

PUBLIC HEALTH BULLETIN-PAKISTAN

Integrated Disease Surveillance & Response (IDSR) Report

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

**Vol. 4 | Week 16
15th Apr – 21st Apr
30th 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 16, 2024

Overview

The latest Public Health Bulletin empowers both healthcare professionals and the public to act for a healthier Pakistan. This comprehensive report goes beyond listing illnesses. It provides a detailed breakdown of prevalent diseases and tracks trends in areas like tuberculosis and dog bites. This information allows stakeholders to tailor preventive measures and address critical concerns.

IDSR Reports

The Bulletin functions as an early warning system, proactively investigating potential outbreaks of diseases like Acute Flaccid Paralysis and Brucellosis. This swift response is crucial for containing the spread of these illnesses.

Ongoing Events

Beyond data, the Bulletin delves deeper with dedicated reports on recent outbreaks of measles and suspected dengue fever. It also features an editor's commentary on the ongoing challenge of malaria in Pakistan.

Field Reports

The "Knowledge Hub" section empowers individuals with the knowledge to protect themselves. This week, it features an article on preventing mosquito-borne diseases.

By staying informed through the Public Health Bulletin and acting based on its insights, we can collectively build a healthier Pakistan. This essential tool empowers all stakeholders to play a vital role in safeguarding the nation's health.

Sincerely,
The Chief Editor



- During week 16, 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.
- Twenty-three cases of AFP reported from KP, nine from Sindh and three from AJK. All are suspected cases and need field verification.
- Seven suspected cases of HIV/ AIDS reported from KP and six from Sindh. Field investigation required to verify the cases.
- Three cases of Brucellosis reported from KP and two from Balochistan. These are suspected cases and require field verification.
- There is an increasing trend observed for Acute Diarrhea (Non-Cholera), Malaria, ILI, TB, B. diarrhea, VH (B, C & D) and Typhoid cases this week.

IDSR compliance attributes

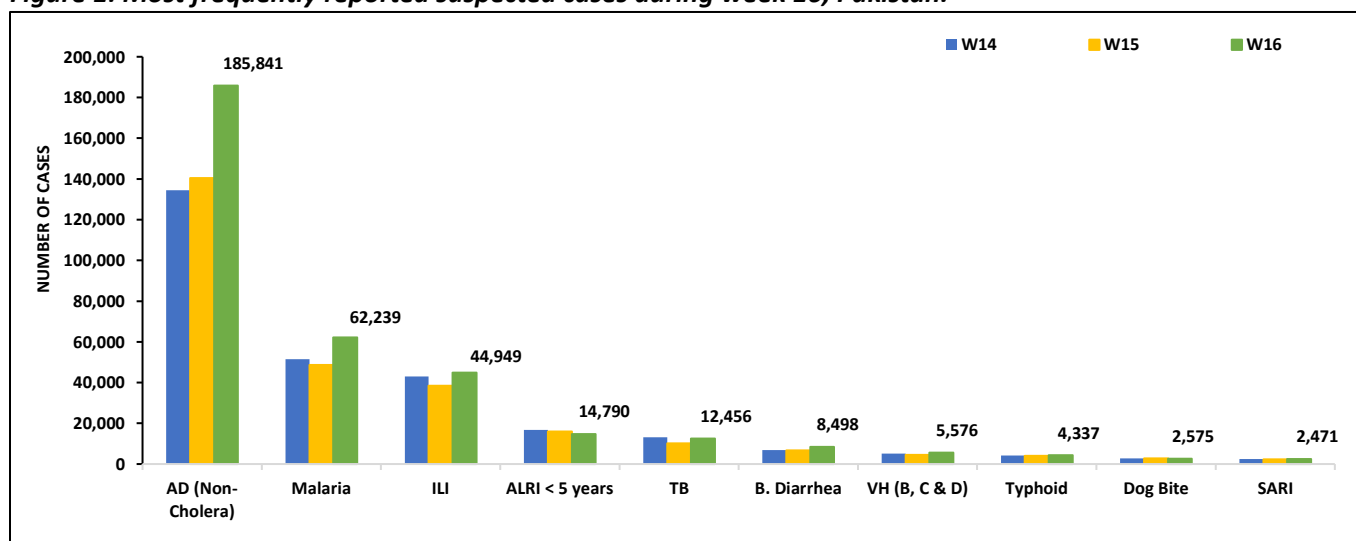
- The national compliance rate for IDSR reporting in 149 implemented districts is 78%
- Gilgit Baltistan and AJK are the top reporting regions with a compliance rate of 100% and 99%, followed by Sindh 94% and ICT 86%
- The lowest compliance rate was observed in KPK.

Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	2740	1679	61
Azad Jammu Kashmir	382	380	99
Islamabad Capital Territory	35	30	86
Balochistan	1220	934	77
Gilgit Baltistan	374	374	100
Sindh	2086	1968	94
National	6837	5365	78

Table 1: Province/Area wise distribution of most frequently reported suspected cases during week 16, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	1,756	7,107	551	336	17,541	107,152	51,398	185,841
Malaria	3	4,595	0	2	3,921	4,037	49,681	62,239
ILI	2,533	7,491	366	1,269	5,282	12	27,996	44,949
ALRI < 5 years	1,096	1,711	594	4	1,578	NR	9,807	14,790
TB	79	151	61	14	350	NR	11,801	12,456
B.Diarrhea	81	1,643	46	4	839	1,624	4,261	8,498
VH (B, C & D)	7	63	1	1	92	473	4,939	5,576
Typhoid	35	552	57	0	562	1,921	1,210	4,337
Dog Bite	57	170	0	1	227	NR	2,120	2,575
SARI	367	719	169	1	1,036	0	179	2,471
AVH (A&E)	30	44	1	1	188	NR	873	1,137
Measles	17	36	9	0	325	NR	179	566
Dengue	2	373	0	0	5	NR	95	475
AWD (S. Cholera)	32	243	56	0	110	NR	1	442
CL	2	100	0	0	287	10	2	401
Mumps	18	49	4	0	39	NR	252	362
Chickenpox/ Varicella	1	15	4	3	35	26	119	203
Gonorrhoea	0	65	0	0	22	24	22	133
Pertussis	0	96	0	0	22	NR	1	119
AFP	3	0	0	0	23	NR	9	35
VL	0	0	8	0	0	NR	0	8
Meningitis	5	8	0	0	1	NR	6	20
NT	0	1	0	0	16	NR	0	17
HIV/AIDS	0	0	0	0	7	NR	6	13
Syphilis	0	3	0	0	0	NR	8	11
Diphtheria (Probable)	0	5	0	0	6	NR	1	12
Chikungunya	0	6	0	0	0	NR	0	6
Brucellosis	0	2	0	0	3	NR	0	5
Leprosy	0	1	0	0	3	NR	0	4

Figure 1: Most frequently reported suspected cases during week 16, Pakistan.

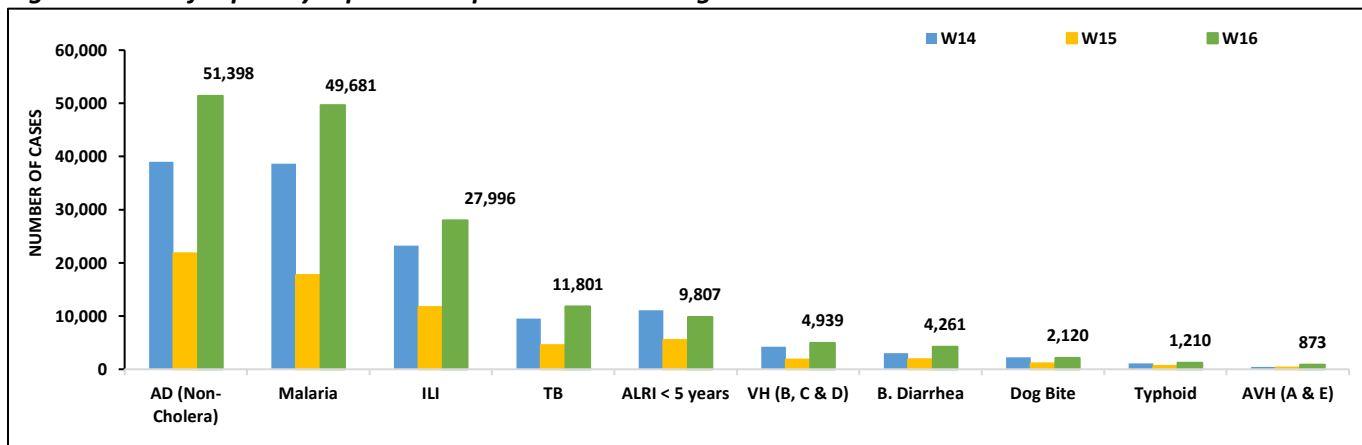


- AD (Non-Cholera) cases were maximum followed by Malaria, ILI, TB, ALRI<5 Years, VH (B, C, D), B. Diarrhea, dog bite, Typhoid and AVH (A & E).
- AD (Non-Cholera) cases are mostly from Khairpur, Dadu and Badin whereas Malaria cases are from Larkana, Khairpur and Dadu.
- Six suspected cases of HIV/ AIDS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

Table 2: District wise distribution of most frequently reported suspected cases during week 16, Sindh

Districts	AD (Non-Cholera)	Malaria	ILI	TB	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Dog Bite	Typhoid	AVH(A&E)
Badin	3629	3487	346	776	566	301	208	82	51	10
Dadu	3712	4177	128	448	779	42	649	243	195	6
Ghotki	709	440	0	227	319	337	166	122	0	17
Hyderabad	1773	268	2831	229	265	14	34	0	11	0
Jacobabad	1213	648	371	115	373	77	109	146	24	1
Jamshoro	2041	1522	125	417	185	87	71	19	42	3
Kamber	1861	4108	0	819	351	257	175	191	36	0
Karachi Central	1548	108	1988	687	64	186	13	0	56	1
Karachi East	631	86	236	12	55	2	21	10	3	0
Karachi Keamari	314	2	131	0	5	0	0	0	2	7
Karachi Korangi	320	55	0	0	2	0	4	0	1	0
Karachi Malir	1828	204	3560	102	323	75	72	48	33	6
Karachi South	123	43	11	0	0	0	0	0	0	0
Karachi West	1170	147	2169	173	126	132	94	125	38	30
Kashmore	644	1023	713	265	138	49	42	220	6	0
Khairpur	3980	4841	5058	1100	1097	243	708	112	366	5
Larkana	2453	6238	6	970	700	111	376	5	9	0
Matiari	3053	1381	8	583	320	334	110	55	7	5
Mirpurkhas	3019	2482	3421	653	321	253	132	61	22	5
Naushero Feroze	574	718	731	270	126	50	60	114	41	0
Sanghar	1395	2990	3	1042	415	795	38	108	21	2
Shaheed Benazirabad	2532	1513	0	351	481	119	122	170	155	0
Shikarpur	1413	2036	5	162	107	723	165	61	1	0
Sujawal	969	1140	0	132	227	87	113	22	7	87
Sukkur	1715	1659	1629	472	328	123	192	34	8	0
Tando Allahyar	1898	1497	999	504	286	141	194	88	11	2
Tando Muhammad Khan	1461	1523	0	476	172	55	105	0	0	0
Tharparkar	1928	2152	1763	400	861	119	140	0	25	33
Thatta	1876	1942	1764	35	367	154	92	84	15	652
Umerkot	1616	1251	0	381	448	73	56	0	24	1
Total	51,398	49,681	27,996	11,801	9,807	4,939	4,261	2,120	1,210	873

Figure 2: Most frequently reported suspected cases during week 16 Sindh

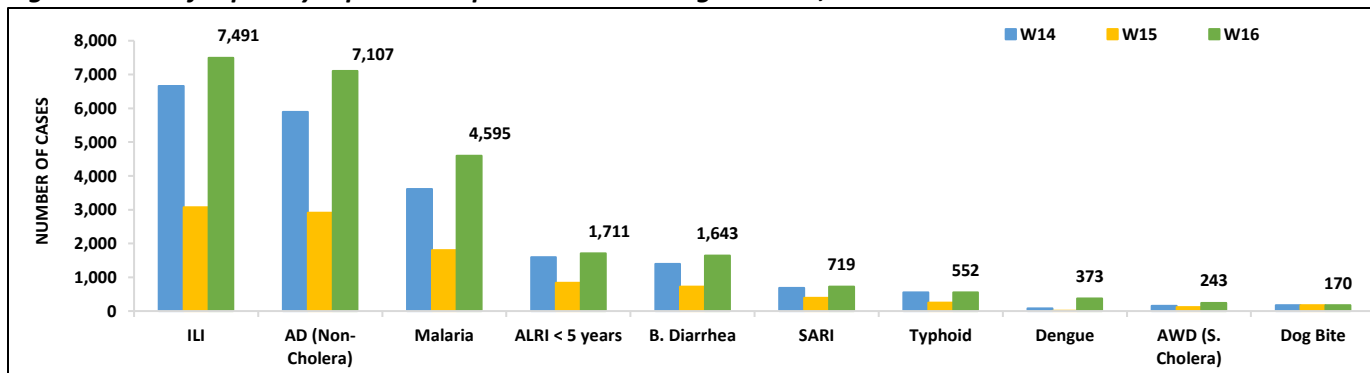


- ILI, AD (Non-Cholera), Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, Dengue, AWD (S. Cholera) and dog bite cases were the most frequently reported diseases from Balochistan province.
- ILI cases are mostly reported from Kech (Turbat), Gwadar and Quetta while AD (Non-Cholera) cases are mostly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

Table 3: District wise distribution of most frequently reported suspected cases during week 16, Balochistan

Districts	ILI	AD Non-Cholera)	Malaria	ALRI < 5 years	B. Diarrhea	SARI	Typhoid	Dengue	AWD (S.Cholera)	Dog Bite
Awaran	78	27	49	1	20	3	1	0	4	0
Barkhan	94	170	88	53	13	9	29	0	16	24
Chagai	255	195	28	0	78	5	9	0	10	1
Chaman	187	89	5	6	80	41	14	0	6	0
Dera Bugti	68	72	152	70	61	36	21	0	0	1
Duki	66	156	32	25	84	35	13	0	12	9
Gwadar	1021	728	63	0	21	0	16	3	0	0
Harnai	17	56	33	163	58	0	0	0	12	0
Hub	123	326	125	13	34	0	5	0	0	66
Jaffarabad	157	436	915	42	61	20	4	0	0	12
Jhal Magsi	218	459	544	25	9	6	26	0	4	23
Kachhi (Bolan)	51	94	96	6	28	39	52	0	35	0
Kalat	5	31	13	22	10	4	16	0	0	0
Kech (Turbat)	1120	528	254	60	124	4	3	362	NR	NR
Kharan	340	172	41	0	72	0	7	0	0	0
Khuzdar	102	131	61	3	45	4	10	0	0	2
Killa Saifullah	2	101	120	124	56	12	10	0	1	0
Kohlu	493	238	111	21	139	120	45	0	42	0
Lasbella	98	345	349	78	18	0	4	0	0	7
Loralai	332	167	37	61	63	127	14	0	0	6
Mastung	101	120	38	65	24	23	18	0	7	0
Naseerabad	10	263	176	25	11	0	30	0	0	5
Nushki	13	152	7	0	48	5	0	0	11	0
Panjgur	57	232	140	99	68	13	10	0	26	0
Pishin	339	78	3	22	37	0	5	0	0	1
Quetta	654	236	9	24	32	9	15	0	4	0
Sherani	65	24	1	0	13	25	4	8	12	0
Sibi	518	257	157	29	39	29	21	0	21	4
Sohbat pur	23	261	410	201	77	22	49	0	6	4
Surab	121	117	51	14	1	0	59	0	0	0
Usta Muhammad	169	524	320	153	41	17	10	0	0	2
Washuk	184	110	50	5	61	0	2	0	0	0
Zhob	163	80	80	264	52	75	15	0	5	0
Ziarat	247	132	37	37	65	36	15	0	9	3
Total	7,491	7,107	4,595	1,711	1,643	719	552	373	243	170

Figure 3: Most frequently reported suspected cases during week 16, Balochistan

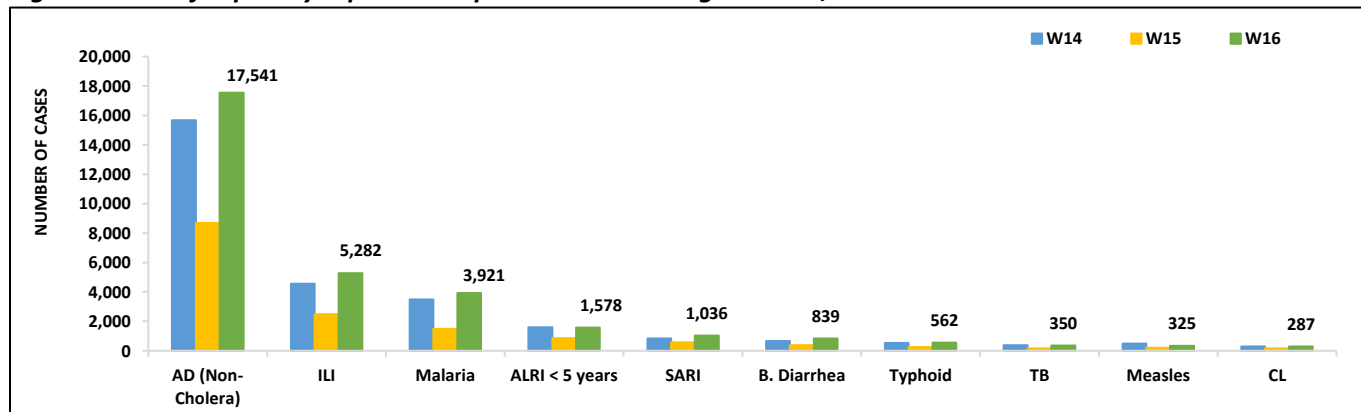


- Cases of AD (Non-Cholera) were maximum followed by ILI, Malaria, ALRI<5 Years, SARI, B. Diarrhea, Typhoid, TB, Measles and CL cases.
- AD (Non-Cholera), ILI, Malaria, ALRI<5 Years, SARI, B. Diarrhea, Typhoid, TB, Measles and CL cases showed an increasing trend this week.
- Twenty-three cases of AFP, Seven suspected cases of HIV/ AIDS and Three cases of Brucellosis reported from KP. All are suspected cases and need field verification.

Table 4: District wise distribution of most frequently reported suspected cases during week 16, KP

Districts	AD (Non-Cholera)	ILI	Malaria	ALRI <5 Years	SARI	B. Diarrhea	Typhoid	TB	Measles	CL
Abbottabad	507	51	5	22	20	5	5	22	16	0
Bajaur	85	17	18	3	48	11	2	1	0	2
Bannu	776	10	1428	11	0	31	94	31	15	2
Battagram	45	145	0	0	0	0	0	0	0	0
Buner	278	0	178	0	40	0	7	0	2	0
Charsadda	606	680	367	55	68	27	10	0	6	1
Chitral Lower	190	52	10	39	21	25	23	9	5	6
Chitral Upper	78	6	3	7	8	5	13	1	0	0
D.I. Khan	1841	0	194	12	24	38	0	25	59	2
Dir Lower	721	3	304	126	0	65	46	15	14	1
Dir Upper	263	71	4	14	0	1	41	17	4	4
Hangu	117	202	330	0	9	8	1	1	0	5
Haripur	1066	338	8	68	18	158	35	42	3	0
Karak	256	25	75	26	0	0	10	8	46	57
Khyber	208	67	50	12	23	42	48	23	3	12
Kohat	65	38	48	1	3	1	0	0	0	0
Kohistan Lower	83	0	0	4	0	5	0	0	0	0
Kohistan Upper	524	26	0	10	0	33	10	29	3	0
Kolai Palas	84	0	0	14	10	7	8	1	0	0
L & C Kurram	16	57	0	0	0	2	0	0	0	0
Lakki Marwat	600	17	162	11	0	18	7	15	12	2
Malakand	444	101	10	51	11	41	18	1	6	8
Mansehra	567	549	0	37	21	20	13	10	4	0
Mardan	464	0	9	499	0	22	0	4	2	0
Mohmand	140	78	119	3	23	22	4	0	1	90
Nowshera	1495	13	17	5	2	20	10	13	29	11
Orakzai	27	8	12	0	0	4	0	0	1	0
Peshawar	2382	452	23	61	62	95	53	29	37	2
SD Peshawar	2	0	0	0	0	0	0	0	0	0
SD Tank	22	0	46	0	0	5	0	0	0	0
Shangla	325	0	267	142	0	0	12	16	2	3
SWA	65	351	44	105	114	15	17	0	4	42
Swabi	1204	1020	32	126	73	12	7	10	39	0
Swat	1459	291	13	76	14	42	0	15	5	0
Tank	350	219	69	17	0	1	60	6	0	32
Tor Ghar	45	0	31	1	11	13	3	0	2	5
Upper Kurram	141	395	45	20	413	45	5	6	5	0
Total	17,541	5,282	3,921	1,578	1,036	839	562	350	325	287

Figure 4: Most frequently reported suspected cases during week 16, KP



ICT, AJK & GB

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, B. Diarrhea, TB, dog bite, Typhoid, AWD (S. Cholera) and AVH (A & E) cases. Cases of ILI, AD (Non-Cholera), ALRI <5 years, SARI, B. Diarrhea, TB, Typhoid and AWD (S. Cholera) showed an increasing trend this week.

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

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

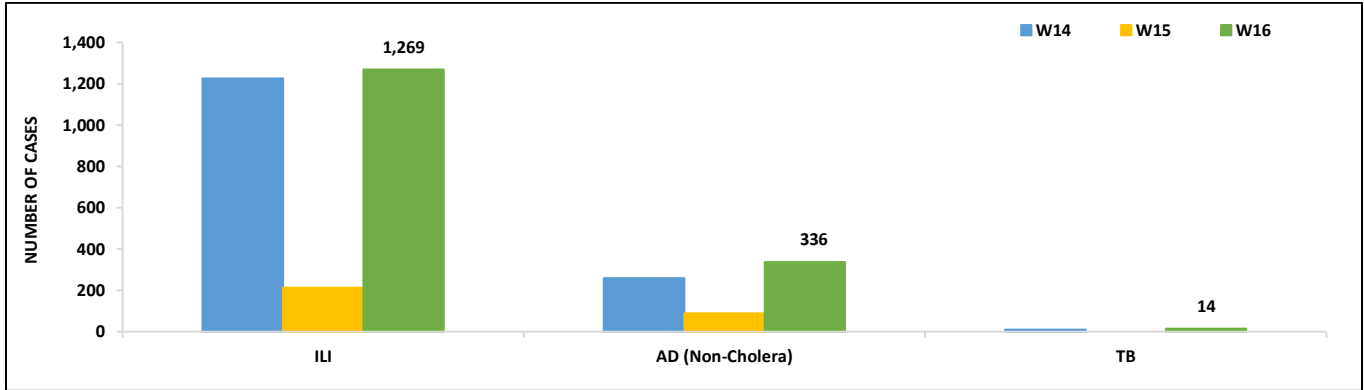


Figure 6: Week wise reported suspected cases of ILI, ICT

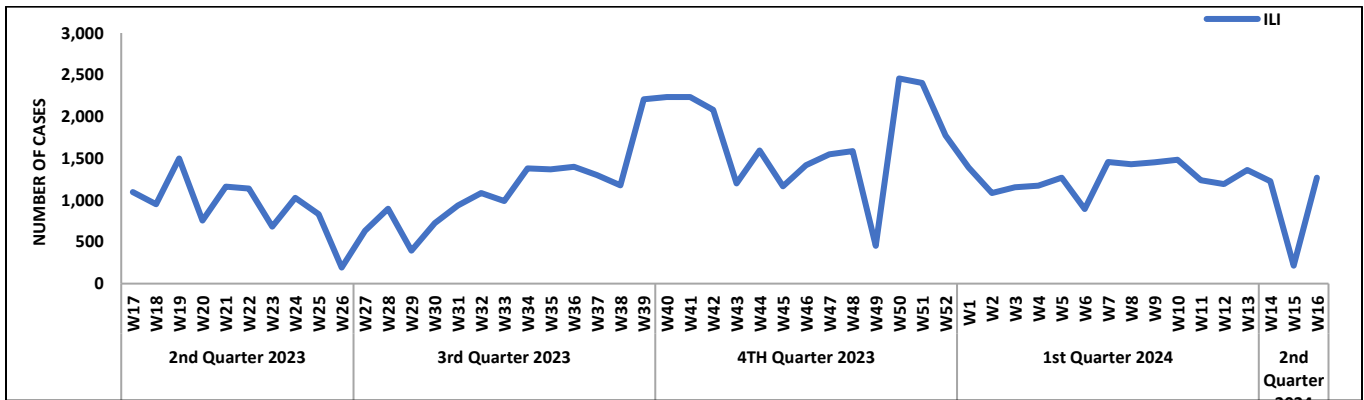


Figure 7: Most frequently reported suspected cases during week 16, AJK

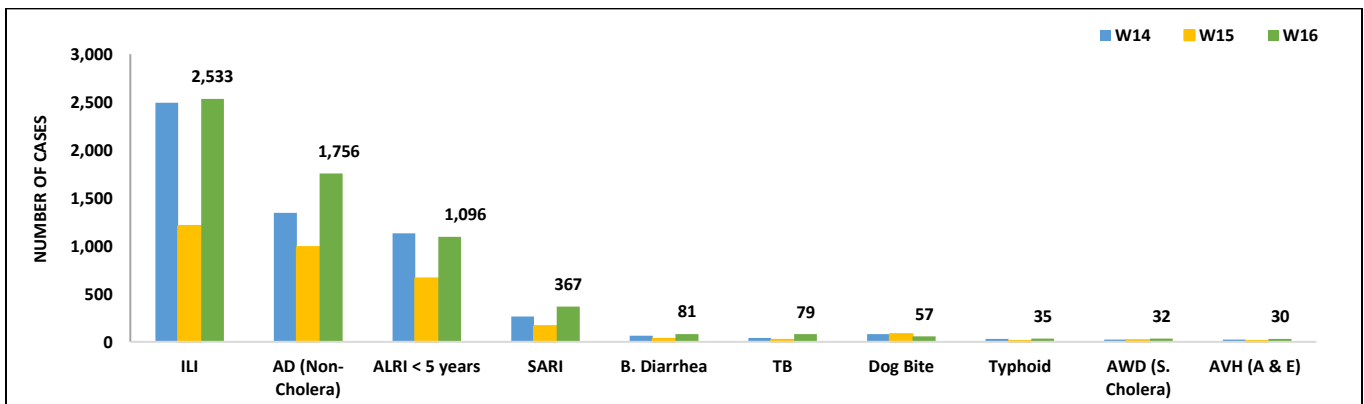


Figure 8: Week wise reported suspected cases of ILI and AD (Non-Cholera) AJK

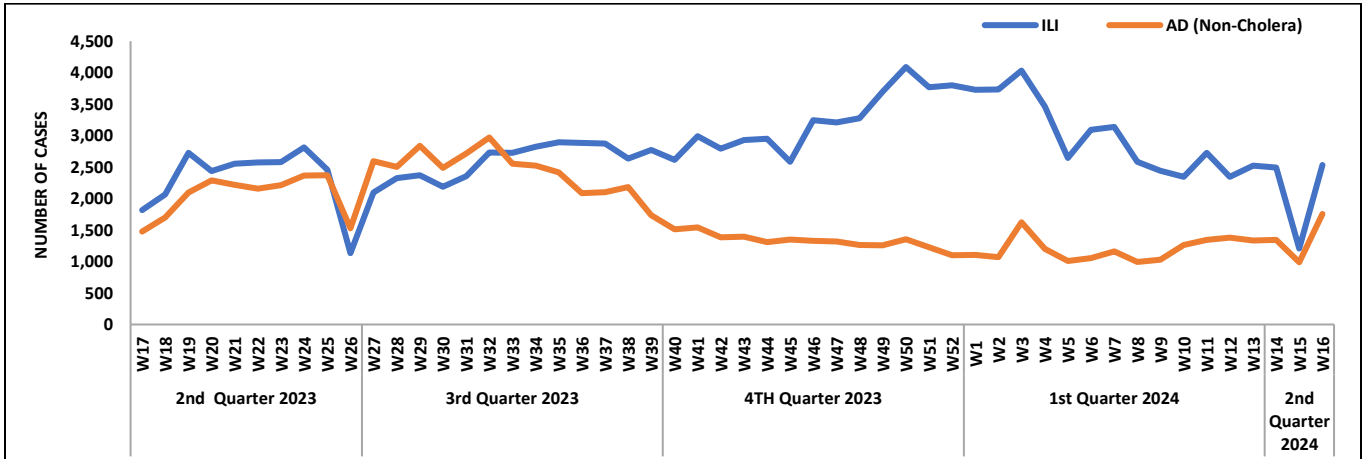


Figure 9: Most frequent cases reported during Week 16, GB

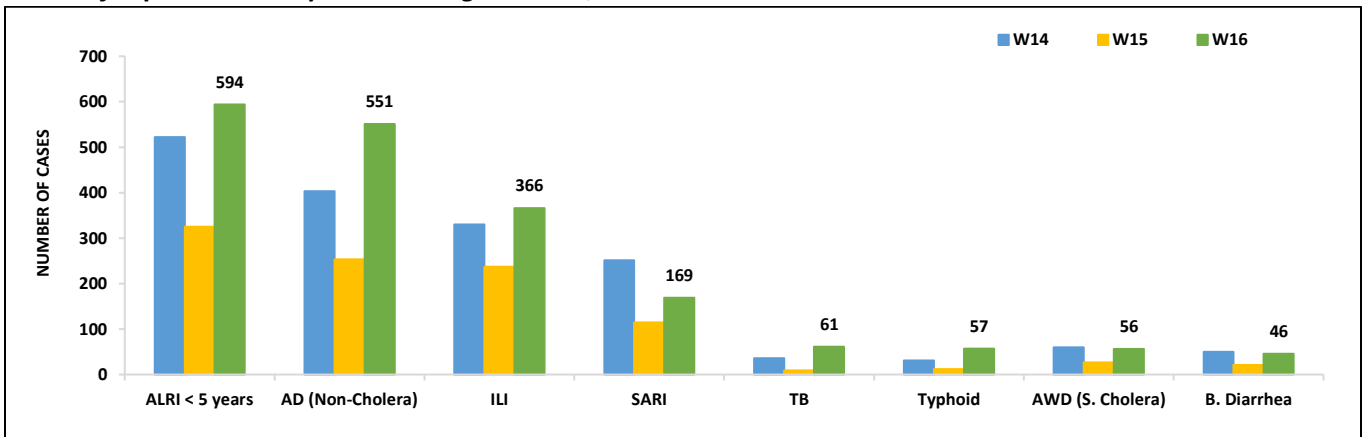
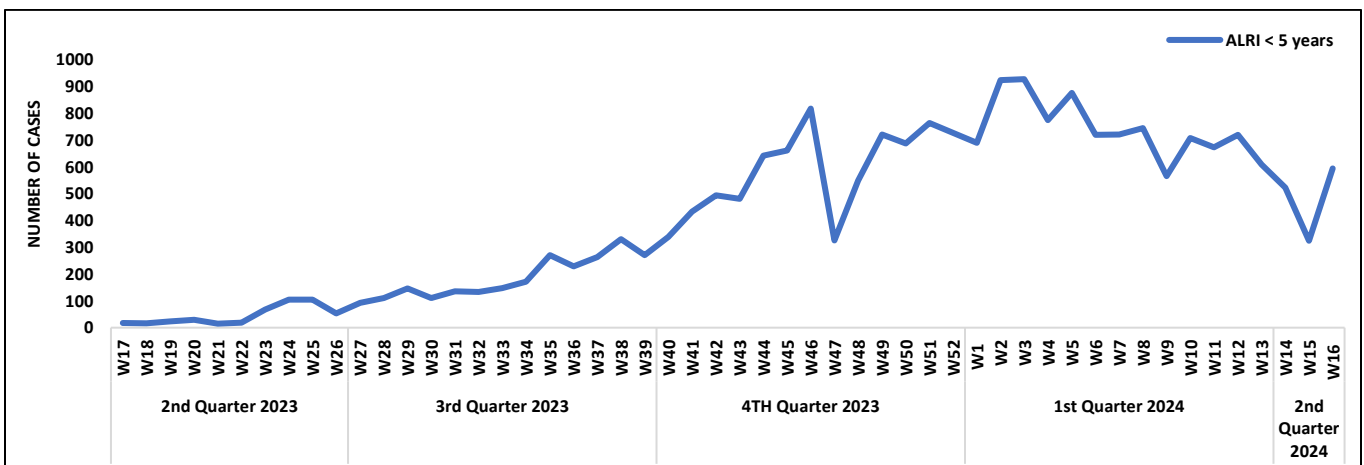


Figure 10: Week wise reported suspected cases of ALRI, GB



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

Figure 11: District wise distribution of most frequently reported suspected cases during week 16, Punjab

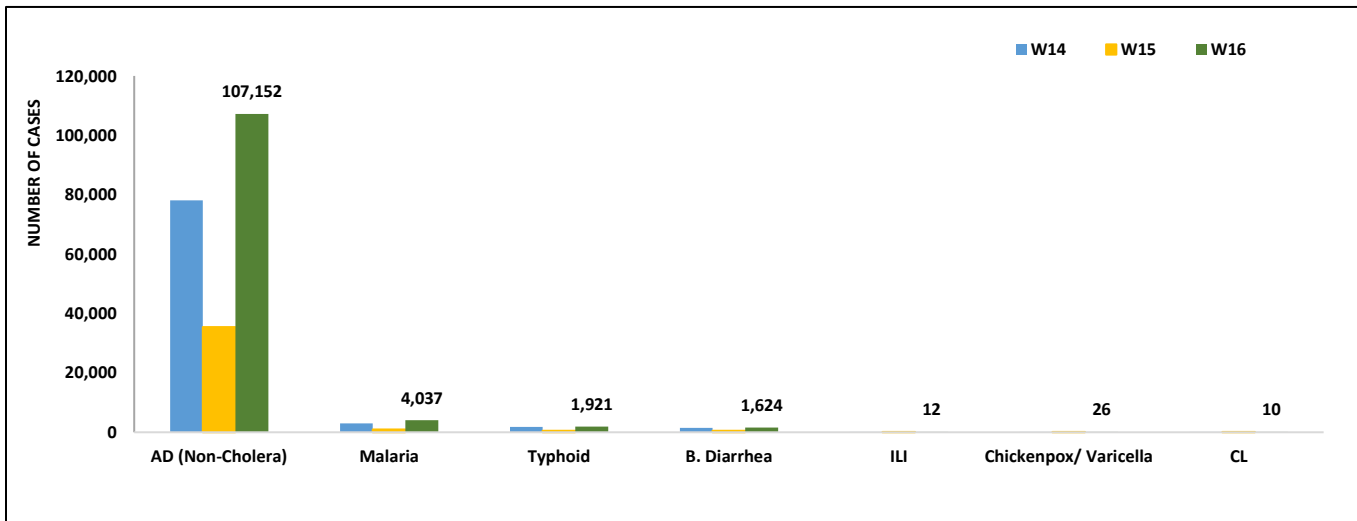


Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 16

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)	11	0	-	-	0	0	0	0	-	-
AD (Non-Cholera)	95	0	-	-	0	0	0	0	-	-
Malaria	2,644	88	-	-	0	0	-	-	-	-
CCHF	0	0	4	0	1	0	0	0	-	-
Dengue	423	14	-	-	0	0	4	0	-	-
VH (B)	3,747	100	87	72	0	0	-	-	141	0
VH (C)	3,858	306	87	33	0	0	-	-	141	0
VH (A&E)	16	0	-	-	1	1	-	-	-	-
Covid-19	0	0	59	2	2	1	112	13	-	-
HIV	85	0	-	-	0	0	-	-	-	-
Diphtheria	0	0	-	-	0	0	24	3	-	-
Influenza A	0	0	0	0	1	0	8	0	-	-
TB	67	0	-	-	0	0	-	-	-	-
Syphilis	72	0	-	-	0	0	-	-	-	-
Pertussis	0	0	-	-	0	0	6	0	-	-
Typhoid	544	11	-	-	0	0	15	1	-	-
Mumps	0	0	-	-	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 16, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	105	95%
	Bannu	234	138	59%
	Battagram	63	11	17%
	Buner	34	25	74%
	Bajaur	44	25	57%
	Charsadda	59	52	88%
	Chitral Upper	34	28	82%
	Chitral Lower	35	34	97%
	D.I. Khan	114	109	96%
	Dir Lower	74	74	100%
	Dir Upper	52	41	79%
	Hangu	22	20	91%
	Haripur	72	64	89%
	Karak	35	35	100%
	Khyber	64	24	38%
	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	3	8%
	Upper Kurram	42	22	52%
	Malakand	42	36	86%
	Mansehra	136	98	72%
	Mardan	80	75	95%
	Nowshera	55	54	98%
	North Waziristan	380	0	0%
	Peshawar	151	126	83%
	Shangla	65	11	17%
	Swabi	63	60	95%
	Swat	76	75	99%
	South Waziristan	134	55	41%
	Tank	34	33	97%
	Torghar	14	14	100%
Mohmand	86	38	44%	
SD Peshawar	5	1	20%	
SD Tank	58	7	12%	
Orakzai	68	14	21%	
FATA	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	39	98%
	Neelum	39	39	100%
	Jhelum Vellay	29	29	100%
	Sudhnooti	27	27	100%
Islamabad Capital Territory	ICT	21	21	100%
	CDA	14	9	64%
Balochistan	Gwadar	25	24	96%
	Kech	40	36	90%
	Khuzdar	20	20	100%
	Killa Abdullah	20	0	0%
	Lasbella	55	55	100%
	Pishin	62	8	13%
	Quetta	43	13	30%
	Sibi	36	27	75%
	Zhob	39	31	79%
	Jaffarabad	16	15	94%
	Naserabad	32	31	97%
	Kharan	30	30	100%
	Sherani	15	15	100%
	Kohlu	75	68	91%
	Chagi	35	28	80%
	Kalat	41	40	98%
	Harnai	17	15	88%
	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	27	82%
	Killa Saifullah	28	27	96%
	Ziarat	29	23	79%
	Duki	31	31	100%
	Nushki	32	30	94%
	Dera Bugti	45	29	64%
	Washuk	46	15	33%
	Panjgur	38	20	53%
	Awaran	23	7	30%
	Chaman	24	22	92%
	Barkhan	20	20	100%
	Hub	33	33	100%
Musakhel	41	0	0%	
Usta Muhammad	34	34	100%	
Gilgit Baltistan	Hunza	32	32	100%
	Nagar	20	20	100%
	Ghizer	40	40	100%
	Gilgit	40	40	100%
	Diامر	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	64	88%
	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	67	100%
	Kamber Shadadkot	71	71	100%
	Karachi-East	23	21	91%
	Karachi-West	20	20	100%
	Karachi-Malir	37	37	100%
	Karachi-Kemari	18	7	39%
	Karachi-Central	11	10	91%
	Karachi-Korangi	18	15	83%
	Karachi-South	4	4	100%
	Sujawal	54	53	98%
	Mirpur Khas	106	104	98%
	Badin	124	120	97%
	Sukkur	64	63	100%
	Dadu	90	86	97%
	Sanghar	100	100	100%
	Jacobabad	44	44	100%
	Khairpur	169	166	98%
	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	124	100%



A note from Field Activities.

Measles Outbreak Investigation - Peshawar, March _April 2024

**Dr. Anthony,
Public Health Coordinator,
Peshawar, KPK**

Introduction

A measles outbreak was identified in Peshawar District, Khyber Pakhtunkhwa, Pakistan, a region with a population of approximately 4.7 million. The district serves as a major trade route due to its location at the eastern end of the Khyber Pass. The first case was reported on January 3rd, 2024. A total of 46 cases were reported between Epidemiological (EPI) weeks 11 and 15, with the highest number concentrated in the Union Councils (UCs) of Khazana (n=4) and Matra (n=3). Following this rise in cases, an official measles outbreak declaration was issued.

Objectives:

- Determine the extent and severity of the measles outbreak in Peshawar District.
- Develop and implement effective control measures to halt the current outbreak.
- Identify and implement strategies to prevent future outbreaks of measles in the district.

Methods

This investigation utilized a descriptive epidemiological study design, focusing on data collection and analysis from EPI weeks 11 to 15 within Peshawar District. This timeframe allowed for a snapshot of the outbreak's progression during its active phase. All available data relevant to this period was meticulously examined to identify trends and patterns in case demographics, geographic distribution, and potential transmission routes.

To actively search for additional cases beyond reported ones, a standardized questionnaire was developed and deployed. This questionnaire likely included inquiries about recent illnesses experienced by household members, the presence of symptoms characteristic of measles (fever, rash, cough, etc.), and vaccination history. This information

is crucial for identifying individuals who might be infected but haven't yet sought medical attention.

In conjunction with the active case search, an outbreak response strategy was implemented to directly address the ongoing transmission. This strategy likely involved a multi-pronged approach. One key component would have been the identification of unvaccinated children within the affected communities. These children would then be prioritized for vaccination to create pockets of immunity and impede further spread of the virus. This combined approach of data analysis, active case finding, and targeted vaccination efforts aimed to provide a comprehensive understanding of the outbreak's dynamics and effectively control its spread within the Peshawar District.

Results

The outbreak investigation identified a total of 46 confirmed measles cases within Peshawar District, translating to an attack rate of 1 per 10,000 individuals. This relatively low rate suggests a limited spread of the virus within the population. Cases were reported across a broad age range, spanning from 3 to 60 months old. However, the median age of those infected was 9 months, indicating a vulnerability among children who may not have received the full course of vaccinations yet. Notably, males (n=26) accounted for a slightly higher proportion of cases compared to females (n=20). The outbreak peaked on March 2nd, 2024, with 6 cases reported on that single day. Additionally, the investigation revealed a geographical sporadic clustering of cases within UC Khazana (n=5) and Matra (n=3), the most populous urban UC, where the highest number of infections were identified.

Recommendations

To effectively control the ongoing measles outbreak and prevent future occurrences, several key recommendations are proposed:

- **Improved Access to High-Risk Areas:** Securing access to security-compromised areas within the district is crucial. This will enable comprehensive vaccination campaigns and strengthen Vaccine-Preventable Disease (VPD) surveillance efforts. By reaching all populations, regardless of location, a more accurate



picture of the outbreak's scope can be established, and vaccination efforts can be targeted more effectively.

- **Strengthened IDSRs Reporting:** Enhancing the Integrated Disease Surveillance and Response System (IDSRs) is vital. This can be achieved by providing dedicated training for the designated focal person responsible for reporting. Emphasizing the importance of accurate and timely reporting will ensure a more efficient response to future outbreaks. A robust IDSRs allows for early detection, rapid containment measures, and improved data collection for future analysis.
- **Targeted Awareness Campaigns:** Conducting targeted awareness sessions regarding measles vaccination within high-risk Union Councils (UCs) is recommended. This will address vaccine hesitancy and ensure communities understand the importance of immunization. By focusing on areas with the highest case concentrations, these campaigns can have a significant impact on vaccination rates and reduce the risk of further transmission.

Conclusion

An ongoing measles outbreak in Peshawar requires close attention. The investigation revealed low measles vaccination rates in the community. To stop the spread, a district-wide vaccination campaign by EPI technicians is essential, along with public awareness campaigns in schools and communities. To understand the outbreak better, a case-control study is recommended. Security limitations in certain areas, however, may hinder the effectiveness of these efforts.

A note from Field Activities.

Report on Suspected Dengue Fever Cases in Pasrur, Sialkot, Punjab (March 26-28, 2024)

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

Introduction:

A review of the District Health Information System 2 (DHIS2) for 34 priority diseases identified a surge in suspected dengue fever cases reported at the Tehsil Headquarters (THQ) Hospital in Pasrur, Sialkot, Punjab, between March 26th and 28th, 2024. A total

of 317 suspected cases were identified during this period.

An outbreak investigation was initiated to:

- Analyze potential risk factors associated with the surge in suspected cases.
- Recommend control measures to mitigate further transmission and prevent future outbreaks.

Methods:

To gain a comprehensive understanding of the situation, an active case finding approach was implemented. Investigators utilized a pre-defined questionnaire to gather detailed information from individuals reported with suspected dengue fever. This questionnaire focused on two key areas:

1. **Community Awareness and Practices:** The questionnaire assessed the community's knowledge, attitudes, and practices concerning dengue fever. This aimed to identify potential knowledge gaps or areas where behavior changes could significantly impact transmission prevention.
2. **Environmental Risk Factors:** Investigators also evaluated living standards and environmental factors within the community. This evaluation aimed to pinpoint conditions that might contribute to *Aedes aegypti* mosquito breeding, the primary vector for dengue transmission.

Findings:

The investigation uncovered a noteworthy discrepancy. An unusually high number of suspected dengue fever cases, totaling 317, were reported at the THQ Hospital Pasrur. This surge in suspected cases initially raised concerns about a potential outbreak. However, subsequent laboratory testing painted a different picture. All but one of the reported cases, including complete blood count analyses, returned negative results for dengue fever. Notably, the single confirmed case had a travel history, suggesting a possible source of exposure outside the immediate area of investigation. This highlights the limitations of relying solely on clinical symptoms for diagnosing dengue fever. Laboratory confirmation through specific tests, such as NS1 antigen detection or



dengue virus RT-PCR, remains crucial for an accurate diagnosis.

Despite the absence of confirmed local transmission and the lack of immediate evidence of mosquito breeding during the active vector search, the investigation identified environmental factors that could potentially contribute to future outbreaks. These factors might include stagnant water sources, improper waste management practices, or inadequate drainage systems, all of which provide suitable breeding grounds for *Aedes aegypti* mosquitoes, the primary vector for dengue transmission.

This underscores the importance of continued vigilance, even in the absence of immediate vector presence or confirmed local cases. Public health efforts should focus on preventative measures such as community awareness campaigns on vector control practices, proper waste disposal, and the importance of using mosquito nets. Additionally, maintaining a robust surveillance system for early detection of suspected cases and prompt laboratory testing is critical to effectively manage potential outbreaks and minimize their impact.

Recommendations:

While the current situation suggests there is no immediate threat of a large-scale dengue fever outbreak in Sialkot or Punjab, maintaining a state of preparedness is crucial. Here are key recommendations to ensure continued vigilance and minimize the risk of future outbreaks:

- **Sustained Surveillance:** Dengue surveillance teams should remain active, conducting regular house-to-house searches to identify and eliminate potential mosquito breeding sites.
- **Public Awareness Campaigns:** Continued utilization of electronic and print media is vital to educate the community about preventative measures they can take against dengue fever.
- **Data Validation:** The third-party validation (TPV) application should be maintained to guarantee accurate reporting by field teams, ensuring a clear picture of the situation.

- **Enhanced Private Sector Participation:** Encouraging private laboratories and hospitals to actively report suspected dengue cases will improve overall disease surveillance.
- **Interdepartmental Collaboration:** Regular meetings of Tehsil Emergency Response Committees, District Response Committees, and Cabinet Committees are essential to foster coordinated efforts across all relevant government departments.
- **Strengthened Field Supervision:** District Commissioners and Assistant Commissioners should conduct regular field visits to monitor and ensure the effectiveness of anti-dengue activities.
- **Expanding Hotspot Identification:** Including flour mills in the designated high-risk areas (hotspots) allows for targeted vector control efforts in these locations.
- **Addressing Refusals:** Utilizing tiger force personnel and political representatives can facilitate overcoming any refusals of inspections or interventions within the community.
- **Leveraging Online Platforms:** Partnering with private schools that utilize online classes presents a unique opportunity to disseminate dengue prevention messages and educational videos to a wider audience.
- **Centralized Dengue Control Room:** Establishing a dedicated dengue control room will provide a central point of contact for managing and coordinating all dengue control activities.

By implementing these recommendations, Sialkot and Punjab can remain well-prepared to prevent and effectively manage any potential future outbreaks of dengue fever.

Conclusion:

Although only one confirmed case with a travel history was identified, a proactive approach to prevention and control measures was implemented. Continued vigilance and adherence to the outlined recommendations are crucial to minimize the risk of future outbreaks.



A note from Field Activities.

Measles Outbreak Investigation Report: UC Marghuz, Swabi District, Khyber Pakhtunkhwa)

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

Introduction

On April 16th, 2024, the Provincial Disease Surveillance and Response Unit (PDSRU) of Khyber Pakhtunkhwa (KPK) received notification of 53 laboratory-confirmed measles cases across 23 different union councils within Swabi District. This report details the investigation conducted specifically in response to the outbreak within Union Council (UC) Marghuz, where four confirmed cases were reported over a five-week period (epidemiological weeks 11-15). All confirmed cases received medical care at Bacha Khan Medical Complex in Swabi.

Objective

The primary objective of this investigation was to assess the extent of the measles outbreak in UC Marghuz and identify the potential risk factors contributing to its occurrence.

Methods

From April 17th to 19th, 2024, a team conducted a descriptive study within the affected villages of UC Marghuz. This investigation involved actively searching for additional suspected cases using the standard measles case definition established by the World Health Organization (WHO). A standardized data collection tool was developed to gather information on all identified cases, including demographics, vaccination history, and any potential measles risk factors. This collected data was then analyzed to determine the frequency of cases, identify potential contributors to the outbreak, and assess the overall routine immunization coverage within UC Marghuz.

Results

The investigation actively searched for additional cases, identifying 15 new suspected measles cases within the affected villages. Combining

these with the initial confirmed cases, a total of 19 cases were analyzed. The average age of those affected was 40 months, with a range of 8 months to 15 years. The most vulnerable age group was children under 1 year old (n=7). Notably, the case distribution was nearly equal between genders, with 47% males and 53% females. Investigation into vaccination status revealed a critical gap in coverage. Only 3 out of the 19 cases (15.8%) had received measles vaccination. To assess broader immunization coverage, a household survey was conducted. While 6 children were too young for the first measles vaccine dose, a concerning 46% (18 out of 39) of eligible children within the surveyed households lacked vaccination. These findings highlight the importance of improved vaccination coverage to effectively control the outbreak.

Conclusion

The investigation identified a significant number of unvaccinated individuals among the confirmed and suspected measles cases. Additionally, cases were reported in children below the age of 9 months, who are not yet eligible for the first dose of the MR vaccine. Factors such as bottle-feeding and comorbidities (including immunodeficiency) may have further contributed to the vulnerability of these individuals.

Recommendations

To effectively control the ongoing measles outbreak and prevent future occurrences, the following recommendations are made:

- **Community Education:** Implement targeted health education campaigns to raise awareness about vaccine-preventable diseases (VPDs) and the importance of routine childhood immunization within the community.
- **Outreach Sessions:** Organize regular outreach sessions within UC Marghuz to ensure convenient access to vaccination services.
- **Monitoring and Evaluation:** Closely monitor all measles mop-up activities and outreach sessions to ensure their effectiveness and identify areas for improvement.



Letter to editor

Public Health Initiative Report: World Malaria Day Awareness Walk in Lahore, Pakistan

Dr. Shoaib
Manager Surveillance,
CD&EPC, Punjab

In recognition of World Malaria Day on April 25th, the Department of Specialized Healthcare, and the Department of Primary & Secondary Healthcare, joined forces to organize an impactful public health initiative in Punjab, Pakistan. This initiative took the form of a large-scale awareness walk designed to raise public consciousness and understanding of critical malaria prevention and control strategies.

The walk served as a powerful symbol of interdepartmental collaboration within the public health sector. Leading the event were prominent figures including Minister of Specialized Healthcare Department, Minister of Primary & Secondary Healthcare Department, Punjab, Director-General Health, DHS CD&EPC, and CEO of DHA Lahore. Their active participation not only demonstrated their unwavering commitment to public health education but also amplified the message and importance of malaria prevention efforts to a wider audience.

Beyond esteemed leadership figures, the walk witnessed a surge of participation from a diverse range of individuals within the Health Department. A large and enthusiastic crowd, consisting of employees, officers, and officials, actively participated in the walk. This collective action served as a testament to the department's dedication to public health initiatives and disease prevention strategies.

Disseminating Crucial Information:

The core objective of the awareness walk was to empower the public with the knowledge and tools necessary to effectively prevent and combat malaria. Healthcare officials actively participated in the walk, engaging with the public and disseminating crucial information regarding essential malaria prevention and control strategies. This direct interaction provided a valuable opportunity for public

education and facilitated the creation of a more informed citizenry.

The initiative's impact transcended the immediate event itself. Following the walk, a dedicated media talk and briefing session were held. This platform allowed healthcare professionals to further disseminate important information on a broader scale, ensuring a comprehensive understanding of malaria prevention strategies amongst the public. Additionally, it offered an opportunity to address any lingering questions and concerns, fostering a more informed and empowered community.

This collaborative effort between the Department of Specialized Healthcare and the Department of Primary & Secondary Healthcare serves as a prime example of the effectiveness and power of coordinated action within the public health domain. The initiative successfully brought together key stakeholders, garnered significant media attention, and is expected to contribute significantly to a more informed public. Ultimately, this collaborative approach is expected to pave the way for the implementation of improved and comprehensive malaria prevention strategies across Punjab, leading to a healthier future for all citizens.

Commentary.

The Enduring Threat: Malaria in Pakistan

Dr. Waqar Ahmed
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Introduction:

Malaria, a potentially fatal parasitic disease transmitted by infected female Anopheles mosquitoes, remains a significant public health concern in Pakistan. While other transmission routes like blood transfusions exist, mosquito bites are the primary culprit. Plasmodium falciparum and Plasmodium vivax are the two prevalent parasite species, with P. vivax being the dominant strain (>80%).

Despite a slight global decrease in confirmed cases (249 million in 2022 compared to 244 million in 2021), deaths attributed to malaria remain alarmingly



high at 608,000. Africa continues to bear the brunt of the disease, accounting for a staggering 94% of cases and 95% of fatalities. Children under five are disproportionately affected, constituting almost 80% of malaria deaths in the African region.

Pakistan's Endemic Challenge:

Malaria is endemic in Pakistan, with over 3.4 million suspected cases reported between January and August 2022 alone, compared to 2.6 million in the entirety of 2021. Laboratory confirmation identified over 170,000 cases, with *P. vivax* accounting for the majority (77%). Devastating floods in June 2022 significantly impacted health infrastructure and exacerbated the situation. Provinces like Sindh and Balochistan witnessed a surge in confirmed cases – a rise of over 3.5 times and nearly double, respectively, compared to August 2021. Across 62 high-burden districts, reported cases further increased in September 2022 (210,715).

Impact and Risk Factors:

Beyond the immediate health complications like severe anemia, fever, chills, and organ failure, malaria inflicts a significant economic burden on Pakistan. Treatment costs, lost productivity, and strained healthcare resources significantly impact the already stretched national budget. Pakistan's diverse ecological zones create ideal breeding grounds for Anopheles mosquitoes. Inadequate access to clean water, poor sanitation facilities, and insufficient use of preventive measures like insecticide-treated bed nets (ITNs) further contribute to the persistence of malaria. Drug resistance among Plasmodium parasites and resistance to mosquito control insecticides pose additional challenges.

Combating the Threat:

Effective malaria control necessitates a multi-pronged approach. Vector control is crucial, with strategies like promoting ITNs and indoor residual spraying (IRS) of insecticides significantly reducing mosquito populations. Prompt diagnosis and treatment using rapid diagnostic tests (RDTs) and effective antimalarial medications play a vital role in limiting transmission and preventing complications.

Empowering Communities:

Raising public awareness about malaria prevention and control is critical. Community education campaigns can empower individuals to

adopt protective measures like using ITNs, practicing good sanitation, and seeking prompt medical attention if symptoms arise. Promoting behavior change and encouraging community participation are essential elements in achieving successful malaria control.

Beyond Malaria: A Holistic Approach

Dengue fever, chikungunya, and West Nile virus are other mosquito-borne diseases posing a threat to public health in Pakistan. Prevention measures for these diseases share commonalities with those for malaria. By adopting a holistic approach to mosquito control and promoting best practices for preventing mosquito breeding, individuals can significantly reduce their risk of contracting these illnesses.

Conclusion:

Malaria remains a significant public health challenge in Pakistan. However, through a combination of effective vector control, early diagnosis and treatment, and comprehensive public health awareness campaigns, significant progress can be made. Collaboration between government agencies, healthcare professionals, and the community is crucial to create a future where these diseases no longer pose a major threat to public health in Pakistan.

Knowledge Hub

Bite Back: A Multifaceted Approach to Protecting Yourself from Mosquito-Borne Diseases

Mosquitoes, while seemingly insignificant insects, pose a significant threat to global public health. These vectors can transmit a multitude of serious and potentially life-threatening diseases, including malaria, dengue fever, chikungunya, and West Nile virus. While the geographical distribution of these diseases varies, with certain regions experiencing higher endemicity, no one is entirely immune to the risk. This vulnerability extends beyond international travel, as even within one's own backyard, mosquito-borne illnesses pose a potential danger.

Fortunately, a multi-pronged approach can effectively mitigate the risk of mosquito-borne



diseases. Here, we explore crucial preventative measures:

Minimize Mosquito Exposure:

- **Temporal Awareness:** Mosquitoes exhibit peak biting activity during specific times of the day, typically at dawn and dusk. By limiting outdoor activities during these periods, individuals can significantly reduce their exposure to mosquito bites.
- **Protective Clothing:** When venturing outdoors, particularly in areas with known high mosquito populations, wearing long-sleeved shirts, pants, and socks provides a physical barrier that deters mosquito bites.

Utilize Effective Repellents:

The Environmental Protection Agency (EPA) plays a vital role in registering safe and effective insect repellents. Choosing an EPA-registered product containing active ingredients such as DEET (N,N-Diethyl-meta-toluamide), Picaridin, IR3535, or oil of lemon eucalyptus is crucial. Following application instructions meticulously, paying particular attention to exposed skin and adhering to reapplication guidelines, ensures optimal protection.

Create a Mosquito-Free Zone Around Your Home:

Mosquitoes require stagnant water sources for breeding. Eliminating such sources around your property is an essential preventative measure. This includes routinely emptying birdbaths, unclogging gutters, and disposing of any containers that might collect water, such as old tires. Regularly changing the water in outdoor containers is also crucial. Additionally, exploring the use of mosquito traps or nets around your property can further reduce mosquito populations.

Secure Sleep with Bed Nets:

For individuals traveling to regions with a high risk of mosquito-borne diseases, utilizing insecticide-treated bed nets (ITNs) while sleeping provides an additional layer of protection. These nets act as a physical barrier, preventing mosquito bites during sleep hours when individuals are most vulnerable.

Early Action Saves Lives:

Familiarity with the symptoms associated with mosquito-borne diseases is vital for early detection and intervention. These symptoms can vary depending on the specific disease, but often include fever, chills, headache, muscle aches, and fatigue. If you experience such symptoms after traveling to a high-risk area or following a mosquito bite, it is imperative to seek medical attention promptly. Early diagnosis and treatment can significantly improve outcomes and prevent complications.

Community Matters – Advocate for Mosquito Control Programs:

Mosquito control programs implemented by local authorities play a crucial role in managing mosquito populations. These programs often involve spraying larvicides and adulticides in affected areas, as well as habitat management strategies to eliminate breeding grounds. Advocating for and supporting such programs within your community significantly contributes to a collective effort in reducing the risk of mosquito-borne diseases for everyone.

Conclusion:

By adopting these preventative measures and raising awareness within your community, you can significantly mitigate the risk of mosquito-borne diseases. Remember, a proactive approach is paramount in protecting yourself and your loved ones from these potentially life-threatening illnesses.



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