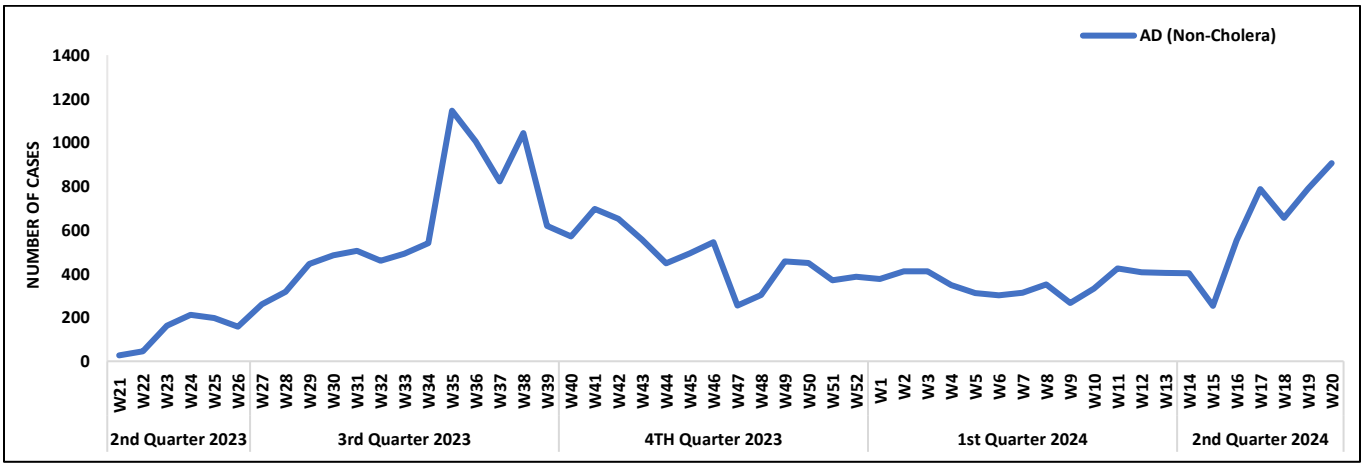


Figure 10: Week wise reported suspected cases of ALRI, GB



Punjab

- AD (Non-Cholera) cases were maximum followed by TB, dog bite, Malaria, AWD (S. Cholera), Typhoid, B. Diarrhea, ALRI<5 Years and Dengue cases.
- AD (Non-Cholera) cases showed an increasing trend, TB and dog bite cases showed an almost same trend while Malaria, AWD (S. Cholera), Typhoid, B. Diarrhea, ALRI<5 Years and Dengue cases showed a slightly decreasing trend this week.
- Ten cases of AFP and Six suspected cases of HIV/ AIDS reported from Punjab. All are suspected cases and need field verification.

Figure 11: Most frequently reported suspected cases during week 20, Punjab.

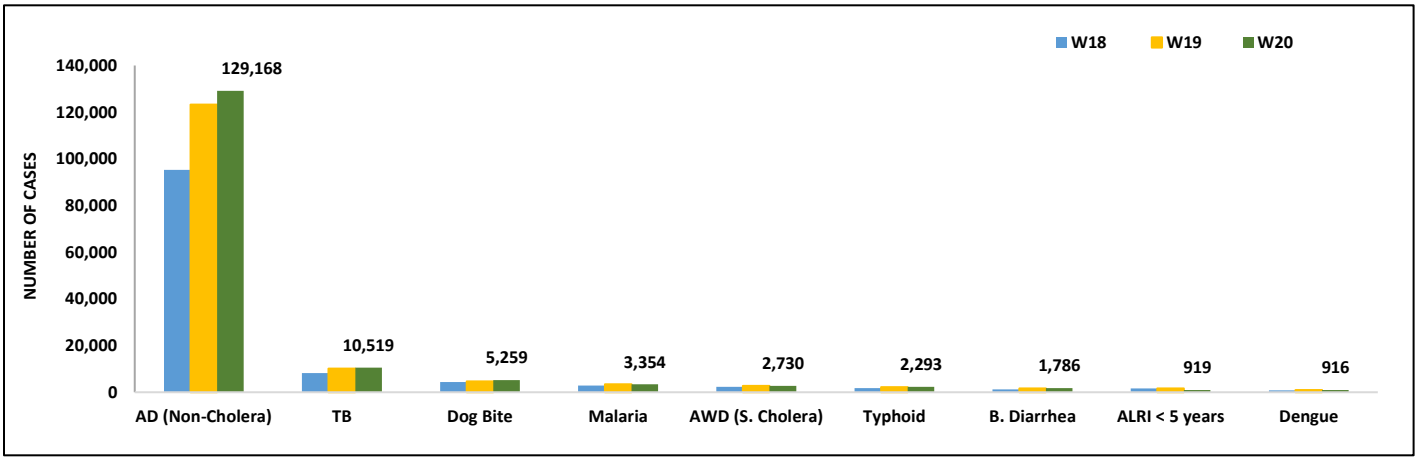


Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 20

Diseases	Sindh		Balochistan		KPK		ISL		GB	
	Total Test	Total Positive	Total Test	Total Positive	Total Test	Total Positive	Total Test	Total Positive	Total Test	Total Positive
AWD (S. Cholera)	5	0	-	-	2	0	-	-	-	-
AD (Non-Cholera)	77	0	-	-	-	-	-	-	-	-
Malaria	2,507	88	-	-	-	-			1	0
CCHF	-	-	-	-	1	1	1	0	-	-
Dengue	666	45	-	-	3	2	11	0	-	-
VH (B)	3,699	88	0	0	-	-	-	-	142	0
VH (C)	3,900	379	0	0	-	-	-	-	142	0
VH (A&E)	0	0	-	-	4	0			-	-
Covid-19	-	-	13	0	1	0	8	0	-	-
HIV	120	0	-	-		-	-	-	-	-
Diphtheria	-	-	-	-	2	0	9	0	-	-
Influenza A	-	-	0	0	0	0	40	0	0	0
TB	36	0	-	-	-	-	-	-	-	-
Syphilis	68	0	-	-	-	-	-	-	-	-
Pertussis	-	-	-	-	-	-	2	0	-	-
Typhoid	503	10	-	-	-	-	13	1	-	-
Mumps	-	-	-	-	-	-	0	0	-	-
Measles	-	-	-	-	-	-	-	-	-	-

IDSR Reports Compliance

- Out OF 158 IDSR implemented districts, compliance is low from KPK. Green color showing >50% compliance while red color is <50% compliance

Table 6: IDSR reporting districts Week 20, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	103	93%
	Bannu	234	130	56%
	Battagram	63	16	25%
	Buner	34	27	79%
	Bajaur	44	26	59%
	Charsadda	59	52	88%
	Chitral Upper	34	28	82%
	Chitral Lower	35	35	100%
	D.I. Khan	114	108	95%
	Dir Lower	74	74	100%
	Dir Upper	53	32	60%
	Hangu	22	2	9%
	Haripur	72	67	93%
	Karak	35	35	100%
	Khyber	64	17	27%
	Kohat	61	61	100%
	Kohistan Lower	11	11	100%
	Kohistan Upper	20	20	100%
	Kolai Palas	10	10	100%
	Lakki Marwat	70	70	100%
	Lower & Central Kurram	40	5	13%
	Upper Kurram	42	24	57%
	Malakand	42	35	83%
	Mansehra	136	97	71%
	Mardan	80	73	91%
	Nowshera	55	53	96%
	North Waziristan	380	1	0%
	Peshawar	151	131	87%
	Shangla	65	14	22%
	Swabi	63	63	100%
	Swat	77	76	99%
	South Waziristan	134	52	39%
	Tank	34	33	97%
	Torghar	14	14	100%
	Mohmand	86	36	42%
	SD Peshawar	5	2	40%
	SD Tank	58	3	5%
	Orakzai	68	18	26%
	Mirpur	37	37	100%
	Bhimber	20	20	100%
	Kotli	60	60	100%
	Muzaffarabad	45	44	98%
	Poonch	46	46	100%
	Haveli	39	39	100%

Azad Jammu Kashmir	Bagh	40	40	100%
	Neelum	39	38	97%
	Jhelum Vellay	29	29	100%
	Sudhnooti	27	27	100%
Islamabad Capital Territory	ICT	21	19	90%
	CDA	14	9	64%
Balochistan	Gwadar	25	25	100%
	Kech	40	35	88%
	Khuzdar	20	20	100%
	Killa Abdullah	20	3	15%
	Lasbella	55	55	100%
	Pishin	62	21	34%
	Quetta	43	22	51%
	Sibi	36	36	100%
	Zhob	39	28	72%
	Jaffarabad	16	16	100%
	Naserabad	32	32	100%
	Kharan	30	30	100%
	Sherani	15	14	93%
	Kohlu	75	62	83%
	Chagi	35	26	74%
	Kalat	41	40	98%
	Harnai	17	17	100%
	Kachhi (Bolan)	35	32	91%
	Jhal Magsi	26	26	100%
	Sohbat pur	25	25	100%
	Surab	32	32	100%
	Mastung	45	45	100%
	Loralai	33	23	70%
	Killa Saifullah	28	27	96%
	Ziarat	29	26	90%
	Duki	31	31	100%
	Nushki	32	29	91%
	Dera Bugti	45	20	44%
	Washuk	46	13	28%
	Panjgur	38	21	55%
	Awaran	23	7	30%
	Chaman	25	23	92%
	Barkhan	20	19	95%
	Hub	33	33	100%
	Musakhel	41	0	0%
	Usta Muhammad	34	34	100%
Gilgit Baltistan	Hunza	32	30	94%
	Nagar	20	20	100%
	Ghizer	40	40	100%
	Gilgit	40	39	98%
	Diamer	62	62	100%
	Astore	54	54	100%

	Shigar	27	27	100%
	Skardu	52	52	100%
	Ganche	29	29	100%
	Kharmang	18	18	100%
Sindh	Hyderabad	73	26	36%
	Ghotki	64	64	100%
	Umerkot	43	43	100%
	Naushahro Feroze	107	62	58%
	Tharparkar	282	233	83%
	Shikarpur	60	60	100%
	Thatta	52	38	73%
	Larkana	67	67	100%
	Kamber Shadadkot	71	70	99%
	Karachi-East	23	19	83%
	Karachi-West	20	20	100%
	Karachi-Malir	37	37	100%
	Karachi-Kemari	18	6	33%
	Karachi-Central	11	8	73%
	Karachi-Korangi	18	11	61%
	Karachi-South	4	4	100%
	Sujawal	54	31	57%
	Mirpur Khas	106	100	94%
	Badin	124	121	98%
	Sukkur	63	63	100%
	Dadu	90	88	98%
	Sanghar	100	100	100%
	Jacobabad	44	44	100%
	Khairpur	169	168	99%
	Kashmore	59	59	100%
	Matiari	42	42	100%
	Jamshoro	68	68	100%
	Tando Allahyar	54	54	100%
	Tando Muhammad Khan	40	40	100%
	Shaheed Benazirabad	124	122	98%

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Polio Resurgence: Renewed Vigilance and Collaboration Needed

Pakistan faces a renewed threat of polio, with a third case reported this year from Killa Abdullah, Balochistan. The child, paralyzed on April 20th, tested positive for wild poliovirus type 1 (WPV1) according to the National Institute of Health's Regional Reference Laboratory. This marks the first polio case in Killa Abdullah in three years, and the third in Balochistan for 2024. Genetic sequencing confirms the virus is linked to the imported YB3A WPV1 cluster. This latest case serves as a stark reminder of polio's ongoing threat to vulnerable children. It underscores the need for immediate and sustained action to achieve global polio eradication.

Adding to the concern, environmental samples from six previously affected districts also tested positive for WPV1. This virus, which disappeared from Pakistan in 2021, re-emerged last year through cross-border transmission. So far, the YB3A virus has been detected in 38 districts through sewage samples and three confirmed cases. The widespread presence of poliovirus in environmental samples raises serious concerns. This early warning system allows for rapid response strategies to identify and vaccinate potentially infected populations. Utilizing this data effectively is crucial to contain the virus and protect vulnerable communities.

The Pakistan Polio Program is aggressively combating the spread. Four vaccination campaigns have been completed, and a fifth will launch on June 3rd, 2024 targeting over 16.6 million children under five in high-risk areas. While the government's mass vaccination campaigns are commendable, community engagement is crucial for long-term success. Misinformation and vaccine hesitancy remain significant hurdles. To overcome them, a collaborative effort is needed from healthcare professionals, community leaders, and citizens. Educating and empowering communities, addressing concerns, and fostering a culture of vaccination acceptance for all children under five are vital steps.

The upcoming nationwide campaign presents a golden opportunity to protect children. We urge all parents and caregivers to prioritize their children's health by ensuring they receive the life-saving polio vaccine during this critical time. Only through unwavering commitment and collaborative action can we create a future free from polio's devastating consequences.

A note from Field Activities.

Measles Outbreak Investigation Nowshera District, Khyber Pakhtunkhwa. March-April 2024

Dr. Lalzari
Public Health Section DGHS, KP

Dr. Majid Salim
Technical Support Officer, DGHS, KP

Background:

Measles, a highly contagious yet vaccine-preventable viral illness, had been steadily reported throughout early 2024 within Nowshera district's surveillance system. This concerning trend culminated in a concentrated outbreak between weeks 10 and 16 of 2024, affecting specific Union Councils (UCs). In response, the Public Health Section of the Directorate General of Health Services (DGHS) in Khyber Pakhtunkhwa promptly launched an investigation into the outbreak.

Objective:

To investigate the magnitude, contributing factors, and recommend preventive measures for the measles outbreak.

Methodology:

To gain a comprehensive understanding of the outbreak, a cross-sectional study was employed. This involved delving into various data sources: official records like district case lists and lab reports. Additionally, the investigative team actively searched for potential cases and transmission patterns by interviewing contacts and visiting surrounding households. Finally, community surveys using structured questionnaires were conducted to assess healthcare practices and vaccination status. Interviews with healthcare providers further

bolstered the data by providing valuable insights into the area's overall vaccination coverage.

Results:

The investigation in Nowshera district identified a measles outbreak with 201 suspected cases. These cases were reported across 49 UCs, with the highest concentration in Nawkalay and Pir Sabaq. The outbreak peaked in mid-March, with the first case identified in late February and the last in late March. Notably, males made up a larger proportion of cases (124) compared to females (77). While the average age of cases was 30months, a significant portion (38%) fell within the 9-23months age group.

Lack of complete vaccination was a key factor, with 88% of suspected cases unvaccinated. These unvaccinated cases came from areas without Lady Health Workers. Further investigation through community surveys revealed a concerning trend - individuals likely refuse vaccination during campaigns. Only 5% of suspected cases were laboratory confirmed for measles.

Discussion:

The investigation identified low measles vaccination coverage and a lack of awareness regarding its importance as key factors contributing to the outbreak. Furthermore, the absence or non-deployment of LHWs in specific areas likely exacerbated the situation.

Recommendations:

- **Deploy LHWs:** Fill vacancies and ensure LHW presence in previously uncovered areas to strengthen primary healthcare services.
- **Community Awareness Campaigns:** Healthcare providers from both public and private sectors should conduct targeted campaigns to address vaccine hesitancy and promote measles immunization, dispelling misconceptions about vaccination.
- **Strengthen Routine Immunization:** Robust monitoring, supervision, and maintaining an uninterrupted vaccine supply chain are essential to ensure complete vaccination coverage.

Conclusion:

By implementing these recommendations, health authorities can effectively control the current outbreak and prevent future occurrences of measles in Nowshera district.

A note from Field Activities.

Investigation of Suspected Enteric /Typhoid Fever, Village Bazoo Khel, Union Council: Tajori, Lakki Marwat, April-May, 2024

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Introduction:

A suspected outbreak of enteric/typhoid fever emerged in Bazookhel village, UC Tajori, Lakki Marwat district in May 2024. Alarming reports from the community and media prompted the Public Health Section to initiate an immediate investigation. The team aimed to identify the outbreak source, assess its severity, and implement control measures.

Methods

In order to gain a thorough understanding of the outbreak, a multi-faceted approach was implemented. This involved actively searching for cases within the community of Bazookhel, conducting interviews with residents, and evaluating their environment.

Cases were defined as follows: suspected cases displayed a fever exceeding 38°C for more than three days, accompanied by abdominal pain, malaise, and gastrointestinal issues (occurring between April 1st and May 10th). Confirmed cases required the isolation of Salmonella Typhi from a blood culture. Finally, probable cases exhibited clinical symptoms and were linked to the same water source as a confirmed case. The active case search aimed to identify any individuals within the community experiencing similar symptoms. Following case identification, an epidemiological investigation was conducted to assess potential risk factors. This investigation utilized interviews and observations,

focusing on the community's water source and household hygiene practices.

Results

Nineteen cases were identified, with a slight male predominance (1.3:1 male-to-female ratio) and ages ranging from 2 to 39 years (median: 11). All patients presented with fever, abdominal discomfort, and body aches. Notably, blood culture from one case at a private lab identified Salmonella resistant to common antibiotics. Water sample analysis is ongoing to determine the source of the outbreak.

Control Measures

To combat the outbreak, a multi-pronged approach was implemented. Water samples were tested to identify contamination and inform corrective actions. Households were provided with water purifiers and purification tablets to guarantee safe drinking water. Public health campaigns educated communities on typhoid fever transmission and proper hygiene practices. Sanitation systems in affected villages were inspected to pinpoint potential contamination sources. Additionally, active case detection and reporting protocols were enhanced, alongside the Integrated Disease Surveillance and Response System (IDSRS) to ensure swift identification and response to future outbreaks.

Conclusion

The isolation of XDR Salmonella and its clinical presentation strongly indicate an XDR Typhoid outbreak in Bazookhel. Urgent intervention is required to eliminate the source of infection, contain the outbreak, and safeguard public health.

Recommendations

To effectively address the current outbreak, we recommend several ongoing actions:

- **Water Treatment and Sanitation:** Prompt chlorination of all water sources by relevant authorities, alongside increased investment in water and sanitation infrastructure for long-term access to clean water.
- **Hygiene Practices:** Public awareness campaigns promoting handwashing with soap, safe food handling, and proper human waste disposal.
- **Community Engagement:** Strengthening collaboration with local leaders and stakeholders, fostering communication and participation.
- **Surveillance and Response:** Enhanced surveillance systems for early detection of infectious diseases, including antimicrobial resistance monitoring. Regular water testing with results shared with health authorities.
- **Antimicrobial Management:** Discouraging over-the-counter antibiotic prescriptions and implementing regular food inspections, particularly for dairy products.
- **Food Safety:** Discouraging vendors from washing produce with contaminated water.
- **Reporting:** Mandating immediate reporting of XDR Typhoid cases by all private clinics and laboratories.

Commentary.

Protecting Ourselves from the Threat of Antibiotic Resistance

Dr. Majid Salim
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Heralded as a revolutionary discovery of the 20th century, antibiotics have saved countless lives by effectively combating bacterial infections. However, their indiscriminate use and misuse have given rise to a troubling phenomenon: antimicrobial resistance (AMR). AMR emerges when bacteria develop the ability to resist antibiotics, rendering these life-saving medications powerless.

Understanding the Causes of AMR

The rise of antimicrobial resistance (AMR) is a complex issue fueled by several interconnected factors. In healthcare settings, the excessive use of antibiotics in hospitals and clinics exposes a vast number of bacteria to these drugs. This constant selective pressure creates an environment where resistant strains can thrive and propagate.

Similarly, the routine administration of antibiotics in agricultural practices for growth promotion or disease prevention in livestock contributes to the problem. These practices can lead

to the dissemination of resistant bacteria through the food chain and ultimately into the environment.

Furthermore, incomplete antibiotic treatment regimens pose a significant threat. When patients fail to complete the prescribed course of antibiotics, some bacteria may survive and potentially develop resistance mechanisms. This highlights the importance of adherence to prescribed antibiotic regimens for the full duration of treatment.

Finally, limited access to clean water and proper sanitation creates breeding grounds for bacteria, increasing the overall need for antibiotics and consequently, the risk of AMR emergence. Improving sanitation infrastructure and promoting hygiene practices can significantly reduce the burden of infectious diseases, thereby lowering reliance on antibiotics and mitigating the development of resistance.

A Call for Collective Action: Preventing the Tide of AMR

The World Antimicrobial Awareness theme "Preventing antimicrobial resistance together," aptly emphasizes the critical need for a unified global response to address the growing threat of Antimicrobial Resistance (AMR). This complex issue transcends human health, impacting animals, plants, and the environment, necessitating collaboration across all sectors.

Effectively mitigating AMR requires a multifaceted approach that hinges on the responsible use of antibiotics by all stakeholders, alongside robust preventive measures to minimize infections. Here are some key strategies that can contribute significantly:

- **Strengthening Infection Prevention and Control:** Implementing and enforcing rigorous infection prevention and control protocols in healthcare facilities, farms, and food production areas is crucial to curbing the spread of infections and thereby reducing reliance on antibiotics.
- **Promoting Hygiene and Sanitation:** Ensuring **universal access** to clean water, sanitation facilities, and good hygiene practices, coupled with the promotion of vaccination programs, plays a vital role in reducing the overall incidence of infections, thus decreasing the need for antibiotics.
- **Combating Environmental Pollution:** Minimizing environmental pollution and implementing effective waste management practices contribute to a healthier environment with fewer opportunities for the emergence and spread of resistant bacteria.
- **Universal Healthcare Access:** Providing equitable access to quality healthcare for all, including access to expert advice for animal, food, and agricultural production, fosters a culture of responsible antibiotic use, ultimately contributing to the global fight against AMR.

Individual Responsibility: Protecting Yourself and Your Loved Ones

To effectively combat the growing threat of antimicrobial resistance (AMR), individual action plays a crucial role. This responsibility manifests in several key ways.

Firstly, consulting a doctor before taking antibiotics and adhering strictly to their prescribed course is paramount. Antibiotics are powerful tools, but their misuse fuels the development of resistant bacteria.

Secondly, understanding the potential consequences of AMR, such as the emergence of untreatable infections, can significantly motivate responsible behavior. Furthermore, practicing good hygiene, including frequent handwashing, can significantly reduce the spread of infections, minimizing the need for antibiotics in the first place.

Finally, ensuring yourself and your family are up-to-date on vaccinations provides a powerful form of prevention, further reducing reliance on antibiotics.

By embracing these practices collectively, we can ensure the continued efficacy of antibiotics for future generations. In essence, a judicious approach to antibiotic use, coupled with preventive measures like good hygiene and vaccination, is our best defense against the growing threat of AMR.

Abstarct.

Investigation of the Leishmania Outbreak in UC Chokara Village, Zarkhan Kalla, District Karak, Khyber Pakhtunkhwa, Pakistan

Dr Safdar Irfan Marwat **Dr. Majid Salim**
Fellow 14th cohort FELTP. **TSO, KPK**

Background: An outbreak of Leishmaniasis prompted an investigation in UC Chokara, Village Zarkhan Kalla, District Karak, Khyber Pakhtunkhwa, Pakistan, affecting a population of 2,500. The public health coordinator reported the first case on November 10th, 2022, followed by additional cases over the next 27 weeks. This investigation aims to determine the outbreak's magnitude, control its spread, and recommend preventive measures for the future.

Methods: A descriptive study was conducted in Zarkhan kala village, Karak district. Residents with lesions on uncovered body parts from November 2022 to May 2023 were included. Data collection employed a mix of methods: semi-structured interviews, hospital record review, and field activities by an outbreak response team. This team conducted disease surveillance, actively searching for cases and inspecting potential breeding sites. Data analysis utilized Microsoft Excel and Epi-info7 software.

Results: A total of 73 cases were enrolled in the study, with maximum number of 10 cases reported during 18th Epi-week 2023. The overall Attack Rate is 3% and highest Attack Rate 5% was found in age group (11-20) years. The age range of affected individuals varied from 2 to 78 years with median age of 18 years. Females were more affected 64%(n=47) than males 36% (n=26). 26% of the cases used long sleeves while outside, 37% used insect repellents and only 4% used bed nets during sleeping outdoor.

Conclusions: As the outbreak persists, further monitoring is necessary. Our findings reveal a concerning lack of insect bite prevention measures within the community. To address this immediate issue, the study recommends a multi-pronged approach. Short-term solutions include fumigation, indoor residual spraying, and the distribution of mosquito nets and repellent. Additionally, educational sessions in schools and the community are crucial. Long-term strategies should focus on vector surveillance and case-control studies to pinpoint potential risk factors for future prevention efforts

Key words: Leishmaniasis, District Karak, Khyber Pakhtunkhwa, Pakistan

Knowledge Hub

Tuberculosis: A Global Scourge Demands Collective Action

Tuberculosis (TB), a bacterial infection plaguing humanity for centuries, remains a significant public health threat. Primarily affecting the lungs, but with the potential to spread to other organs, TB claims millions of lives annually. Developing nations like Pakistan bear a disproportionate burden of this disease.

A Stealthy Attacker:

TB spreads primarily through the air, transmitted via droplets expelled when individuals with active TB cough, sneeze, sing, or even talk loudly. These inhaled bacteria can establish themselves in the lungs, triggering an immune response. While initial infection often remains dormant, weakened immunity can lead to reactivation, causing persistent cough, fever, weight loss, and night sweats.

The Challenge of Drug Resistance:

The emergence of multidrug-resistant TB (MDR-TB) significantly complicates control efforts. These strains require extended, harsher antibiotic regimens with significant side effects, often arising from misuse or inadequate adherence to treatment. This highlights the critical need for patient education and robust healthcare systems.

Pakistan's Battle with TB:

Pakistan ranks fifth globally in terms of TB burden, with a concerning prevalence of MDR-TB. This grim reality stems from several factors:

- **Limited Healthcare Access:** Rural communities often lack proper diagnostic and treatment facilities, delaying diagnosis and treatment initiation.
- **Socioeconomic Disparities:** Poverty, malnutrition, and poor living conditions weaken immune systems, increasing susceptibility.
- **Stigma and Discrimination:** Misconceptions surrounding TB lead to social isolation and reluctance to seek help, hindering control efforts.

A Multifaceted Approach to Control:

Effectively combating TB requires a comprehensive strategy:

- **Universal Access to Early Diagnosis and Treatment:** Strengthening healthcare infrastructure, especially in rural areas, is crucial. Rapid diagnostic tests and effective medications, including those for MDR-TB, must be readily available and affordable.
- **Patient Education and Adherence:** Empowering individuals with knowledge about TB transmission, prevention, and treatment adherence is vital. Support groups can combat stigma and ensure treatment completion.
- **BCG Vaccination:** While not offering complete protection, the Bacillus Calmette-Guérin (BCG) vaccine helps reduce TB severity in children.
- **Improved Living Conditions:** Addressing poverty, improving sanitation, and promoting healthy hygiene practices significantly reduce transmission risks.
- **Continuous Research and Development:** Investments in new diagnostics, drugs, and vaccines are essential for long-term success.

A Shared Responsibility:

The fight against TB demands a collective effort. Governments, healthcare providers, NGOs, and individuals all have a role to play. By prioritizing prevention, ensuring comprehensive care, and addressing the social determinants of health, we can break the chain of transmission and create a healthier future. Remember, a seemingly insignificant cough today could have devastating consequences tomorrow. Let us raise awareness, break the stigma, and work together to finally defeat this ancient disease.

Public Health Bulletin Pakistan

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