

Integrated Disease Surveillance & Response (IDSR) Report

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

<http://www.phb.nih.org.pk/>

Integrated Disease Surveillance & Response (IDSR) Weekly Public Health Bulletin is your go-to resource for disease trends, outbreak alerts, and crucial public health information. By reading and sharing this bulletin, you can help increase awareness and promote preventive measures within your community.



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Overview

IDSR Reports

Ongoing Events

Field Reports

Public Health Bulletin - Pakistan, Week 33, 2024

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

Beyond data compilation, this week's bulletin also includes an update on the global and national developments regarding the mpox outbreak and Pakistan's response, as well as a comparative analysis of the harmful effects of smoking and vaping on Pakistan's youth, an outbreak investigation and knowledge hub with an informative piece on Mpox.

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

Sincerely,
The Chief Editor



- During week 33, 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 SARI.
- Sixteen cases of AFP reported from KP, fourteen from Sindh, three from Punjab, two from AJK and one each from Balochistan and GB. All are suspected cases and need field verification.
- Thirteen suspected cases of HIV/ AIDS reported from Punjab, eight each from KP and Sindh and one from AJK. Field investigation required to verify the cases.
- Eleven suspected cases of Brucellosis reported from KP and eight each from AJK and Sindh. Field investigation required to verify the cases.
- Three suspected case of CCHF reported from Punjab. Field investigation required to verify the cases.
- There is a decreasing trend observed for AD (Non-cholera), Malaria, ILI, TB, ALRI <5 years, B. Diarrhea and dog bite cases this week.

IDSR compliance attributes

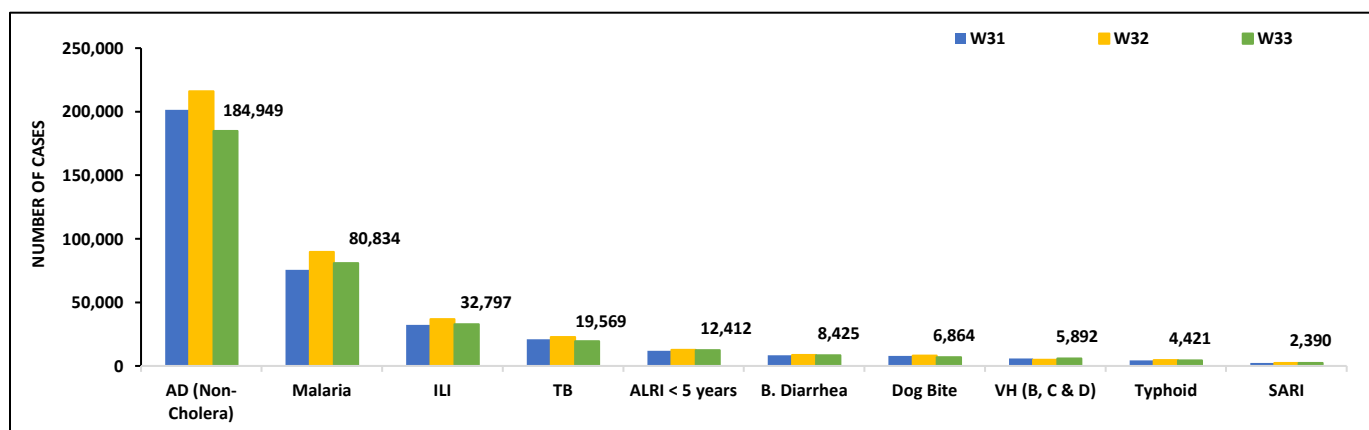
- The national compliance rate for IDSR reporting in 158 implemented districts is 83%
- Gilgit Baltistan and AJK are the top reporting regions with a compliance rate of 100% and 99%, followed by Sindh 96% and ICT 73%
- The lowest compliance rate was observed in Balochistan.

Region	Expected Reports	Received Reports	Compliance (%)
<i>Khyber Pakhtunkhwa</i>	2348	1696	72
<i>Azad Jammu Kashmir</i>	382	378	99
<i>Islamabad Capital Territory</i>	35	29	83
<i>Balochistan</i>	1206	881	73
<i>Gilgit Baltistan</i>	374	374	100
<i>Sindh</i>	2085	2001	96
<i>National</i>	6430	5359	83

Table 1: Province/Area wise distribution of most frequently reported suspected cases during week 33, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	2,652	6,569	3,589	477	29,676	84,609	57,377	184,949
Malaria	59	4,140	0	2	6,120	2,560	67,953	80,834
ILI	1,220	3,830	368	986	3,379	5	23,009	32,797
TB	62	97	111	6	346	7,920	11,027	19,569
ALRI < 5 years	886	1,233	442	2	1,129	578	8,142	12,412
B.Diarrhea	101	1,437	210	2	1,563	724	4,388	8,425
Dog Bite	92	81	4	0	629	4,322	1,736	6,864
VH (B, C & D)	7	57	0	0	93	0	5,735	5,892
Typhoid	44	712	104	2	689	1,712	1,158	4,421
SARI	104	520	282	2	1,281	0	201	2,390
AWD (S. Cholera)	97	275	207	0	187	1,572	50	2,388
Dengue	1	0	0	0	24	898	186	1,109
AVH (A&E)	36	34	2	0	291	0	584	947
Measles	20	20	3	0	174	263	29	509
Chikungunya	0	0	0	0	0	0	380	380
CL	0	93	0	0	235	1	0	329
Mumps	7	37	7	1	62	0	120	234
Chickenpox/ Varicella	8	2	14	0	50	6	19	99
Gonorrhoea	0	76	0	0	5	0	15	96
Pertussis	0	49	0	0	9	0	0	58
Meningitis	3	0	0	0	3	22	10	38
Rubella (CRS)	0	0	0	0	0	0	37	37
AFP	2	1	1	0	16	3	14	37
HIV/AIDS	1	0	0	0	8	13	8	30
Brucellosis	8	0	0	0	11	0	8	27
VL	0	0	0	0	0	0	9	9
NT	0	0	0	0	3	0	1	4
Leprosy	0	0	0	0	3	0	0	3
CCHF	0	0	0	0	0	3	0	3
Diphtheria (Probable)	0	0	0	0	0	1	0	1

Figure 1: Most frequently reported suspected cases during week 33, Pakistan.

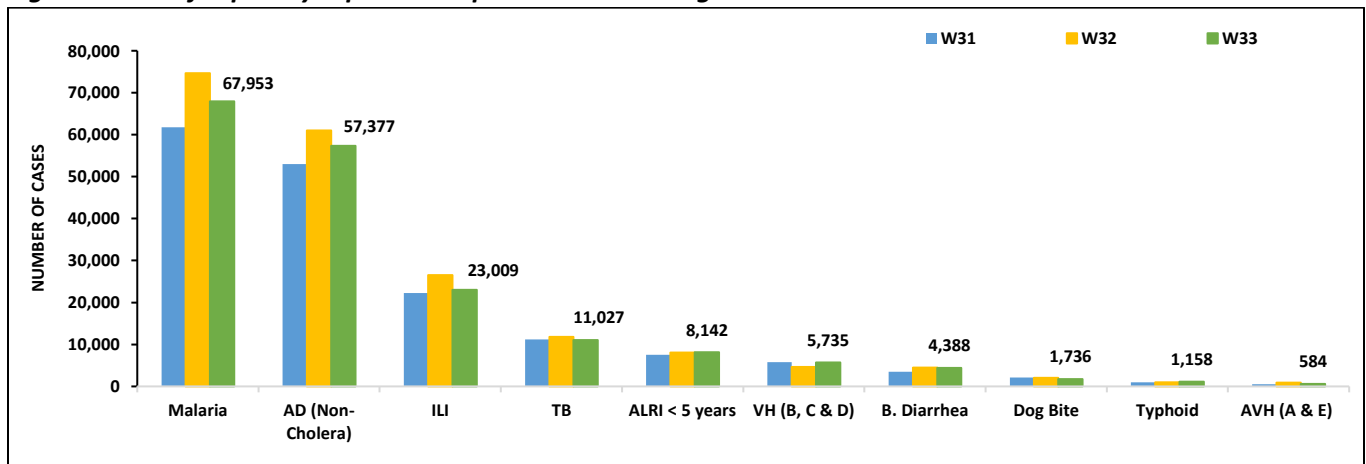


- Malaria cases were maximum followed by AD (Non-Cholera), ILI, TB, ALRI<5 Years, VH (B, C, D), B. Diarrhea, dog bite, Typhoid and AVH (A & E).
- Malaria cases are mostly from Badin, Larkana and Kamber whereas AD (Non-Cholera) cases are from Badin, Mirpurkhas and Tharparkar.
- Fourteen cases of AFP,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

Table 2: District wise distribution of most frequently reported suspected cases during week 33, Sindh

Districts	Malaria	AD (Non-Cholera)	ILI	TB	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Dog Bite	Typhoid	AVH (A&E)
Badin	7,169	4,922	613	916	558	990	360	75	93	16
Dadu	4,205	3,164	238	465	783	20	513	92	114	14
Ghotki	1,952	1,697	0	343	347	425	133	130	0	9
Hyderabad	534	1,675	2,170	145	54	35	0	0	10	0
Jacobabad	713	862	387	117	328	178	165	119	49	0
Jamshoro	1,836	2,135	71	432	181	339	120	41	55	12
Kamber	4,574	2,342	2	828	237	130	185	194	17	0
Karachi Central	58	1,175	1,392	263	23	36	34	22	103	10
Karachi East	55	407	130	10	13	10	7	7	1	0
Karachi Keamari	0	245	61	0	26	0	1	0	5	0
Karachi Korangi	46	367	0	18	1	1	7	0	2	0
Karachi Malir	405	2,114	2,749	123	274	53	107	34	29	7
Karachi South	39	95	4	0	0	0	0	0	0	0
Karachi West	141	881	1,235	116	188	103	32	52	29	10
Kashmore	1,552	593	294	234	186	28	78	163	17	0
Khairpur	4,503	3,258	4,143	986	953	224	515	91	225	23
Larkana	6,761	2,509	0	846	251	88	415	18	37	1
Matiali	1,789	1,787	8	543	175	449	74	58	8	6
Mirpurkhas	4,074	3,518	2,574	608	436	263	117	35	6	2
Naushero Feroze	1,943	1,307	1,008	367	264	28	150	181	98	0
Sanghar	3,266	1,485	3	782	228	795	37	74	17	0
Shaheed Benazirabad	1,707	2,242	10	310	144	104	64	131	115	0
Shikarpur	2,393	1,291	0	190	81	604	155	33	6	0
Sujawal	3,421	3,437	0	85	163	92	222	34	0	92
Sukkur	2,287	1,267	963	398	212	68	156	28	5	0
Tando Allahyar	2,041	1,856	539	432	172	410	198	47	15	5
Tando Muhammad Khan	2,547	1,681	0	545	149	13	165	0	0	0
Tharparkar	3,365	3,510	1,883	468	701	133	218	0	51	34
Thatta	2,261	3,051	2,532	44	418	89	99	77	23	338
Umerkot	2,316	2,504	0	413	596	27	61	0	28	5
Total	67,953	57,377	23,009	11,027	8,142	5,735	4,388	1,736	1,158	584

Figure 2: Most frequently reported suspected cases during week 33 Sindh

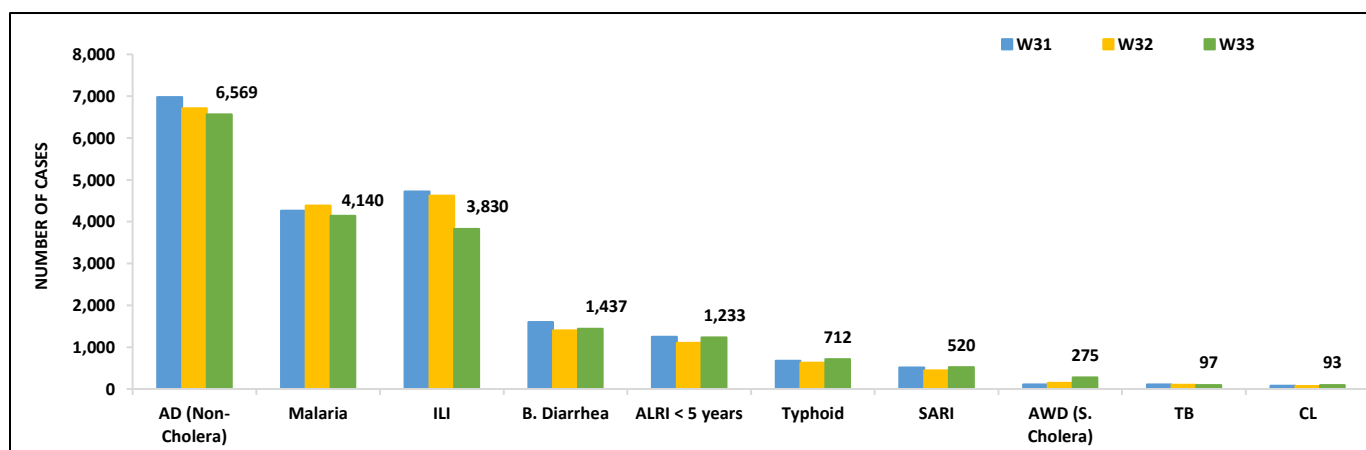


- AD (Non-Cholera), Malaria, ILI, B. Diarrhea, ALRI <5 years, Typhoid, SARI, AWD (S. Cholera), TB and CL cases were the most frequently reported diseases from Balochistan province. AD (Non-Cholera) cases are mostly reported from Usta Muhammad, Quetta and Lasbella while Malaria cases are mostly reported from Jaffarabad, Jhal Magsi and Lasbella.
- AD (Non-Cholera), Malaria and ILI cases showed a decreasing trend while B. Diarrhea, ALRI <5 years, Typhoid, SARI, AWD (S. Cholera) and CL cases showed an increasing trend this week.
- One suspected case of AFP reported from Balochistan. It needs field verification.

Table 3: District wise distribution of most frequently reported suspected cases during week 33, Balochistan

Districts	AD Non-Cholera)	Malaria	ILI	B. Diarrhea	ALRI < 5 years	Typhoid	SARI	AWD (S.Cholera)	TB	CL
Awaran	13	30	48	19	8	4	5	10	0	0
Barkhan	94	112	51	9	25	35	2	11	6	0
Chagai	141	47	211	59	0	32	0	11	0	0
Chaman	112	69	107	137	0	43	11	12	0	0
Dera Bugti	79	156	43	50	29	19	15	0	0	0
Harnai	118	104	0	71	145	0	0	5	1	0
Hub	98	49	4	1	5	1	0	0	0	0
Jaffarabad	441	721	55	52	25	5	10	2	38	18
Jhal Magsi	199	399	93	5	34	6	0	0	11	0
Kalat	62	83	15	16	15	47	0	0	0	0
Kharan	148	35	250	56	0	0	0	0	0	0
Khuzdar	424	242	422	107	10	39	34	50	1	2
Killa Abdullah	257	44	72	69	22	84	31	0	0	20
Killa Saifullah	171	157	0	30	82	6	0	0	0	1
Kohlu	249	164	302	98	14	65	82	1	1	2
Lasbella	461	336	134	32	87	5	7	0	2	0
Loralai	283	72	322	48	47	27	104	1	0	0
Mastung	318	143	115	59	59	40	23	11	4	0
Naseerabad	252	143	0	11	14	50	0	0	0	5
Nushki	184	23	0	27	0	0	0	3	0	0
Panjgur	188	223	148	44	90	11	30	64	0	2
Pishin	354	57	259	185	50	58	24	42	1	12
Quetta	504	28	671	109	73	63	10	34	0	9
Sherani	30	18	58	13	10	6	30	3	0	12
Sibi	111	95	141	8	42	21	46	9	0	1
Sohbat pur	298	188	11	45	58	18	10	6	3	5
Surab	43	46	46	3	0	0	0	0	0	0
Usta Muhammad	799	233	51	31	50	12	5	0	0	4
Zhob	138	123	201	43	239	15	41	0	29	0
Total	6,569	4,140	3,830	1,437	1,233	712	520	275	97	93

Figure 3: Most frequently reported suspected cases during week 33, Balochistan



- Cases of AD (Non-Cholera) were maximum followed by Malaria, ILI, B. Diarrhea, SARI, ALRI<5 Years, Typhoid, dog bite, TB and AVH (A & E) cases.
- AD (Non-Cholera), Malaria, B. Diarrhea, ALRI<5 Years, Typhoid, TB and AVH (A & E) cases showed a decreasing trend while ILI and dog bite cases showed an increasing trend this week.
- Sixteen cases of AFP, Eleven suspected cases of Brucellosis reported from KP and Eight suspected cases of HIV/ AIDS reported from KP. All are suspected cases and need field verification.

Table 4: District wise distribution of most frequently reported suspected cases during week 33, KP

Districts	AD (Non-Cholera)	Malaria	ILI	B.Diarrhea	SARI	ALRI <5 Years	Typhoid	Dog Bite	TB	AVH (A&E)
Abbottabad	1,459	21	98	21	0	21	49	42	8	9
Bajaur	1,246	275	19	133	21	287	3	58	11	58
Bannu	849	1,473	2	37	0	13	70	4	19	1
Battagram	226	0	360	0	0	0	0	0	0	0
Buner	312	243	0	0	0	0	8	13	1	0
Charsadda	652	207	328	29	0	28	31	2	1	13
Chitral Lower	906	34	68	53	17	17	12	14	9	2
Chitral Upper	225	8	9	5	4	6	14	1	0	2
D.I. Khan	988	334	0	24	0	9	2	9	48	0
Dir Lower	2,303	108	7	113	0	72	40	16	0	0
Dir Upper	745	11	63	3	0	16	2	0	1	0
Hangu	147	22	4	NR	NR	32	NR	NR	NR	NR
Haripur	1,222	25	89	17	5	18	24	8	11	58
Karak	338	256	26	0	0	12	7	12	6	0
Khyber	547	292	15	113	22	16	61	18	9	6
Kohat	467	162	37	0	0	17	11	5	3	0
Kohistan Lower	154	7	0	10	0	0	0	2	0	3
Kohistan Upper	416	18	3	31	1	3	6	2	11	0
Kolai Palas	73	7	6	9	2	1	0	0	3	1
L & C Kurram	42	43	81	19	2	0	5	1	2	0
Lakki Marwat	757	192	0	23	0	13	4	33	5	0
Malakand	1,058	13	25	243	11	27	27	0	3	12
Mansehra	884	6	390	7	41	26	10	0	1	0
Mardan	817	14	0	11	0	241	0	9	6	0
Mohmand	169	236	86	60	96	9	8	20	3	0
North Waziristan	58	47	0	1	72	0	2	0	0	0
Nowshera	2,076	82	12	40	10	1	20	10	7	13
Orakzai	40	21	7	10	0	0	0	0	1	0
Peshawar	3,936	95	743	137	60	50	107	10	3	29
SD Peshawar	5	0	0	0	0	0	0	0	0	0
SD Tank	9	37	2	1	0	0	0	0	0	0
Shangla	1,813	1,136	0	30	8	14	6	68	50	9
SWA	111	164	78	34	49	25	18	1	8	1
Swabi	1,781	68	347	48	73	61	37	174	75	53
Swat	2,317	44	87	225	33	47	43	85	23	20
Tank	213	246	56	0	0	12	40	0	5	0
Tor Ghar	108	144	0	36	8	0	2	0	0	1
Upper Kurram	207	29	331	40	746	35	20	12	13	0
Total	29,676	6,120	3,379	1,563	1,281	1,129	689	629	346	291

Figure 4: Most frequently reported suspected cases during week 33, KP

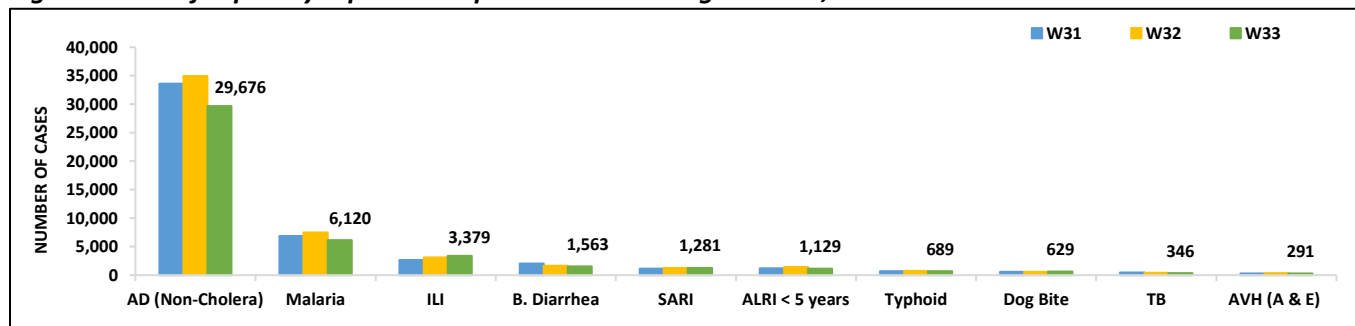


Figure 8: Week wise reported suspected cases of ILI and AD (Non-Cholera) AJK

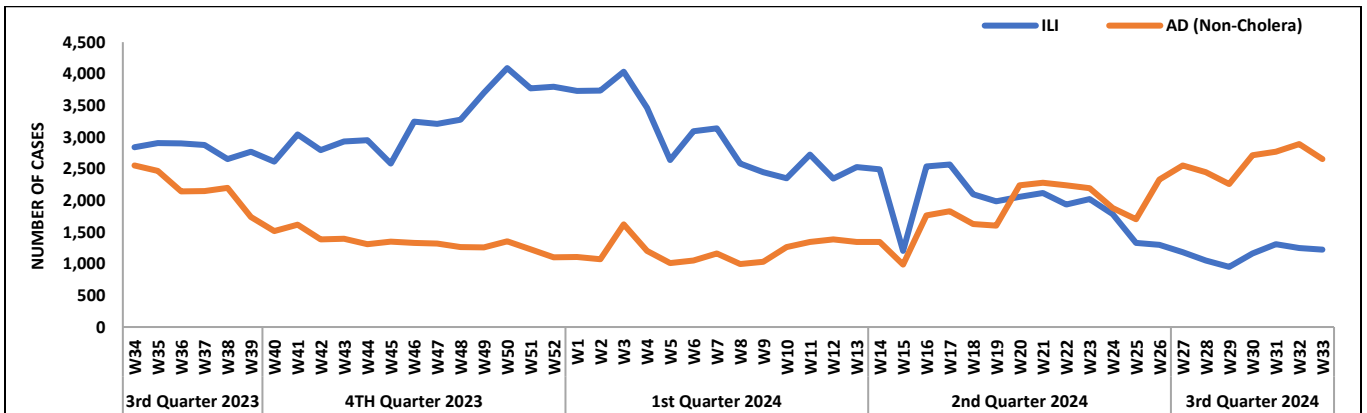


Figure 9: Most frequent cases reported during Week 33, GB

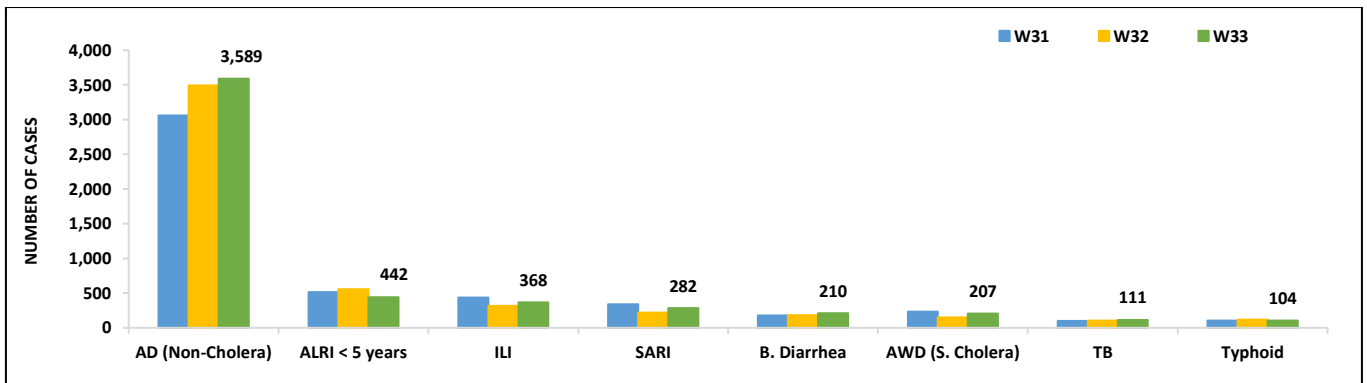
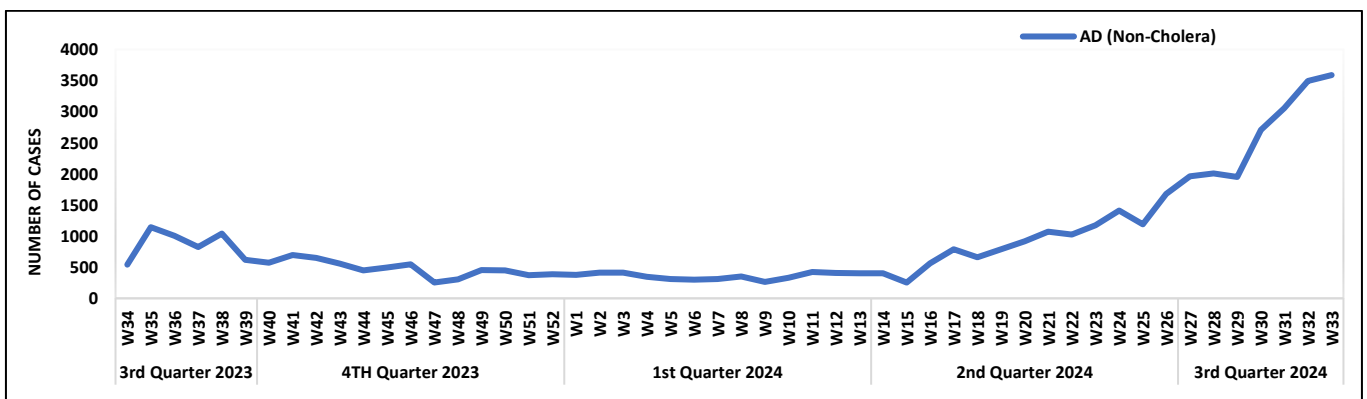


Figure 10: Week wise reported suspected cases of AD (Non-Cholera), GB



- AD (Non-Cholera) cases were maximum followed by TB, dog bite, Malaria, Typhoid, AWD (S. Cholera), Dengue, B. Diarrhea, ALRI<5 Years and Measles cases.
- AD (Non-Cholera), TB, dog bite, Malaria, Typhoid, AWD (S. Cholera), Dengue, B. Diarrhea, ALRI<5 Years and Measles cases showed a decreasing trend this week.
- Thirteen suspected cases of HIV/AIDS, three cases of AFP AND Three suspected case of CCHF reported from Punjab. Field investigation required to verify the cases

Figure 11: Most frequently reported suspected cases during week 33, Punjab.

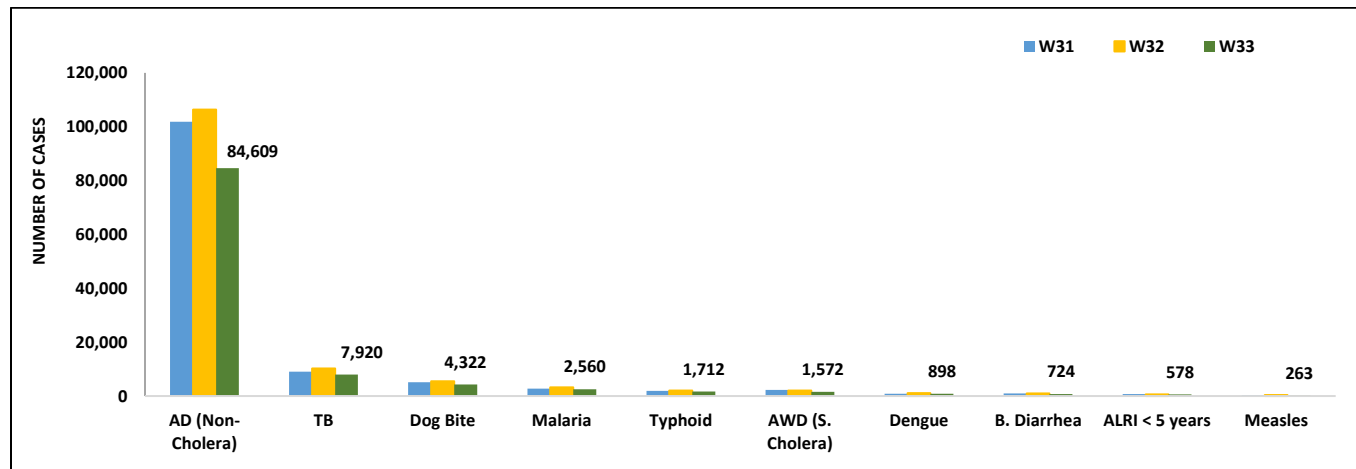


Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 33

Diseases	Sindh		Balochistan		KPK		ISL		GB		Punjab		AJK	
	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos	Total Test	Total Pos
AWD (S. Cholera)	8	0	-	-	5	0	1	0	-	-	-	-	-	-
AD (Non-Cholera)	93	0	-	-	-	-	-	-	-	-	-	-	-	-
Malaria	1,516	71	-	-	-	-	-	-	-	-	-	-	-	-
CCHF	-	-	-	-	2	1	2	1	-	-	-	-	-	-
Dengue	725	15	-	-	-	-	10	0	-	-	-	-	-	-
VH (B)	2,910	52	-	-	-	-	-	-	124	0	-	-	-	-
VH (C)	2,919	223	-	-	-	-	-	-	124	0	-	-	-	-
VH (A&E)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Covid-19	-	-	-	-	2	0	3	0	35	0	-	-	-	-
HIV	83	0	-	-	-	-	-	-	-	-	-	-	-	-
Influenza A	0	0	0	0	3	0	20	0	0	0	49	0	-	-
TB	46	0	-	-	-	-	-	-	-	-	-	-	-	-
Syphilis	60	0	-	-	-	-	-	-	-	-	-	-	-	-
Typhoid	464	11	-	-	-	-	14	1	-	-	-	-	3	2
Diphtheria (Probable)	-	-	-	-	1	0	18	0	-	-	-	-	-	-
Pertussis	-	-	-	-	-	-	10	0	-	-	-	-	-	-
M-POX	-	-	-	-	1	1	1	0	-	-	-	-	-	-

IDSR Reports Compliance

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

Table 6: IDSR reporting districts Week 33, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	104	94%
	Bannu	239	129	54%
	Battagram	63	16	25%
	Buner	34	26	76%
	Bajaur	44	37	84%
	Charsadda	59	55	93%
	Chitral Upper	34	28	82%
	Chitral Lower	35	35	100%
	D.I. Khan	114	110	96%
	Dir Lower	74	71	96%
	Dir Upper	53	25	47%
	Hangu	22	21	95%
	Haripur	72	65	90%
	Karak	35	35	100%
	Khyber	52	21	40%
	Kohat	61	61	100%
	Kohistan Lower	11	11	100%
	Kohistan Upper	20	20	100%
	Kolai Palas	10	10	100%
	Lakki Marwat	70	69	99%
	Lower & Central Kurram	42	19	45%
	Upper Kurram	41	34	83%
	Malakand	42	33	79%
	Mansehra	136	103	76%
	Mardan	80	74	93%
	Nowshera	55	50	91%
	North Waziristan	12	4	33%
	Peshawar	151	114	75%
	Shangla	37	32	86%
	Swabi	63	62	98%
	Swat	77	62	81%
	South Waziristan	134	53	40%
	Tank	34	32	94%
	Torghar	14	13	93%
Mohmand	86	41	48%	
SD Peshawar	5	1	20%	
SD Tank	58	9	16%	
Orakzai	68	11	16%	
FATA	Mirpur	36	36	100%
	Bhimber	20	20	100%
	Kotli	60	60	100%
	Muzaffarabad	45	45	100%
	Poonch	46	46	100%
	Haveli	39	39	100%



Azad Jammu Kashmir	Bagh	40	39	98%
	Neelum	39	38	97%
	Jhelum Vellay	29	29	100%
	Sudhnooti	27	26	96%
Islamabad Capital Territory	ICT	21	21	100%
	CDA	15	8	53%
Balochistan	Gwadar	25	0	0%
	Kech	44	0	0%
	Khuzdar	74	66	89%
	Killa Abdullah	26	20	77%
	Lasbella	55	55	100%
	Pishin	69	29	42%
	Quetta	39	24	62%
	Sibi	36	31	86%
	Zhob	39	30	77%
	Jaffarabad	16	16	100%
	Naserabad	32	32	100%
	Kharan	30	30	100%
	Sherani	15	15	100%
	Kohlu	75	60	80%
	Chagi	35	25	71%
	Kalat	41	40	98%
	Harnai	17	17	100%
	Kachhi (Bolan)	35	35	100%
	Jhal Magsi	28	28	100%
	Sohbat pur	25	25	100%
	Surab	32	11	34%
	Mastung	45	45	100%
	Loralai	33	31	94%
	Killa Saifullah	28	26	93%
	Ziarat	29	0	0%
	Duki	31	0	0%
	Nushki	32	29	91%
	Dera Bugti	45	35	78%
	Washuk	46	0	0%
	Panjgur	38	23	61%
	Awaran	23	7	30%
	Chaman	25	24	96%
	Barkhan	20	20	100%
Hub	33	18	55%	
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	65	89%
	Ghotki	64	64	100%
	Umerkot	43	43	100%
	Naushahro Feroze	107	87	81%
	Tharparkar	282	256	91%
	Shikarpur	59	59	100%
	Thatta	52	52	100%
	Larkana	67	66	99%
	Kamber Shadadkot	71	71	100%
	Karachi-East	23	17	74%
	Karachi-West	20	20	100%
	Karachi-Malir	37	36	97%
	Karachi-Kemari	18	13	72%
	Karachi-Central	11	11	100%
	Karachi-Korangi	18	18	100%
	Karachi-South	4	4	100%
	Sujawal	54	53	98%
	Mirpur Khas	106	103	97%
	Badin	124	121	98%
	Sukkur	63	63	100%
	Dadu	88	85	97%
	Sanghar	100	100	100%
	Jacobabad	44	44	100%
	Khairpur	169	168	99%
	Kashmore	59	58	98%
	Matari	42	40	95%
	Jamshoro	72	68	94%
Tando Allahyar	54	54	100%	
Tando Muhammad Khan	40	40	100%	
Shaheed Benazirabad	122	122	100%	

Table 7: IDSR reporting Tertiary care hospital Week 33, 2024

AJK	Mirpur	1	1	100%
	Muzaffarabad	1	1	100%
	Poonch	1	1	100%
Sindh	Karachi-South	1	0	0%
	Sukkur	1	0	0%
	Shaheed Benazirabad	1	1	100%

Mpox Updates: Global and National Perspectives

Global Surge in Mpox Cases

Since January 2022, the global tally of confirmed Mpox cases has exceeded 99,518 confirmed cases and 208 deaths. A significant upsurge in Mpox-clade I cases has been observed in the Democratic Republic of Congo (DRC), with more than 15,000 cases and 537 deaths reported since January 2024.

In late July 2024, neighboring countries Burundi, Rwanda, Kenya and Uganda also reported confirmed Mpox cases. The recent resurgence of Clade I Mpox prompted the World Health Organization (WHO) to once again declare it a Public Health Emergency of International Concern (PHEIC) on August 14, 2024.

The global spread of Clade I Mpox has reached beyond Africa, with Sweden reporting its first case outside the continent on August 15, 2024. Additionally, Gabon officially declared its first Mpox case on August 22, 2024, identifying the strain as Clade Ib.

National Situation

Pakistan has reported a total of 12 mpox cases with 1 death since the beginning of 2023, including three cases in 2024. All confirmed cases were identified as belonging to the Mpox-Clade IIb variant and had a travel history to the Gulf Countries.

Recently, on August 25, 2024, a suspected mpox case was detected at Bacha Khan International Airport (BKIA) in a traveler returning from a Gulf country. Subsequent RT-PCR testing at KMU-Public

Health Lab confirmed the diagnosis. To date, no indigenous cases have been reported in Pakistan.

Continued Vigilance and Public Health Measures Against Mpox

The National Command and Operations Centre (NIH) Pakistan under the Ministry of Health has taken a multisectoral proactive stance against the ongoing global mpox outbreak, implementing comprehensive public health measures to mitigate the risk of transmission and protect the population.

These measures include:

- **Enhanced Surveillance:** NIH has significantly strengthened surveillance systems to promptly identify and track mpox cases, enabling timely intervention and containment efforts.
- **Vaccine Procurement:** Plans and procedures have been initiated to procure mpox vaccines, prioritizing high-risk groups for immunization and bolstering the nation's preparedness.
- **Public Health Awareness Campaigns:** Extensive campaigns have been launched to educate the public about mpox symptoms, transmission modes, and prevention strategies. These campaigns aim to foster public understanding and encourage responsible behavior.
- **Regular Assessments and Recommendations:** Daily meetings between the National Command and Operation Center (NCOC) NIH and stakeholders are held to assess the evolving situation, analyze data, and provide recommendations for further action.
- **Provincial Guidance and Coordination:** Provinces and regions have been advised to notify designated mpox referral hospitals and quarantine centers for appropriate

management. This ensures a coordinated approach and efficient allocation of resources.

- **Strict Infection Prevention and Control:** Hospitals have been instructed to implement stringent infection prevention and control measures, especially in dedicated wards and emergency departments. This helps to prevent the spread of mpox within healthcare settings.
- **Laboratory Preparedness:** Provincial public health laboratories have been placed on high alert to ensure readiness for mpox diagnosis. This enables rapid testing and timely identification of cases.

Through these proactive steps, Pakistan aims to effectively mitigate the risk of mpox transmission, protect its population from the potential impact of this infectious disease, and contribute to global efforts to control the outbreak.

Regional Poliovirus Crisis: A Shared Challenge for Pakistan and Afghanistan

The ongoing poliovirus outbreak in the region continues to pose a significant threat to public health, necessitating urgent and coordinated action to contain its spread. Recent reports indicate a concerning increase in cases, with six new instances of wild poliovirus (WPV1) confirmed this week, four from Afghanistan and two from Pakistan.

In Afghanistan, all new cases originated from Kandahar province, highlighting the localized nature of the outbreak within this region. The identification of one case through contact tracing underscores the importance of robust surveillance and contact tracing measures in preventing further transmission. In Pakistan, cases were reported from both Balochistan

and Sindh provinces, indicating a broader geographic spread of the virus within the country.

To date in 2024, a total of 33 WPV1 cases have been confirmed, with a significant increase from the 12 cases reported in 2023. This alarming trend necessitates immediate and comprehensive measures to address the outbreak.

The detection of 16 new WPV1-positive environmental samples in Pakistan this week further emphasizes the widespread circulation of the virus. These samples were collected from various regions, including Balochistan, Sindh, Khyber Pakhtunkhwa, Punjab, and Islamabad, indicating a broad geographic spread of the virus within Pakistan.

The cumulative ES count for 2024 now stands at 348, significantly higher than the 188 recorded in 2023. The presence of WPV1 in environmental samples reinforces the need for comprehensive measures to prevent its transmission, including improved sanitation and access to clean water.

The widespread distribution of cases and positive environmental samples across multiple provinces in both Afghanistan and Pakistan indicates a broad geographic spread of WPV1, making containment efforts more challenging. Understanding the risk factors associated with WPV1 transmission, such as poor sanitation, inadequate access to clean water, and low vaccination rates, is crucial for targeted interventions. Children under five years of age are particularly vulnerable to poliovirus infection, emphasizing the need to prioritize immunization of this age group.

To effectively address the outbreak, a multifaceted approach is essential. This includes intensifying vaccination campaigns to achieve high immunization rates, strengthening surveillance systems and contact tracing efforts, improving sanitation and access to clean water, and enhancing cross-border collaboration between Afghanistan and Pakistan.



In addition to the ongoing WPV1 outbreak, the region is also grappling with the emergence of vaccine-derived poliovirus (VDPV2). One new case was reported from the Occupied Palestinian Territory this week, bringing the total number of cVDPV2 cases in 2024 to 37. While no new cVDPV2 environmental samples were reported, the confirmation of a previously reported VDPV2 ES from Egypt underscores the ongoing circulation of this variant in the region.

The detection of cVDPV2 cases in multiple countries in the region indicates a wider geographic spread of this variant. Understanding the risk factors associated with its emergence and transmission is crucial for prevention and control measures. The emergence of cVDPV2 poses a significant challenge to global polio eradication efforts and requires coordinated action.

Enhanced surveillance systems are necessary for early detection and response to cVDPV2 outbreaks. Ensuring high immunization rates is essential for preventing the emergence of cVDPV2. Regular risk assessments and implementation of appropriate management strategies are crucial for addressing the challenges posed by this variant.

Overall, the ongoing WPV1 and VDPV2 outbreaks in the region underscore the importance of sustained efforts to eradicate poliovirus. Coordinated action, enhanced surveillance, strong vaccination campaigns, and improved sanitation are essential for preventing the spread of these viruses and protecting vulnerable populations.

Notes from Field

Investigation of Acute Watery Diarrhea (Suspected Cholera) Outbreak in Chaman City, District Chaman, 17th-23rd August 2024

Background

On August 15, 2024, the Provincial Disease Surveillance and Response Unit (PDSRU) in Balochistan, Quetta, was notified of a cluster of acute watery diarrhea cases at the Aria Institute of Medical Sciences, Quetta. Upon investigation, it was determined that the affected individuals were residents of Chaman City and had a history of exposure to a common source. Stool samples from five patients were collected and tested for the presence of *Vibrio cholerae* using rapid diagnostic tests (RDTs). One sample tested positive, prompting a joint investigation by the PDSRU, World Health Organization (WHO), and Balochistan Food Authority in Chaman on August 17, 2024.

Objectives

- To investigate the outbreak of suspected cholera cases in Chaman to determine its extent and significance.
- To identify potential sources of infection and modes of transmission within the affected communities.
- To develop and implement effective control measures to manage and contain the outbreak.
- To raise awareness and engage community participation in health promotion and hygiene practices.
- To strengthen local health systems and surveillance mechanisms for future outbreak preparedness.

Methodology

The investigation team was meticulously equipped with essential medical supplies, diagnostic tools, and laboratory materials, ensuring they were well-prepared to conduct a comprehensive investigation into the outbreak. To guide the epidemiological inquiry, precise case definitions for cholera and acute diarrhea were established.

Cholera was defined as a person of any age experiencing three or more watery stools within 24 hours, accompanied by signs of dehydration or death



from acute watery diarrhea. This definition specifically applied to residents of Mehmoodabad-1, Mehmoodabad-2, College Road, and surrounding areas of Chaman district from August 12, 2024.

Similarly, acute diarrhea was defined as a person of any age with the passage of three or more loose, non-bloody stools in the past 24 hours, with or without dehydration. This definition also applied to residents of Mehmoodabad-1, Mehmoodabad-2, College Road, and surrounding areas of Chaman district from August 12, 2024.

To gather comprehensive data, the team employed a multi-faceted approach. Semi-structured questionnaires were administered to collect detailed information from affected individuals. Active case finding was conducted in the community, hospitals, primary healthcare facilities, and private clinics to identify additional cases. Existing medical records were thoroughly reviewed to identify suspected cases.

To pinpoint potential sources of contamination, the team meticulously assessed water sources, sanitation facilities, and food handling practices. Stool samples from RDT-positive cases were collected and analyzed to confirm the presence of *Vibrio cholerae* and other potential pathogens through culture. This comprehensive data collection and analysis were crucial for understanding the outbreak's dynamics and identifying effective control measures.

Results

A total of 27 cases of acute watery diarrhea (AWD) were identified, with an overall attack rate of 23.86 per 100,000 population. Of these, nine were positive for *Vibrio cholerae* by rapid diagnostic tests (RDTs), and one case was confirmed by culture. The affected population was predominantly female (56%) and ranged in age from 2 to 70 years, with the highest incidence among individuals aged 21-30 (30%). One suspected death was reported.

The primary symptoms among the cases included diarrhea, nausea, vomiting, and abdominal cramps. The epidemiological curve revealed a cluster of cases occurring around August 14th.

The common source of drinking water and household utensils among the affected individuals, coupled with the reliance on underground water supplied through tankers that may have been contaminated by heavy rainfall and flooding, created a conducive environment for the spread of disease. Additionally, poor water quality and hygienic conditions in local ice factories, combined with limited access to safe drinking water and adequate sanitation, exacerbated the outbreak. Furthermore, the lack of health education among the local population regarding hygiene practices further contributed to the disease's transmission.

The Integrated Disease Surveillance and Response (IDSR) system was implemented with trained healthcare personnel in place, but the system failed to function effectively in reporting cases according to the established case definition. This indicates a gap in the surveillance system that hindered timely detection and response to the outbreak. Additionally, cholera sentinel sites, designated as key locations for monitoring disease outbreaks, were not operational, further compromising the effectiveness of surveillance efforts.

Control Measures and Recommendations

- Immediate provision of safe drinking water through chlorination and installation of temporary water supply systems.
- Public health campaigns to promote hygiene practices and safe food handling.
- Improvement of sanitation facilities and waste management systems.
- Strengthening of disease surveillance mechanisms and reporting systems.
- Refresher training for health workers on cholera case definitions, identification, and reporting.
- Adequate stockpiling of cholera treatment supplies and medical equipment.
- Enhancement of laboratory diagnostics for cholera confirmation.
- Implementation of long-term improvements in water supply and sanitation infrastructure.



Community awareness campaigns on cholera prevention and the importance of seeking medical attention.

Commentary

The Harmful Effects of Smoking and Vaping on Pakistan's Youth: A Comprehensive Public Health Overview

Dr. Hamza Ikram
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Islamabad

Introduction

The increasing prevalence of smoking and vaping among Pakistan's youth has become a pressing public health concern. As global trends shift towards the use of electronic nicotine delivery systems (ENDS), such as e-cigarettes, understanding the impact of these behaviors is vital for safeguarding the health of the younger generation. This article draws on current research to explore the harmful effects of smoking and vaping on young people in Pakistan, highlighting the urgent need for targeted public health interventions to address this growing issue.

Trends in Smoking and Vaping Among Pakistani Youth

In recent years, the pattern of nicotine use among young people in Pakistan has undergone a significant transformation. While the rate of traditional cigarette smoking among youth has shown some decline, there has been a marked increase in vaping and Smokeless tobacco (SLT), including chewing tobacco and gutkha, is widely used in Pakistan. Despite its harmful effects, SLT remains a popular choice, particularly among lower-income populations. In Pakistan, approximately 12.4% of the population uses SLT, with higher rates among men compared to women.

Health Implications of Smoking and Vaping

The health consequences of smoking and vaping are severe, particularly for young users whose bodies and brains are still developing. Early initiation of tobacco use, whether through smoking or vaping, is strongly associated with a higher risk of developing long-term nicotine dependence. Furthermore, evidence suggests that adolescents who begin vaping are more likely to progress to regular smoking, which can lead to a range of serious health issues over time.

One of the most concerning aspects of vaping is the misconception that it is a harmless alternative to smoking. This false belief can desensitize young people to the risks of smoking, leading them to perceive it as less dangerous after having vaped.

However, e-cigarettes deliver nicotine, a substance that is known to have detrimental effects on adolescent brain development. The use of nicotine during this critical period can impair cognitive function, memory, and attention, and increase the likelihood of developing mood disorders and other addictions later in life.

In addition to nicotine, vaping exposes users to a variety of harmful chemicals, including heavy metals, volatile organic compounds, and cancer-causing agents. The inhalation of these substances can lead to respiratory issues, including the risk of developing EVALI (E-cigarette or Vaping Product Use-Associated Lung Injury), a potentially life-threatening condition that has been linked to the use of vaping products

The Role of Public Health Messaging and Education

Targeted Messaging: Public health campaigns must be tailored to resonate with young people, using platforms they frequent, such as social media, and delivering messages that address their specific concerns and misconceptions.

Correcting Misconceptions: Campaigns should focus on dispelling the myth that vaping is a safe alternative



to smoking. By clearly communicating the risks associated with both behaviors, these campaigns can help reduce the appeal of vaping among youth.

Incorporating Social Contexts: Educational programs should consider the social environments in which youth make decisions about nicotine use. Engaging students in discussions about the realities of nicotine addiction and its long-term health effects can lead to more informed decision-making.

School-Based Programs: Schools can play a crucial role in prevention efforts by integrating anti-smoking and anti-vaping education into their curricula. These programs should be interactive and designed to empower students to resist peer pressure.

Parental Awareness: Parents should be informed about the risks of smoking and vaping and encouraged to talk openly with their children about these issues. Family support can be a powerful deterrent against the initiation of these behaviors.

Community Engagement: Local communities can contribute by creating smoke-free environments and supporting youth-led initiatives that promote healthy lifestyles and reject nicotine use.

Conclusion

The rising trend of smoking and vaping among Pakistani youth is a significant public health concern that demands immediate and comprehensive action. The health risks associated with these behaviors are profound, particularly for young people whose brains and bodies are still developing. To combat this growing epidemic, public health officials, educators, parents, and communities must work together to implement strategies that address the social influences and misconceptions driving nicotine use. By fostering accurate perceptions of the risks and promoting healthier choices, Pakistan can protect its youth from the dangers of smoking and vaping, ensuring a healthier future for the nation.

Knowledge Hub

Viral MPOX: What you need to know

Mpox is a rare but serious viral illness that can be transmitted from animals to humans and from person to person. The symptoms of mpox can be similar to those of smallpox, but they are usually milder. Symptoms can include fever, headache, muscle aches, backache, swollen lymph nodes, chills, exhaustion, and a rash. The rash usually starts on the face and then spreads to other parts of the body. The rash can look like pimples or blisters and can be painful or itchy.

Mpox is spread through contact with the body fluids of an infected animal or person, or with objects that have been contaminated with the virus.

There is no specific treatment for mpox, but the symptoms can be managed with supportive care. In most cases, monkeypox goes away on its own within a few weeks. However, mpox can be more serious in people with weakened immune systems.

Here are some tips to help prevent the spread of mpox:

- Avoid contact with animals that may be infected with monkeypox, such as rodents, monkeys, and apes.
- If you come into contact with an animal that may be infected with mpox, wash your hands thoroughly with soap and water.
- Avoid contact with people who are sick with mpox.

Here are some additional resources for more information about monkeypox:

Centers for Disease Control and Prevention:
<https://www.cdc.gov/poxvirus/mpox/index.html>
World Health Organization:
<https://www.who.int/news-room/fact-sheets/detail/monkeypox>
National Institutes of Health:
<https://www.cdc.gov/poxvirus/mpox/index.html>

Stay informed and stay safe!



Subject: Advisory on the Unprecedented Multi-country Mpox Outbreak in Non- Endemic Countries

No.F.1-22/Advisory/CDC/2024
15th August 2024

Recently, a rapid spread of new clade of Mpox cases has been observed in eastern DRC, neighboring countries that had not previously reported Mpox. Currently, this disease has been reported in all WHO regions including 122 countries with a total of 99,518 confirmed cases and 208 deaths till date. While in Pakistan, a total of 11 cases with 01 death has been reported since first cases detected in April, 2023. World Health Organization has declared Mpox as the Public Health Emergency of International Concern (PHEIC) on 14 August 2024. It is worthwhile to mention here that Mpox has previously been declared PHEIC in 2022 by WHO.

Objectives:

This advisory aim to provide global and country-wide situation of Mpox disease, to facilitate and provide directions for all the relevant stakeholders on prevention, early detection and response to Mpox.

Background:

Mpox is a rare viral zoonotic disease that is caused by infection with Mpox virus. Although natural reservoir of Mpox remains unknown however, African rodents and non-human primates (like monkeys) may harbor the virus and infect people. The patient develops a rash within 1 to 3 days after the appearance of fever, often beginning on the face then spreading to other parts of the body. Lesions progress through these stages before falling off: Macules → Papules → Vesicles → Pustules → Scabs. Other symptoms include headache, muscle aches, exhaustion and lymphadenopathy. The incubation period is usually 7-14 days but can range from 5-21 days. The illness typically lasts for 2-4 weeks.

There are two types of Mpox virus: **clade I** (Congo Basin) and **clade II** (West African). Clade I which is more associated with recent upsurge causes more severe illness and deaths. Some outbreaks have killed up to 10% of the people who get sick, although more recent outbreaks have had lower death rates. Clade I is endemic to Central Africa. Clade II is the type that is involved in global outbreak since in 2022. Infections from clade II Mpox are less severe. More than 99.9% of people survive. Clade II is endemic to West Africa.

Transmission:

Transmission occurs via contact with infected animal, human, or materials contaminated with the virus. The virus enters the body through broken skin (even if not visible), respiratory tract, or the mucous membranes (eyes, nose, or mouth). Other human-to-human methods of transmission include direct or indirect contact with body fluids, lesion material or through contaminated clothing or linens.

Case Definitions:

Suspected Cases: Any person having skin rash/lesion (may include single or multiple oral, conjunctival, urethral, penile, vaginal, or ano-rectal lesions) with or without fever (>38.3°C), headache, lymphadenopathy, myalgia (muscle pain/body aches), back pain, profound weakness, any respiratory symptom and fatigue. Contact of probable/confirmed case developing febrile prodromal illness compatible with Mpox including Sexual and vertical transmission.

Probable case: A suspected case with an epidemiological link to confirmed cases or probable case during last 21 days.

Confirmed case: A person with laboratory confirmed MPXV infection by detection of unique sequences of viral DNA by real-time polymerase chain reaction (PCR) and/or sequencing.

Specimen Collection, transportation and Confirmation:

The recommended specimen type for laboratory confirmation of Mpox virus is skin lesion material, including swabs of lesion surface and/or exudate, roofs from more than one lesion, or lesion crusts. Lesions swabs, crusts and vesicular fluids should not be mixed in the same viral transport medium (VTM). The collected specimen should be transported to the designated laboratory with triple packaging maintaining cold chain accompanied by case summary. Moreover, the positive samples should be sent to virology lab-NIH for genomic sequencing.

Case Management:

Case management of a confirmed Mpox patient involves several steps to ensure proper treatment and prevent the spread of the virus including:

Isolation: The patient should be isolated in a single room with a private bathroom and provided with appropriate personal protective equipment (PPE) to prevent transmission of the virus to healthcare workers and other patients.

Symptomatic treatment: Treatment for Mpox is primarily supportive and symptomatic. Patients should be given antipyretics for fever, analgesics for pain relief, and fluids to maintain hydration. There is no specific antiviral treatment for Mpox, but some antiviral medications, such as cidofovir as advised by the physician, have shown efficacy in treating severe cases.

Infection prevention and control:

Strict infection prevention and control measures should be followed, including hand hygiene, environmental cleaning, and disinfection. Healthcare workers should wear appropriate PPE at all times when caring for the patient. However, close contacts of the patient should be identified, monitored for symptoms, and isolated if necessary. Public health reporting: Confirmed cases of Mpox must be reported to local district and provincial health departments, who will provide guidance on additional measures to prevent the spread of the virus.

The situation has urged other countries to enhance surveillance and vigilance. NCOC- NIH is monitoring the situation and will keep the stakeholders updated. Please contact NIH for any further information / clarification. However, revised updated guidelines for Mpox are available at website (www.nih.org)

For any further assistance in this context, the Center for Disease Control (CDC-NIH) (051-9255237 and Fax No. 051-9255099) and Virology Department of Public Health Laboratories Division (051-9255082), NIH may be contacted.



FOR A NEW TOMORROW
FOR A NEW BEGINNING

LET'S MAKE PAKISTAN POLIO FREE



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