

PUBLIC HEALTH BULLETIN-PAKISTAN

Integrated Disease Surveillance & Response (IDSR) Report

**Center of Disease Control
National Institute of Health, Islamabad**

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16th Apr 2024**

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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

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Public Health Bulletin - Pakistan, Week 14, 2024

Overview

This week's Public Health Bulletin serves as a vital call to action for both healthcare professionals and the public. It delves into the current state of health across Pakistan, providing a granular look at prevalent illnesses like acute diarrhea, malaria, and childhood respiratory infections. By tracking trends in diseases like tuberculosis, hepatitis, and even dog bites, the report empowers stakeholders to tailor preventive measures and address areas of critical concern.

IDSR Reports

However, the report goes beyond mere data. It also flags potential outbreaks, urging immediate investigation. Suspected cases of Acute Flaccid Paralysis, HIV/AIDS, and Brucellosis have been identified in several provinces, demanding swift field verification to contain any potential spread.

Ongoing Events

Encouragingly, the report highlights positive trends. Cases of malaria, influenza-like illnesses, childhood respiratory infections, tuberculosis, hepatitis, and dog bites are all on the decline. This is a testament to ongoing public health efforts.

Field Reports

This week's edition doesn't stop there. It delves deeper with dedicated investigations into concerning events like child deaths in a Sindh village and dengue prevention efforts in Rawalpindi. Additionally, a powerful commentary emphasizes the crucial role of vaccination in safeguarding public health.

Finally, the knowledge hub section offers valuable resources for preventing and controlling chickenpox.

The Public Health Bulletin serves as a vital tool for safeguarding the nation's health. By staying informed and taking action based on its insights, we can collectively build a healthier Pakistan.

Sincerely,

The Chief Editor



Overview

- During week 14, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, ALRI <5 years, TB, B. Diarrhea, VH (B, C & D), Typhoid, dog bite and SARI.
- Nineteen cases of AFP reported from KP, fourteen from Balochistan and nine from Sindh. All are suspected cases and need field verification.
- Six suspected cases of HIV/ AIDS reported from KP and five from Sindh. Field investigation required to verify the cases.
- Nine cases of Brucellosis reported from Balochistan and three from KP. These are suspected cases and require field verification.
- There is an increasing trend observed for Acute Diarrhea (Non-Cholera) while a decreasing trend for Malaria, ILI, ALRI <5 years, TB, VH (B, C & D) and dog bite cases this week.

IDSR compliance attributes

- The national compliance rate for IDSR reporting in 149 implemented districts is 74%
- Gilgit Baltistan and AJK are the top reporting regions with a compliance rate of 99% and 97%, followed by Sindh 93% and ICT 83%
- The lowest compliance rate was observed in KPK.

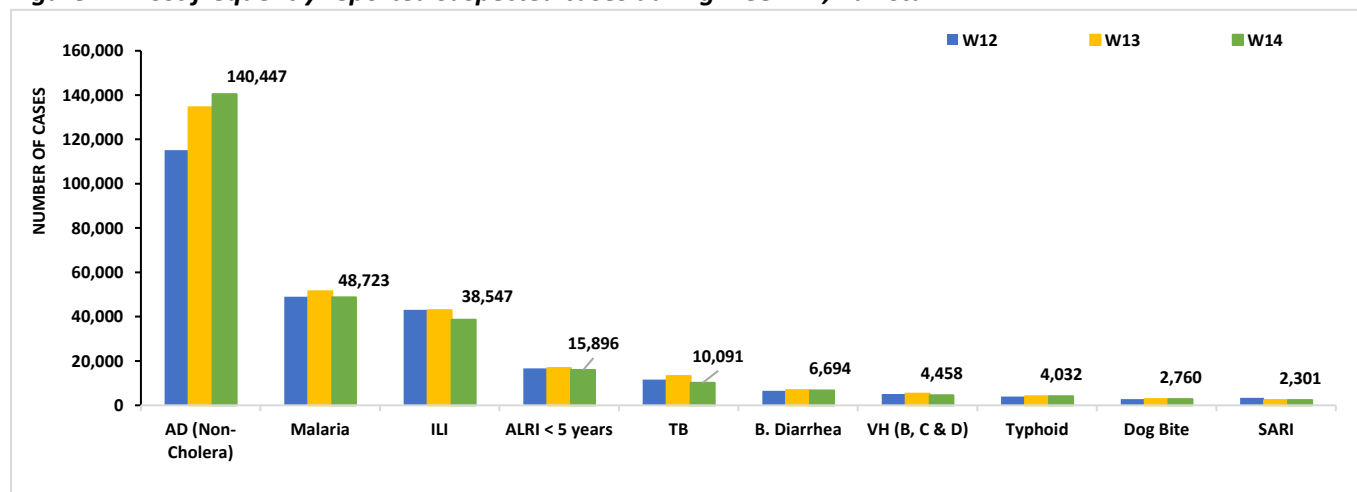
Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	2740	1543	56
Azad Jammu Kashmir	382	369	97
Islamabad Capital Territory	35	29	83
Balochistan	1220	780	64
Gilgit Baltistan	374	371	99
Sindh	2086	1936	93
National	6837	5028	74



Table 1: Province/Area wise distribution of most frequently reported suspected cases during week 14, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	1,346	5,891	399	260	15,684	78,074	38,793	140,447
Malaria	4	3,614	0	2	3,465	2,991	38,647	48,723
ILI	2,492	6,661	330	1,226	4,553	97	23,188	38,547
ALRI < 5 years	1,130	1,592	522	5	1,603	NR	11,044	15,896
TB	40	144	36	10	369	NR	9,492	10,091
B.Diarrhea	62	1,397	50	4	654	1,498	3,029	6,694
VH (B, C & D)	12	82	2	0	117	NR	4,245	4,458
Typhoid	31	548	31	1	539	1,758	1,124	4,032
Dog Bite	81	176	0	0	292	NR	2,211	2,760
SARI	263	684	251	1	861	NR	241	2,301
Measles	23	22	11	2	490	NR	212	760
AVH(A&E)	22	23	2	0	130	NR	430	607
CL	1	87	0	0	288	21	8	405
Mumps	6	50	3	0	58	NR	217	334
AWD (S. Cholera)	22	155	60	1	41	NR	19	298
Chickenpox/ Varicella	3	21	2	0	48	93	128	295
Dengue	0	83	0	0	2	NR	64	149
Pertussis	0	79	3	0	21	NR	1	104
Gonorrhoea	8	38	0	0	15	NR	14	75
AFP	1	14	0	0	19	NR	9	43
Meningitis	2	0	1	0	3	NR	26	32
Syphilis	0	21	0	0	0	NR	8	29
Diphtheria (Probable)	2	0	0	0	10	NR	0	12
Brucellosis	0	9	0	0	3	NR	0	12
HIV/AIDS	0	0	0	0	6	NR	5	11
NT	1	0	0	0	7	NR	1	9
Rubella (CRS)	0	4	0	0	0	NR	1	5
VL	0	1	0	0	0	NR	0	1
Leprosy	0	0	0	0	0	NR	1	1

Figure 1: Most frequently reported suspected cases during week 14, Pakistan.

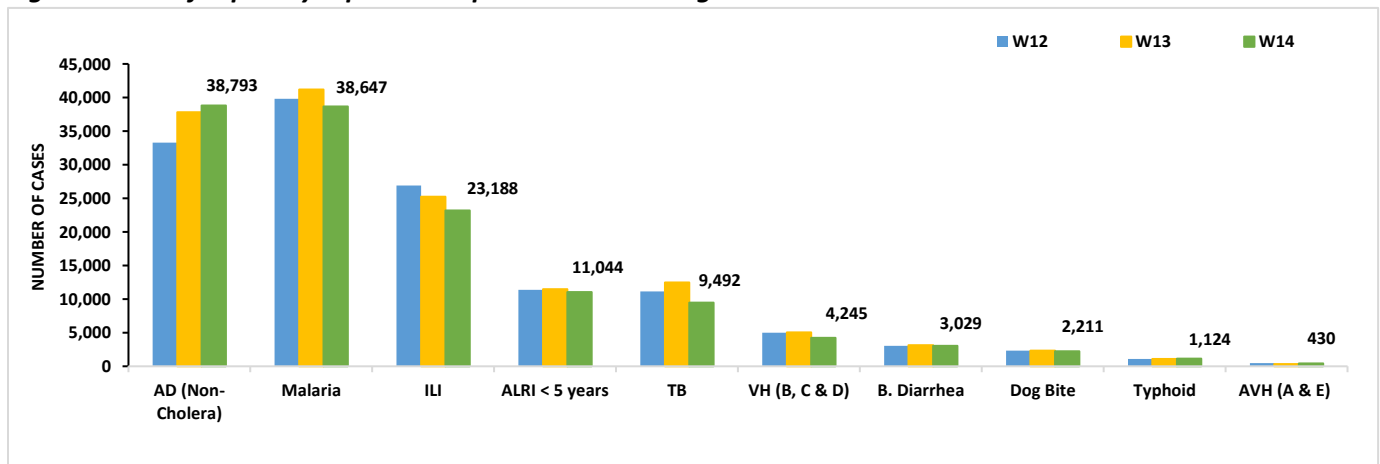


- AD (Non-Cholera) cases were maximum followed by Malaria, ILI, ALRI<5 Years, TB, VH (B, C, D), B. Diarrhea, dog bite, Typhoid and AVH (A & E). Malaria cases are from Larkana, Dadu and Kamber whereas AD (Non-Cholera) cases are mostly from Khairpur, Dadu and Badin.
- Nine cases of AFP reported from Sindh.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

Table 2: District wise distribution of most frequently reported suspected cases during week 14, Sindh

Districts	AD (Non-Cholera)	Malaria	ILI	ALRI < 5 years	TB	VH (B, C & D)	B. Diarrhea	Dog Bite	Typhoid	AVH(A&E)
Badin	2,534	1,896	310	505	536	159	141	62	25	3
Dadu	2,760	4,141	76	1,288	379	18	432	589	127	16
Ghotki	624	614	0	424	196	288	82	160	0	8
Hyderabad	1,905	499	1,830	252	235	57	58	0	22	0
Jacobabad	968	598	361	417	73	124	125	116	21	0
Jamshoro	1,529	1,138	9	151	326	36	69	10	29	7
Kamber	1,460	3,183	0	344	788	285	142	123	30	0
Karachi Central	793	51	1,413	61	532	120	12	0	33	0
Karachi East	361	46	169	17	3	0	4	0	2	1
Karachi Keamari	161	5	50	22	0	0	1	1	1	1
Karachi Korangi	192	48	85	0	2	0	2	0	0	1
Karachi Malir	1,228	129	2,527	238	76	37	69	26	28	2
Karachi South	81	22	16	0	0	0	0	0	0	0
Karachi West	1,058	131	1,885	101	178	119	96	122	44	29
Kashmore	614	1,081	692	115	244	45	37	182	2	0
Khairpur	3,014	3,088	5,280	1,025	906	139	352	121	304	0
Larkana	1,841	4,692	4	624	663	165	241	0	10	0
Matiali	1,811	840	5	384	432	177	92	47	11	2
Mirpurkhas	2,061	2,004	2,590	1,068	489	120	137	41	92	15
Naushero Feroze	490	889	914	123	345	102	68	123	56	0
Sanghar	1,275	2,108	2	349	847	619	19	111	10	1
Shaheed Benazirabad	1,842	1,164	0	492	298	69	66	151	128	0
Shikarpur	1,270	1,530	3	139	128	637	156	56	0	0
Sujawal	699	944	0	209	66	9	18	26	31	21
Sukkur	1,356	1,262	1,902	286	326	198	157	25	16	0
Tando Allahyar	1,256	992	695	256	385	295	109	46	15	4
Tando Muhammad Khan	910	685	0	144	298	23	70	1	1	0
Tharparkar	1,958	1,825	1,968	1,139	385	255	123	0	27	24
Thatta	1,429	1,851	402	321	39	101	57	72	18	294
Umerkot	1,313	1,191	0	550	317	48	94	0	41	1
Total	38,793	38,647	23,188	11,044	9,492	4,245	3,029	2,211	1,124	430

Figure 2: Most frequently reported suspected cases during week 14 Sindh

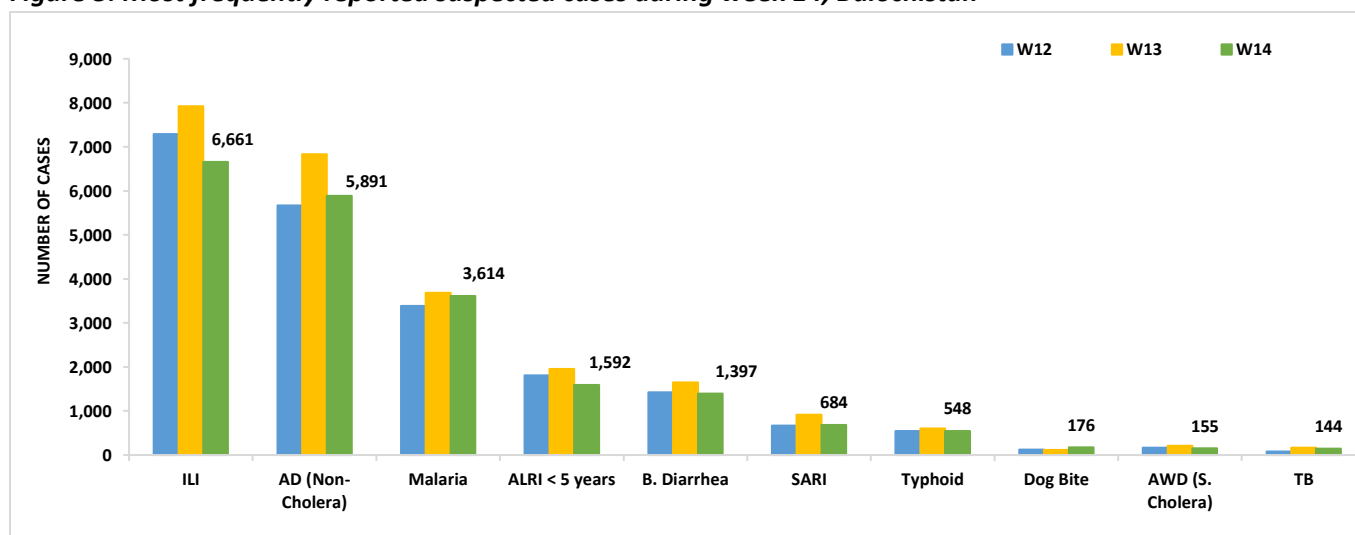


- ILI, AD (Non-Cholera), Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, dog bite, AWD (S. Cholera) and TB cases were the most frequently reported diseases from Balochistan province.
- ILI cases are mostly reported from Kech (Turbat), Gwadar and Quetta while AD (Non-Cholera) cases are mostly reported from Kech (Turbat), Gwadar and Jaffarabad.
- ILI, AD (Non-Cholera), Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, AWD (S. Cholera) and TB cases showed a decreasing trend this week.
- Fourteen cases of AFP and Nine cases of Brucellosis reported from Balochistan this week. All are suspected cases and need field verification.

Table 3: District wise distribution of most frequently reported suspected cases during week 14, Balochistan

Districts	ILI	AD Non-Cholera)	Malaria	ALRI < 5 years	B. Diarrhea	SARI	Typhoid	Dog Bite	AWD (S.Cholera)	TB
Awaran	61	11	33	1	17	0	1	0	30	0
Barkhan	81	96	35	31	9	3	36	16	4	2
Chagai	225	140	14	0	62	0	12	2	15	0
Chaman	167	83	0	1	59	15	15	0	0	0
Dera Bugti	74	89	154	64	67	57	27	2	0	0
Gwadar	794	465	56	24	45	0	16	0	0	0
Harnai	27	74	43	148	75	0	9	4	6	2
Hub	90	277	143	20	44	0	8	62	0	4
Jaffarabad	101	457	299	20	77	24	7	36	0	84
Jhal Magsi	171	405	572	27	15	7	22	14	4	10
Kachhi (Bolan)	41	125	99	18	37	91	58	0	20	0
Kalat	4	22	12	5	9	0	14	0	0	0
Kech (Turbat)	1,218	524	139	103	83	15	7	NR	NR	NR
Kharan	383	200	34	0	76	14	6	0	1	0
Khuzdar	88	79	63	2	29	4	7	8	0	0
Killa Saifullah	2	156	130	148	82	5	12	1	0	0
Kohlu	166	65	39	17	73	52	10	0	1	1
Lasbella	71	353	320	86	16	2	2	3	0	0
Loralai	308	162	44	35	56	94	13	0	0	0
Musa Khel	45	43	115	12	16	4	11	0	9	4
Naseerabad	9	247	142	41	17	0	30	4	0	1
Nushki	17	170	10	3	67	0	0	0	2	0
Panjgur	50	212	124	33	47	4	1	0	23	1
Pishin	224	81	3	32	40	12	6	3	0	0
Quetta	714	207	14	24	47	11	29	0	0	0
Sherani	126	37	5	10	19	79	12	0	0	0
Sibi	630	266	240	62	47	85	41	10	33	2
Sohbat pur	25	261	312	240	57	14	46	3	5	5
Surab	141	63	37	9	3	0	60	2	0	0
Usta Muhammad	211	342	294	148	28	31	9	6	0	0
Washuk	205	109	32	4	43	0	14	0	0	0
Zhob	192	70	57	224	35	61	7	0	2	28
Total	6,661	5,891	3,614	1,592	1,397	684	548	176	155	144

Figure 3: Most frequently reported suspected cases during week 14, Balochistan

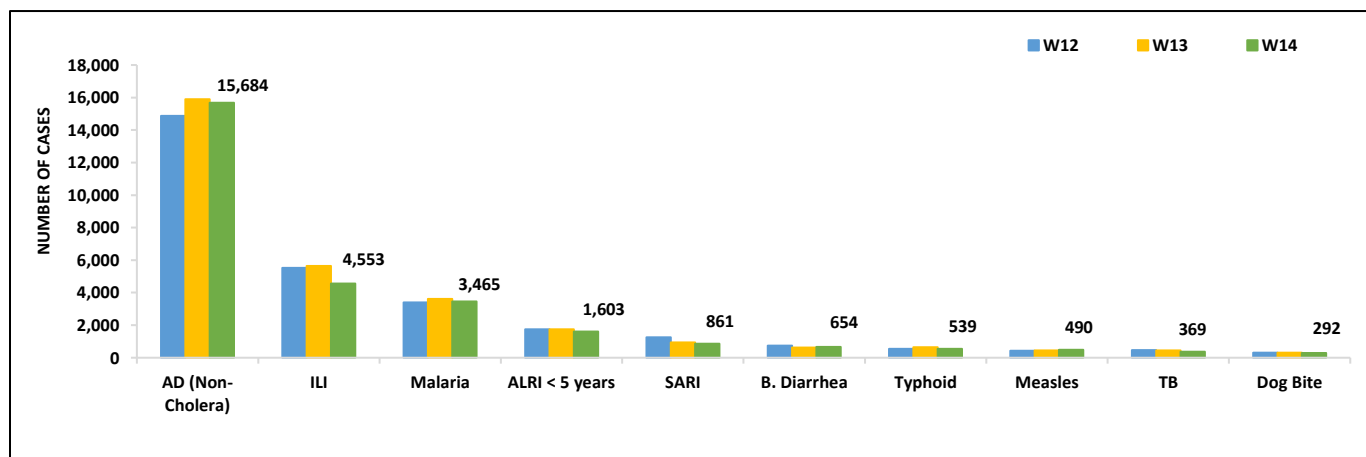


- Cases of AD (Non-Cholera) were maximum followed by ILI, Malaria, ALRI<5 Years, SARI, B. Diarrhea, Typhoid, Measles, TB and dog bite cases.
- AD (Non-Cholera), ILI, Malaria, ALRI<5 Years, SARI, Typhoid and TB cases showed a decreasing trend this week.
- Nineteen cases of AFP reported from KP. All are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

Table 4: District wise distribution of most frequently reported suspected cases during week 14, KP

Districts	AD (Non-Cholera)	ILI	Malaria	ALRI <5 Years	SARI	B. Diarrhea	Typhoid	Measles	TB	Dog Bite
Abbottabad	429	62	1	25	13	3	7	0	8	4
Bajaur	651	38	67	118	87	11	9	29	11	20
Bannu	676	0	1,321	24	0	22	110	13	14	2
Buner	267	0	191	0	0	1	0	0	0	9
Charsadda	560	677	250	120	20	16	14	19	1	0
Chitral Lower	198	65	1	34	49	20	29	0	6	1
Chitral Upper	80	8	3	11	6	3	17	0	4	0
D.I. Khan	1,178	0	148	24	0	15	0	92	7	0
Dir Lower	728	7	242	126	1	90	43	24	14	7
Dir Upper	35	4	0	9	0	0	0	4	0	0
Hangu	159	191	229	20	12	9	1	7	6	0
Haripur	664	360	7	56	30	43	41	2	48	0
Karak	227	38	54	21	0	0	8	90	10	14
Khyber	222	36	55	92	12	45	31	16	16	28
Kohat	55	48	51	6	7	3	1	2	0	0
Kohistan Lower	83	0	0	4	0	4	0	5	0	0
Kohistan Upper	399	55	1	3	20	5	13	4	15	6
Kolai Palas	75	0	2	1	6	1	2	3	0	0
L & C Kurram	7	18	3	0	0	4	0	0	0	0
Lakki Marwat	552	5	111	48	0	10	7	11	10	10
Malakand	491	115	8	34	10	26	20	22	5	0
Mansehra	11	0	0	0	0	0	0	0	0	0
Mardan	666	7	16	399	0	23	0	5	8	5
Mohmand	176	95	114	0	31	18	6	8	5	3
Nowshera	1,337	16	30	0	0	18	7	40	4	2
Orakzai	27	10	21	0	0	10	0	0	0	1
Peshawar	2,596	622	22	80	70	118	56	47	35	12
SD Peshawar	0	0	0	0	0	0	0	0	0	0
SD Tank	19	0	40	0	0	5	2	0	0	1
Shangla	275	0	309	15	0	2	26	6	43	54
SWA	35	243	30	89	71	15	9	4	1	7
Swabi	993	1,118	34	149	82	13	18	30	75	59
Swat	1,348	212	9	74	4	41	0	2	11	35
Tank	268	135	38	8	0	0	54	1	7	0
Tor Ghar	61	0	34	0	13	14	2	0	1	3
Upper Kurram	136	368	23	13	317	46	6	4	4	9
Total	15,684	4,553	3,465	1,603	861	654	539	490	369	292

Figure 4: Most frequently reported suspected cases during week 14, KP



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

AJK: ILI cases were maximum followed by AD (Non-Cholera), ALRI <5 years, SARI, dog bite, B. Diarrhea, TB, Typhoid, Measles and AWD (S. Cholera) cases. Cases of ILI, ALRI <5 years, SARI, TB and Typhoid showed a decreasing trend while cases of AD (Non-Cholera), B. Diarrhea, Measles and AWD (S. Cholera) showed an almost same trend this week.

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

ICT, AJK & GB

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

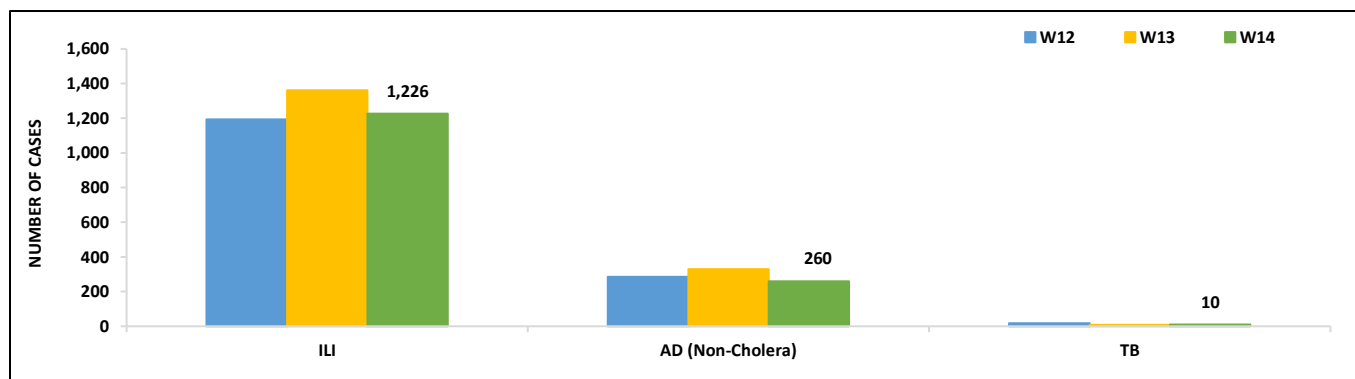


Figure 6: Week wise reported suspected cases of ILI, ICT

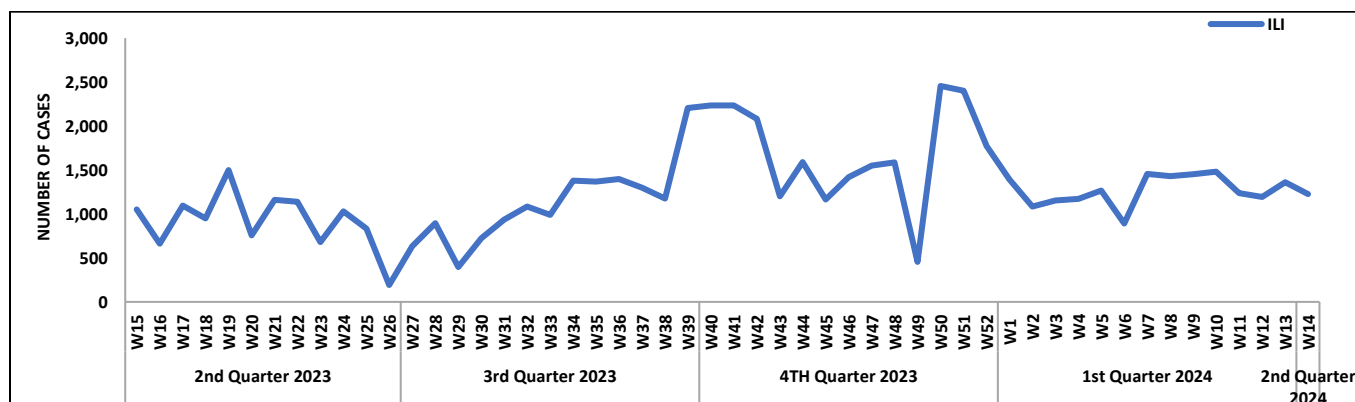


Figure 7: Most frequently reported suspected cases during week 14, AJK

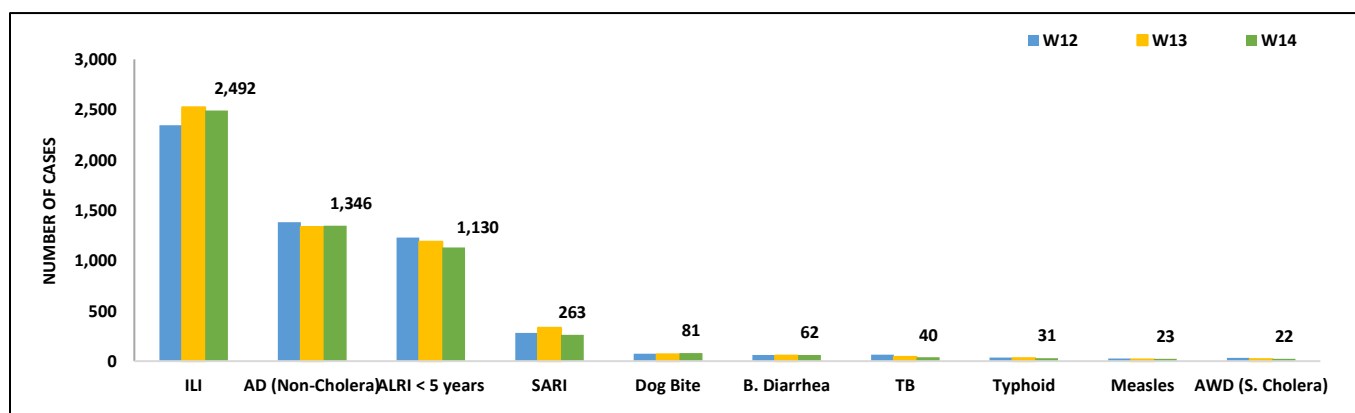


Figure 8: Week wise reported suspected cases of ILI and AD (Non-Cholera) AJK

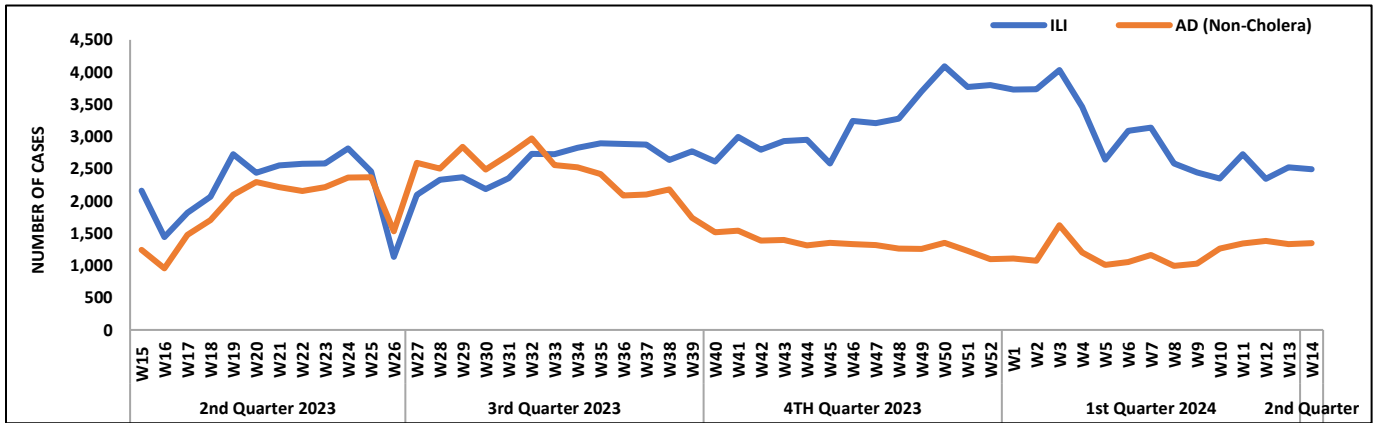


Figure 9: Most frequent cases reported during Week 14, GB

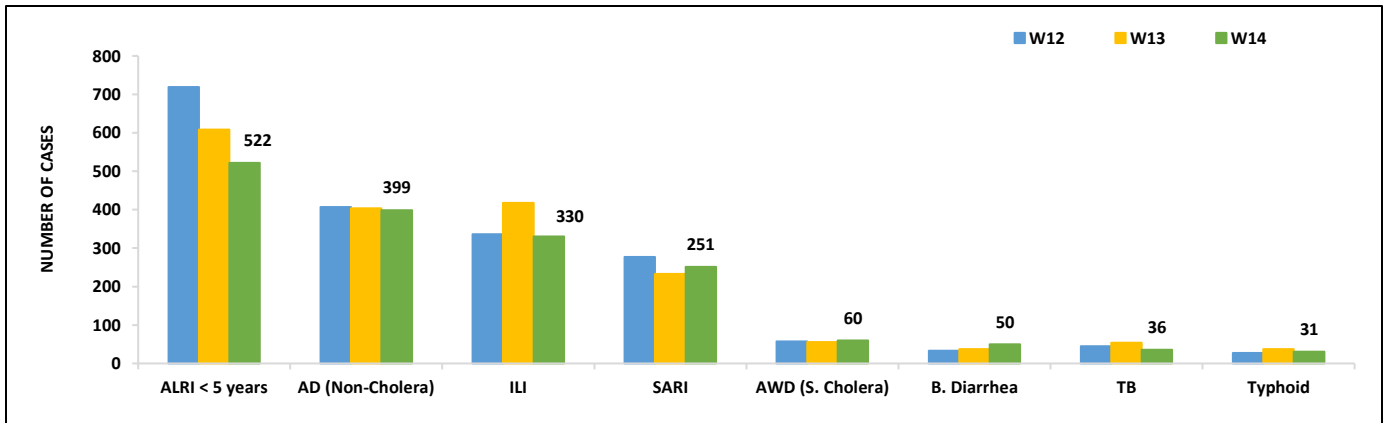
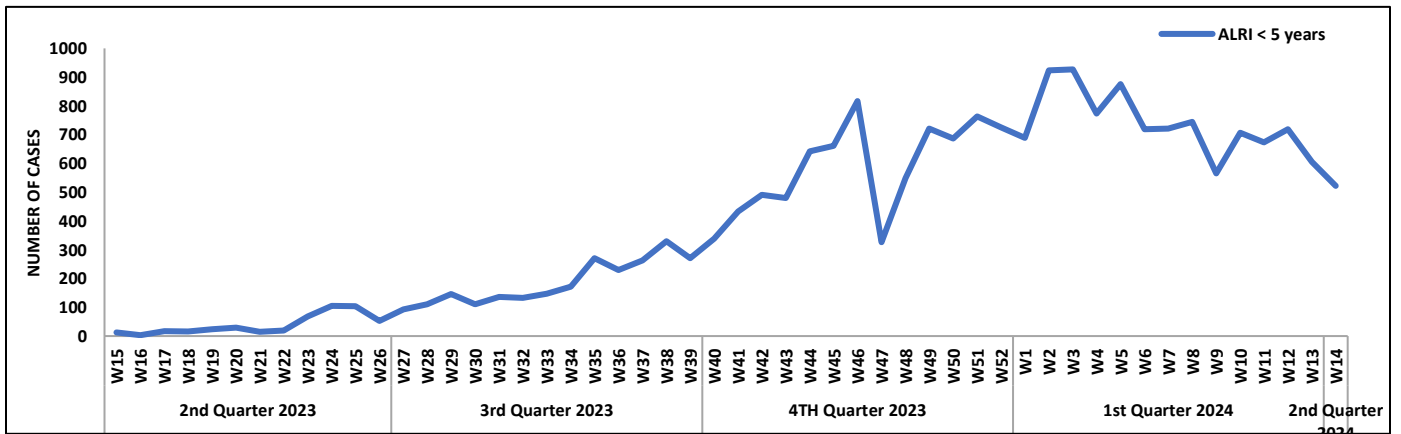


Figure 10: Week wise reported suspected cases of ALRI, GB



- Cases of AD (Non-Cholera) were maximum followed by Malaria, Typhoid, B. Diarrhea, ILI, Chickenpox and CL. AD (Non-Cholera) cases showed an increasing trend while Typhoid, ILI, Chickenpox and CL cases showed a decreasing trend this week.

Figure 11: District wise distribution of most frequently reported suspected cases during week 14, Punjab

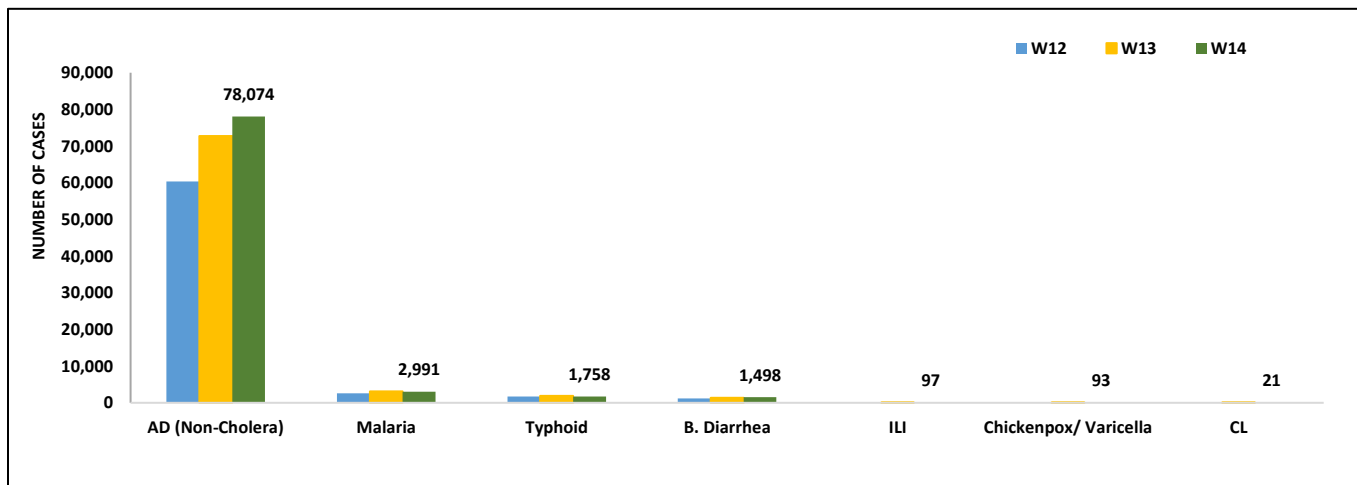


Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 14

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)	10	0	-	-	-	-	0	0	-	-
AD (Non-Cholera)	108	0	-	-	-	-	0	0	-	-
Malaria	2,562	114	-	-	-	-	0	0	-	-
CCHF	0	0	11	1	1	0	-	-	-	-
Dengue	307	9	-	-	-	-	-	-	-	-
VH (B)	2,405	55	-	-	-	-	20	1	61	0
VH (C)	2,935	188	-	-	-	-	22	0	61	0
VH (A&E)	0	0	-	-	4	1	0	0	-	-
Covid-19	0	0	12	0	4	0	-	-	-	-
HIV	169	4	-	-	-	-	4	0	-	-
Diphtheria	0	0	-	-	-	-	2	0	-	-
Influenza A	0	0	0	0	3	0	15	0	0	0
TB	127	1	-	-	-	-	-	-	-	-
Syphilis	135	2	-	-	-	-	0	0	-	-
Pertussis	0	0	-	-	-	-	0	0	-	-
Typhoid	427	8	-	-	-	-	11	0	-	-
Mumps	0	0	-	-	-	-	0	0	-	-
Measles	0	0	-	-	-	-	0	0	-	-

IDSR Reports Compliance

- Out OF 149 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 14, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	102	92%
	Bannu	234	137	59%
	Battagram	63	0	0%
	Buner	34	27	79%
	Bajaur	44	31	70%
	Charsadda	59	51	86%
	Chitral Upper	34	28	82%
	Chitral Lower	35	34	97%
	D.I. Khan	114	110	96%
	Dir Lower	74	74	100%
	Dir Upper	52	9	17%
	Hangu	22	21	95%
	Haripur	72	62	86%
	Karak	35	35	100%
	Khyber	64	16	25%
	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	23	55%
	Malakand	42	38	90%
	Mansehra	136	2	1%
	Mardan	80	77	96%
	Nowshera	55	55	100%
	North Waziristan	380	0	0%
	Peshawar	151	124	82%
	Shangla	65	14	22%
	Swabi	63	61	97%
	Swat	76	73	96%
	South Waziristan	134	53	40%
	Tank	34	32	94%
	Torghar	14	14	100%
Mohmand	86	36	42%	
SD Peshawar	5	1	20%	
SD Tank	58	7	12%	
Orakzai	68	19	28%	
FATA	Mirpur	37	37	100%
	Bhimber	20	20	100%
	Kotli	60	60	100%
	Muzaffarabad	45	44	98%
	Poonch	46	36	78%
	Haveli	39	39	100%



Azad Jammu Kashmir	Bagh	40	40	100%
	Neelum	39	37	95%
	Jhelum Vellay	29	29	100%
	Sudhnooti	27	27	100%
Islamabad Capital Territory	ICT	21	20	95%
	CDA	14	9	64%
Balochistan	Gwadar	25	25	100%
	Kech	40	34	85%
	Khuzdar	20	16	80%
	Killa Abdullah	20	0	0%
	Lasbella	55	55	100%
	Pishin	62	10	16%
	Quetta	43	15	35%
	Sibi	36	35	97%
	Zhob	39	27	69%
	Jaffarabad	16	16	100%
	Naserabad	32	32	100%
	Kharan	30	30	100%
	Sherani	15	11	73%
	Kohlu	75	21	28%
	Chagi	35	22	63%
	Kalat	41	40	98%
	Harnai	17	17	100%
	Kachhi (Bolan)	35	22	63%
	Jhal Magsi	26	26	100%
	Sohbat pur	25	25	100%
	Surab	32	32	100%
	Mastung	45	0	0%
	Loralai	33	28	85%
	Killa Saifullah	28	27	96%
	Ziarat	29	0	0%
	Duki	31	0	0%
	Nushki	32	32	100%
	Dera Bugti	45	30	67%
	Washuk	46	16	35%
	Panjgur	38	17	45%
	Awaran	23	7	30%
	Chaman	24	18	75%
	Barkhan	20	20	100%
Hub	33	32	97%	
Musakhel	41	8	20%	
Usta Muhammad	34	34	100%	
Gilgit Baltistan	Hunza	32	32	100%
	Nagar	20	20	100%
	Ghizer	40	40	100%
	Gilgit	40	39	98%
	Diامر	62	60	97%
	Astore	54	54	100%



	Shigar	27	27	100%
	Skardu	52	52	100%
	Ganche	29	29	100%
	Kharmang	18	18	100%
Sindh	Hyderabad	73	59	81%
	Ghotki	64	64	100%
	Umerkot	43	43	100%
	Naushahro Feroze	107	62	58%
	Tharparkar	282	248	88%
	Shikarpur	60	60	100%
	Thatta	52	52	100%
	Larkana	67	61	91%
	Kamber Shadadkot	71	71	100%
	Karachi-East	23	14	61%
	Karachi-West	20	20	100%
	Karachi-Malir	37	37	100%
	Karachi-Kemari	18	6	33%
	Karachi-Central	11	8	73%
	Karachi-Korangi	18	9	50%
	Karachi-South	4	4	100%
	Sujawal	54	51	94%
	Mirpur Khas	106	103	97%
	Badin	124	121	98%
	Sukkur	64	64	100%
	Dadu	90	89	99%
	Sanghar	100	100	100%
	Jacobabad	44	44	100%
	Khairpur	169	163	96%
	Kashmore	59	58	98%
	Matiari	42	42	100%
	Jamshoro	68	68	100%
	Tando Allahyar	54	51	94%
	Tando Muhammad Khan	40	40	100%
	Shaheed Benazirabad	124	124	100%



A note from Field Activities.

Investigation Report: Social Media Reported Deaths of Children in Niaz Muhammad Bhatti Village, Taluka Sinjhor, District Sanghar, April 2024

Source: DHIS-2 Reports
<https://dhis2.nih.org.pk/dhis-web-event-reports/>

Introduction

This report investigates the social media-reported deaths of five children in a single household in Niaz Muhammad Bhatti village, Sanghar district. The investigation team, deputed by PDSRU-DGHSSI in first week of April aimed to:

- Verify the reported deaths and determine the cause.
- Identify risk factors associated with the deaths.
- Search for additional cases or deaths.
- Recommend preventive and control measures to prevent further deaths.

Methods

The investigation employed a multi-pronged approach to gather information and understand the situation. **Verbal autopsies** formed a key component. This involved conducting face-to-face interviews with the parents (or uncles) of the deceased children. The goal of these interviews was to obtain a detailed medical history for each child. This included exploring any past illnesses, the progression of their final sickness (known as the clinical course), and the reported cause of death.

In addition to the verbal autopsies, the team conducted **active case finding**. This involved deploying a standardized approach established by the World Health Organization (WHO) to identify cases of acute watery diarrhea within the village. By following this protocol, the team systematically search for additional children who might have been experiencing similar symptoms but not reported.

Finally, the investigation included an **environmental assessment**. This involved examining the water pump located near the affected household.

Since the water source was suspected to be a potential factor, the team assessed its condition and looked for signs of contamination. Additionally, the overall sanitation situation in the village was evaluated.

Findings

Verbal Autopsy

In the verbal autopsy interviews, a consistent pattern emerged across all five deceased children. Their ages ranged from 4 to 8 years old, and tragically, all succumbed to the same condition - sepsis and severe dehydration. The interviews revealed a concerning similarity in their illnesses. Each child experienced a combination of fever, vomiting, and loose stools, all pointing towards a gastrointestinal illness. Notably, none of the children had any significant prior medical history, and their vaccination records indicated they were fully immunized. This lack of underlying health conditions and complete immunization status made the severity of their illness and rapid decline all the more concerning. The uniformity in symptoms and cause of death across multiple children from the same household warranted further investigation into the possible source of the outbreak.

Active Case Finding

The investigation wasn't limited to the tragic deaths. The team also actively searched for any other cases that might be related to the initial reports. This active searching, following the WHO's guidelines for identifying acute watery diarrhea, identified two additional children in the village. These children fortunately exhibited similar symptoms - fever, vomiting, and loose stools - but unlike the initial cases, they received timely medical attention and were able to make a full recovery. This additional information provided valuable insight into the situation, suggesting a potential outbreak of a communicable illness.

Environmental Assessment

An environmental assessment revealed concerning factors that likely contributed to the child deaths. The hand pump utilized by the affected families was situated precariously close to agricultural land, raising concerns about potential contamination, either bacterial or from organic poisons. This



suspicion stemmed from the hand pump's tailpipe extending few meters into a water reservoir positioned just centimeters beneath the farmland. Notably, only children from the three households using this specific pump suffered illnesses, while those in the remaining four houses with their own private hand pumps remained healthy. Furthermore, the village's overall water and sanitation situation was inadequate. Residents relied on the potentially contaminated hand pump for both drinking and cooking purposes. Hygiene practices were concerning as well, with villagers lacking proper handwashing techniques and cow dung left openly around the living areas. Adding to the burden, a single washroom was insufficiently serving the needs of two extended families, totaling 20 people. Finally, hospital records supported the conclusion that sepsis and severe dehydration were the primary causes of death.

Conclusion

An analysis of the verbal autopsy findings, clinical history of the deceased children, and the environmental conditions in the village strongly suggests that sepsis/severe dehydration caused by gastroenteritis was the culprit behind the deaths. The contaminated water from the hand pump situated near the agricultural land emerges as the most probable source of the infectious agent, be it bacteria or organic poison. This suspicion is further bolstered by the fact that only the children from the households using this particular pump were affected, while those with their own private hand pumps remained healthy. The unsanitary conditions surrounding the water source, improper hygiene practices observed in the community, and the limited access to healthcare likely compounded the severity of the illness and contributed tragically to the deaths of the children.

Further investigations and Recommendations

To definitively identify the cause of the outbreak and prevent future occurrences, the following public health interventions are recommended

- Test village well water, especially near farmland, for contamination.
- Test livestock milk samples for potential pathogens transmissible to humans.
- Screen villagers' stool for cholera due to reported symptoms resembling gastroenteritis.
- Organize medical camps to address villagers' health needs and prevent further illness.

- Conduct hygiene awareness sessions on safe water usage, sanitation, and handwashing.

This report highlights the importance of addressing environmental sanitation, promoting proper hygiene practices, and ensuring access to safe drinking water to prevent similar occurrences.

Surveillance summary.

Dengue Prevention & Control Activities in District Rawalpindi: March-April 2024

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Introduction

Dengue fever is a mosquito-borne viral infection that can cause a severe illness. This report details the activities undertaken in District Rawalpindi to prevent and control dengue fever during March and April 2024. It also presents a comparison of dengue cases reported in the first four months of 2024 to those reported in the same period of 2022 and 2023.

Point-in-Time Comparison of Dengue Cases in Rawalpindi

An analysis of dengue fever cases in Rawalpindi during the first four months of 2024 reveals a concerning trend compared to the same period in the preceding two years. While only one case was reported in 2022 and two in 2023, the district has already witnessed four confirmed cases of dengue fever in 2024. This significant increase highlights the need for heightened vigilance and a proactive approach to prevent a potential outbreak.

Activities Undertaken

To comprehensively address potential mosquito breeding grounds, a district-wide house inspection campaign was meticulously undertaken. This initiative involved the inspection of a staggering 1,233,099 houses. Through this extensive effort, 2,501 houses were identified as harboring conditions



conducive to mosquito breeding. These findings highlight the importance of continued vigilance and preventative measures to effectively control the mosquito population and minimize the risk of dengue fever transmission.

Spot Inspections

In a complementary effort to the house inspections, public health officials conducted extensive inspections of potential mosquito breeding sites throughout Rawalpindi district. This entailed checking a staggering 321,548 locations for the presence of stagnant water, a prime breeding ground for Aedes mosquitos, the primary vector responsible for transmitting dengue fever.

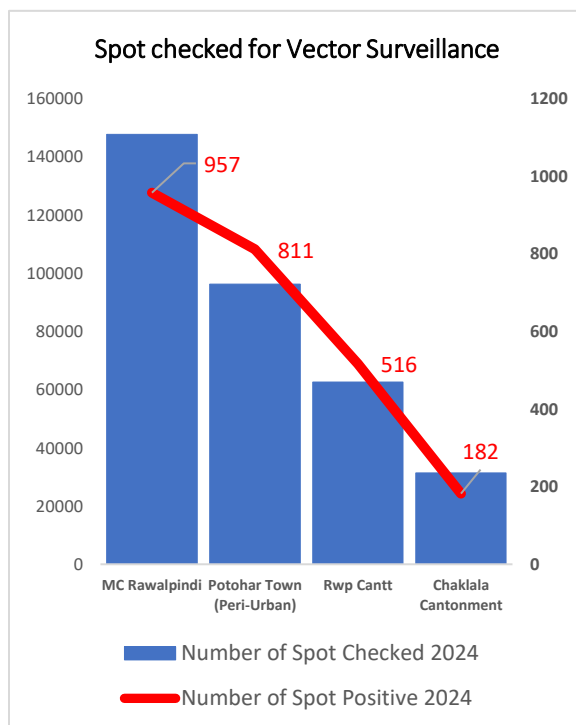
Year	Houses Checked	Houses Positive	Spots Checked	Spots Positive
2022	1,899,274	2,277	835,561	259
2023	2,227,938	2,355	931,954	351
2024	1,233,099	2,501	321,548	615

The vigilance of these inspections yielded the identification of 615 spots that posed a potential risk for mosquito breeding. These findings underscore the importance of a multifaceted approach to dengue prevention, as eliminating breeding sites outside of residences is equally crucial in controlling the mosquito population and preventing the spread of the disease.

Tehsil	Number of Houses Checked	Number of Houses Positive
Potohar Town (Peri-Urban)	34930	466
Municipal Corporation Rawalpindi	69011	90
Chaklala Cantonment	30131	31
Rawalpindi Cantonment	46758	28

Tehsil-wise Distribution

A cause for concern emerges from the tehsil-wise distribution of data. Municipal Corporation Rawalpindi and Potohar Town (Peri-Urban) stand out with a considerably higher density of potential mosquito breeding grounds when compared to other regions within the district. This is starkly evident in the identified positive spots – a concerning 957 in Municipal Corporation Rawalpindi and a staggering 811 in Potohar Town (Peri-Urban). The picture becomes even more alarming when considering positive houses – 90 in Municipal Corporation Rawalpindi and a much higher 466 in Potohar Town (Peri-Urban). These findings underscore the urgent need for a targeted approach to vector control measures in these high-risk tehsils. By prioritizing interventions in these areas, we can effectively disrupt mosquito breeding cycles and significantly reduce the likelihood of a full-blown outbreak.



Containers and Breteau Index Report Rawalpindi April 202

A summary of the containers and breteau data reveals variations in mosquito breeding prevalence across different localities within the district. Areas like 7-Pirwadahi and R-84-Dhama Syedan exhibited a higher Containers Index (2.86 and 2.16 respectively) indicating a greater likelihood of mosquito breeding in containers. Similarly, these

localities along with 1-Ratta Amral had a higher Breteau Index (9.23, 4.61, and 5.64 respectively), suggesting a higher number of containers with positive mosquito larvae per 100 houses inspected. In contrast, localities like CTR-9 and 20-Asghar Mall Scheme displayed lower Container and Breteau Indices, signifying a lower risk of mosquito breeding. These findings suggest the need for targeted interventions in areas with higher mosquito breeding indices to effectively control vector populations.

UC	Houses Checked	Houses Positive	Containers Checked	Containers Positive	Containers Index	Breteau Index
7-Pirwadahi	130	12	2207	12	2.86	9.2308
1-Ratta Amral	195	10	1995	11	2.53	5.641
R-87-Chak Jilal Din	360	17	3140	17	2.82	4.7222
R-84-Dhama Syedan	845	39	8830	39	2.16	4.6154
CTR-9	365	13	4773	15	1.46	4.1096
CTR-10	635	21	7630	22	1.47	3.4646
20-Asghar Mall Scheme	259	8	4933	8	0.75	3.0888

Conclusion

While the increase in dengue cases compared to previous years is concerning, the proactive approach through large-scale house and spot inspections demonstrates a commitment to preventing an outbreak. Continued vigilance and community engagement are crucial in mitigating the spread of dengue fever.

Recommendations

Based on the findings, the following recommendations are suggested:

- **Continued Inspections:** Sustained house and spot inspections should be conducted throughout the season, focusing on high-risk areas identified in this report.
- **Larvicide Application:** Implement larvicide application in all positive spots and houses identified during inspections.
- **Public Awareness Campaigns:** Launch public awareness campaigns to educate residents

about the importance of eliminating mosquito breeding sites by removing stagnant water and using mosquito nets.

- **Fogging:** Consider strategic fogging in high-risk areas, following safety guidelines.

Additional Considerations

- Investigate the reasons behind the rise in dengue cases compared to previous years.
- Explore the possibility of collaborating with community leaders to mobilize residents for effective vector control measures.
- Ensure proper waste management practices to minimize potential mosquito breeding grounds.

By implementing these recommendations and remaining vigilant, Rawalpindi can effectively control the spread of dengue fever and protect public health.



Commentary.

Vaccination: A Crucial Pillar of Public Health

Dr. Waqar Ahmed,
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Safetynet



Vaccination stands as a cornerstone of modern medicine, offering a powerful tool to safeguard individual and collective health. It introduces a weakened or inactive form of a disease into the body, prompting the immune system to develop defenses against the actual illness if encountered in the future.

This ingenious approach has demonstrably revolutionized disease prevention. Vaccination successfully eradicated smallpox and significantly reduced the incidence of once-widespread illnesses like measles, mumps, rubella, tetanus, diphtheria, pertussis, polio, and hepatitis B.

While some rare side effects can occur, vaccination remains demonstrably safe and effective for the vast majority of people. Common side effects are typically mild and self-resolving within days, including injection site soreness, redness, swelling, fever, fatigue, and headache.

The overwhelming benefits of vaccination far outweigh the minimal risks. It plays a pivotal role in shielding individuals and communities from potentially devastating diseases. Consider these compelling examples:

- Polio: This crippling viral infection could lead to paralysis and even death. Vaccination efforts have brought the world to the brink of polio eradication, a monumental achievement in public health.
- Tetanus: This bacterial infection causes muscle lockjaw and can be fatal. Vaccination offers robust protection against this agonizing illness.

- Tuberculosis (TB): This highly contagious bacterial infection primarily affects the lungs and can be life-threatening. While not a complete barrier, TB vaccination significantly reduces the risk of severe illness and death.
- Hepatitis B: Chronic liver infection caused by the hepatitis B virus can lead to cirrhosis and liver cancer. Vaccination effectively shields individuals from this potentially life-threatening illness.
- Typhoid: This bacterial infection causes high fever, intestinal distress, and can be fatal if left untreated. Vaccination significantly reduces the risk of contracting typhoid fever.
- Chickenpox: This highly contagious illness can cause severe itching and discomfort, and in rare cases, lead to serious complications. Vaccination prevents chickenpox and its associated complications.
- COVID-19: This novel coronavirus caused a global pandemic, leading to respiratory illness, hospitalizations, and deaths. The development and widespread deployment of COVID-19 vaccines significantly reduced disease severity, hospitalizations, and deaths.
- Influenza: This highly contagious respiratory illness, commonly known as the flu, can cause serious complications in vulnerable populations. Annual influenza vaccination helps protect against seasonal flu strains and reduces the burden on healthcare systems.

Vaccination stands as a testament to scientific progress. It has demonstrably saved millions of lives and continues to be the most effective weapon in our fight against infectious diseases. By ensuring widespread vaccination coverage, we can safeguard ourselves, our loved ones, and our communities from these preventable illnesses.



Knowledge Hub

Chicken Pox: A Comprehensive Guide for Awareness and Prevention

This guide serves as a comprehensive resource for understanding chicken pox, a common yet contagious childhood illness caused by the varicella-zoster virus. It details the signs and symptoms, preventive measures, and the importance of vaccination in managing this condition.

Symptoms and Signs: A Progression Through Discomfort

Chicken pox typically presents with a prodromal phase characterized by fever, headache, and malaise. This is followed by the eruption of an itchy, red rash that progresses through distinct stages:

- **Macules:** The initial appearance of small, flat, red spots on the skin.
- **Papules:** The red spots become raised bumps.
- **Vesicles:** Fluid-filled blisters form on the papules.
- **Pustules:** The blisters become cloudy or yellow as the fluid turns into pus.
- **Scabs:** The pustules dry and form scabs, which eventually fall off, leaving temporary marks that fade with time.

The Power of Vaccination: Effective Prevention

The introduction of the varicella vaccine in the late 1990s has revolutionized chicken pox prevention. This highly effective vaccine offers protection against up to 98% of cases and significantly reduces the severity of breakthrough infections.

The Centers for Disease Control and Prevention (CDC) recommends a two-dose vaccination schedule:

- First dose: Administered between 12-15 months of age.
- Second dose: Administered between 4-6 years of age.

Beyond Vaccination: Additional Preventive Measures

While vaccination is the cornerstone of prevention, other measures can further decrease the spread of chicken pox:

- **Isolation:** Infected individuals, especially during the initial contagious period (first 5-7 days after the rash appears), should be isolated to minimize transmission.
- **Hand Hygiene:** Frequent handwashing with soap and water, particularly after contact with lesions or contaminated surfaces, is essential.
- **Avoiding Contact:** Direct contact with infected individuals, especially those with active lesions, should be avoided.
- **Disinfection:** Regularly disinfecting frequently touched surfaces and objects helps eliminate the virus and prevent transmission.
- **Covering Lesions:** Loose-fitting clothing or bandages covering lesions can prevent scratching and further spread of the virus.

Conclusion: Managing Chicken Pox Effectively

Chicken pox, while typically a self-limiting illness, can cause discomfort and potential complications. By understanding the symptoms, signs, and available preventive measures, particularly the importance of vaccination, individuals can effectively manage chicken pox and protect themselves and others from infection.



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MENINGITIS
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HEPATITIS B
DIPHTHERIA
POLIOMYELITIS
TETANUS

After clean water, vaccinations are the most effective public health intervention in the world for saving lives, promoting good health and preventing serious illness.

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