

# 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.

## World Field Epidemiology Day



### WORLD FIELD EPIDEMIOLOGY DAY 7 SEPTEMBER



Promoting Diversity, Equity, and Inclusion  
in Field Epidemiology

#### UPCOMING

### Public Health Bulletin-Pakistan: Vol 3, Issue 35 Special Edition World Field Epidemiology Day

We invite you to join us in celebrating World Field Epidemiology Day on  
September 7, 2023.

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*Overview*

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*IDSR Reports*

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*Ongoing Events*

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*Field Reports*

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## Preface

The Weekly Public Health Bulletin-Pakistan provides a summary of the most important public health events that occurred during week 34 of 2023. This issue of the bulletin reports on an increase in cases of malaria and influenza-like illness (ILI), as well as suspected cases of acute watery diarrhea (AWD) caused by *Salmonella cholerae*. Additionally, there have been high numbers of reported cases of measles and mumps. All of these cases are suspected and require field verification.

During the rainy season and with the possibility of flooding, cases of waterborne and vector-borne diseases may increase. It is essential to raise awareness in the community and take public health measures to prevent and control the spread of these diseases.

The health authorities are investigating the cases and taking necessary measures to control the spread of the diseases. Field investigations are underway to verify the numbers and initiate a timely response. We must remain vigilant and continue to monitor the situation.

The Weekly Public Health Bulletin-Pakistan is a valuable resource for public health professionals and anyone who is interested in public health. To stay informed about public health issues, please subscribe to the bulletin today!

Sincerely,  
The Chief Editor

- During week 34, most frequent reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, ALRI <5 years, B. Diarrhea, VH (B & C), Typhoid, SARI, dog bite and AWD (S. Cholera).
- There is overall an increase in cases of Malaria and ILI cases.
- Cases of AWD (S. Cholera) are regularly reported from all parts of the country. All are suspected cases and need field verification
- Measles and Mumps cases were reported in high numbers. All are suspected cases and need field verification.

All are suspected cases and need field verification.

## IDSR compliance attributes

- The national compliance rate for IDSR reporting in 113 implemented districts is 77%
- ICT and AJK are the top reporting region with a compliance rate of 100% and 97% followed by Sindh 94% and Khyber Pakhtunkhwa with 77%
- The lowest compliance rate was observed in Gilgit Baltistan.

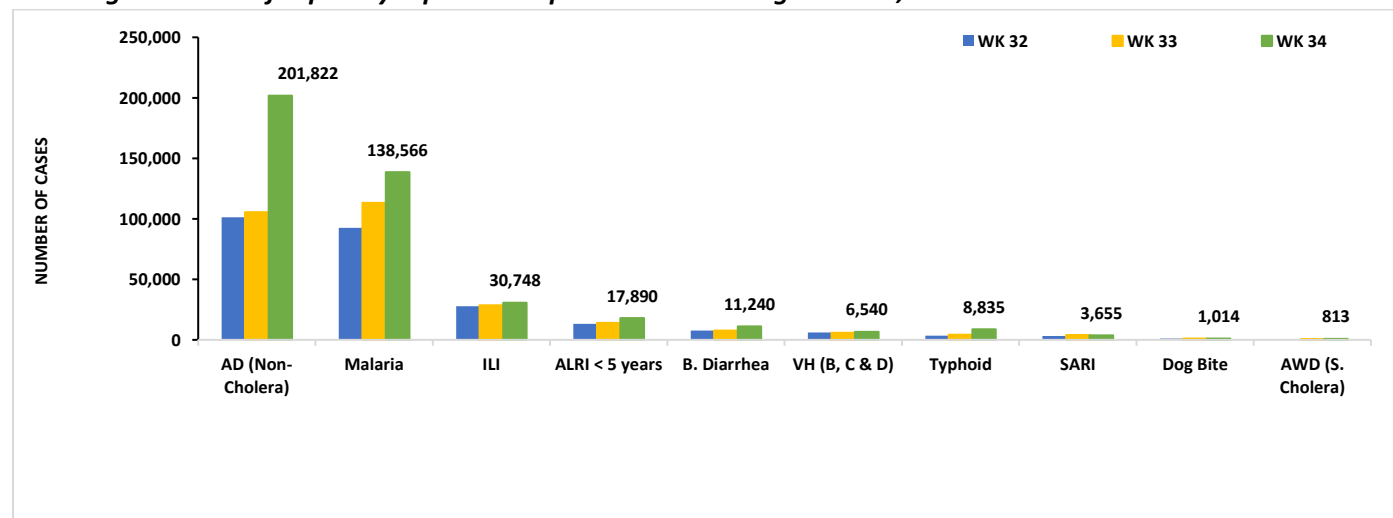
Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	1636	1265	77
Azad Jammu Kashmir	375	365	97
Islamabad Capital Territory	18	18	100
Balochistan	1160	687	59
Gilgit Baltistan	348	60	17
Sindh	1856	1748	94
National	5393	4143	77



**Table 1: Province/Area wise distribution of most frequently reported cases during week 34, Pakistan.**

	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	2309	7,830	220	198	33,618	101,350	56,297	201,822
Malaria	143	11,724	0	5	8,955	4,522	113,217	138,566
ILI	2,723	5,333	129	409	3,948	469	17,737	30,748
ALRI < 5 years	817	1981	90	1	1101	3,440	10,460	17,890
B. Diarrhea	133	2,079	20	22	1333	3,391	4,262	11,240
VH (B, C & D)	22	101	0	0	155	NR	6262	6,540
Typhoid	53	791	12	0	1336	5,060	1,583	8,835
SARI	343	1006	146	0	1,533	NR	627	3,655
Dog Bite	85	62	0	0	166	NR	701	1,014
AWD (S. Cholera)	71	316	71	0	229	NR	126	813
AVH (A & E)	40	21	3	1	278	NR	418	761
Mumps	97	85	15	1	140	NR	327	665
Measles	8	30	3	0	139	NR	267	447
CL	0	166	0	0	272	45	1	484
Gonorrhoea	0	191	1	0	22	NR	44	258
Pertussis	7	126	3	0	38	NR	2	176
Chickenpox/ Varicella	18	8	3	1	103	165	15	313
Dengue	0	0	2	0	22	NR	59	83
AFP	1	1	0	0	15	NR	27	44
Syphilis	3	6	0	0	15	13	7	44
NT	12	0	0	0	10	NR	0	22
Brucellosis	0	13	0	0	9	NR	0	22
Rubella (CRS)	0	2	0	0	1	NR	19	22
Diphtheria (Probable)	1	5	0	0	8	NR	0	14
Leprosy	0	2	0	0	10	NR	0	12
VL	0	5	0	0	6	NR	0	11
Meningitis	3	0	0	0	0	NR	5	8
CCHF	0	0	0	0	0	NR	8	8

**Figure 1: Most frequently reported suspected cases during week 34, Pakistan**

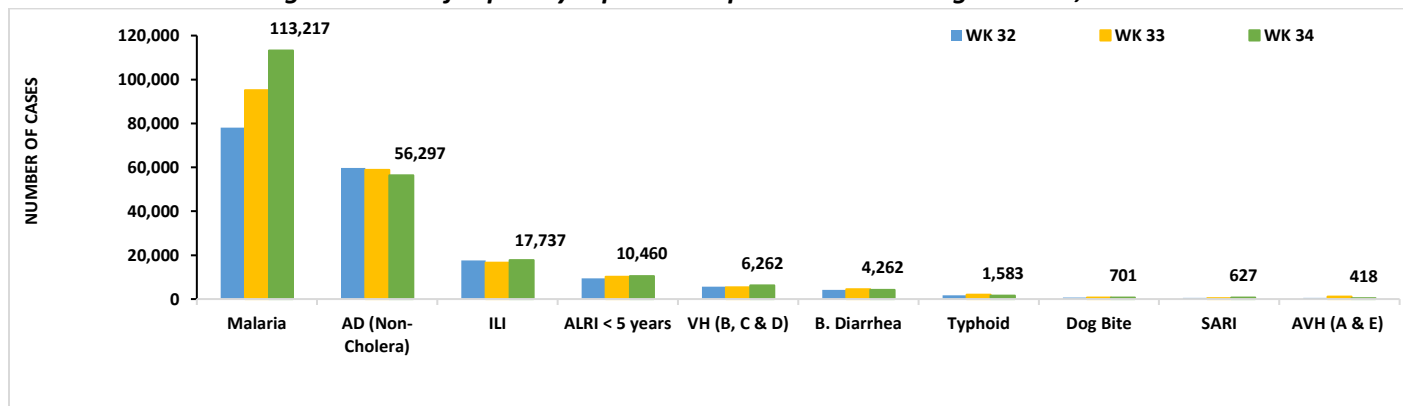


- Malaria cases were maximum followed by AD (Non-Cholera), ILI, ALRI<5 Years, B. Diarrhea, VH (B, C, D), SARI, Typhoid, dog bite and AWD (S. Cholera).
- One hundred and twenty-eight cases from Mirpur Khas and 108 cases from Tando Muhammad Khan of Measles reported this week. Field investigation is required to identify the source to control the spread of disease.
- There is sharp rise in trend for Malaria whereas AD declined this week.

**Table 2: District wise distribution of most frequently reported suspected cases during week 34, Sindh**

Districts	Malaria	AD (Non-Cholera)	ILI	ALRI < 5 years	VH (B, C & D)	B. Diarrhea	Typhoid	Dog Bite	SARI	AVH (A & E)
Badin	9,944	3,741	309	525	625	308	53	63	0	0
Dadu	3,652	1,772	0	562	5	348	64	0	3	0
Ghotki	1,470	1,469	0	378	510	132	3	0	0	1
Hyderabad	588	1,894	266	29	50	0	5	0	0	0
Jacobabad	2,153	1,463	145	1,248	337	125	22	39	84	0
Jamshoro	2,310	2,575	324	159	173	161	74	44	7	2
Kamber	7,406	1,549	0	314	82	236	16	0	0	0
Karachi Central	150	1,237	1,736	124	204	83	143	0	0	19
Karachi East	110	996	112	4	19	13	10	1	1	0
Karachi Keamari	13	596	276	26	0	0	5	0	8	1
Karachi Korangi	78	394	3	3	5	7	2	1	0	1
Karachi Malir	281	1,681	2,727	463	15	61	24	4	37	5
Karachi South	46	151	0	0	0	1	3	0	0	0
Karachi West	149	1,177	733	200	22	53	43	35	74	4
Kashmore	2,751	1,017	508	212	85	96	20	0	0	0
Khairpur	8,025	4,105	776	976	164	397	262	36	229	27
Larkana	15,159	2,599	0	272	95	409	11	0	0	0
Matiali	2,232	2,974	28	506	521	123	52	10	27	4
Mirpurkhas	7,269	1,977	3,567	265	605	92	59	0	0	0
Naushero Feroze	2,084	1,799	412	242	112	84	136	65	0	0
Sanghar	3,595	2,835	119	500	1,090	123	119	191	69	7
Shaheed Benazirabad	2,627	2,721	19	491	120	114	242	0	10	0
Shikarpur	2,035	1,732	3	145	177	209	9	54	6	0
Sujawal	6,299	2,735	0	714	252	120	30	48	0	311
Sukkur	4,855	2,247	1,476	413	387	250	20	0	1	0
Tando Allahyar	2,908	1,717	705	265	141	159	13	29	0	8
Tando Muhammad Khan	7,517	1,825	15	336	97	151	14	37	0	0
Tharparkar	3,532	1,539	1,926	484	97	136	64	5	56	22
Thatta	7,050	1,762	1,552	315	78	109	11	39	4	6
Umerkot	6,929	2,018	0	289	194	162	54	0	11	0
Total	113,217	56,297	17,737	10,460	6,262	4,262	1,583	701	627	418

**Figure 2: Most frequently reported suspected cases during week 34, Sindh**



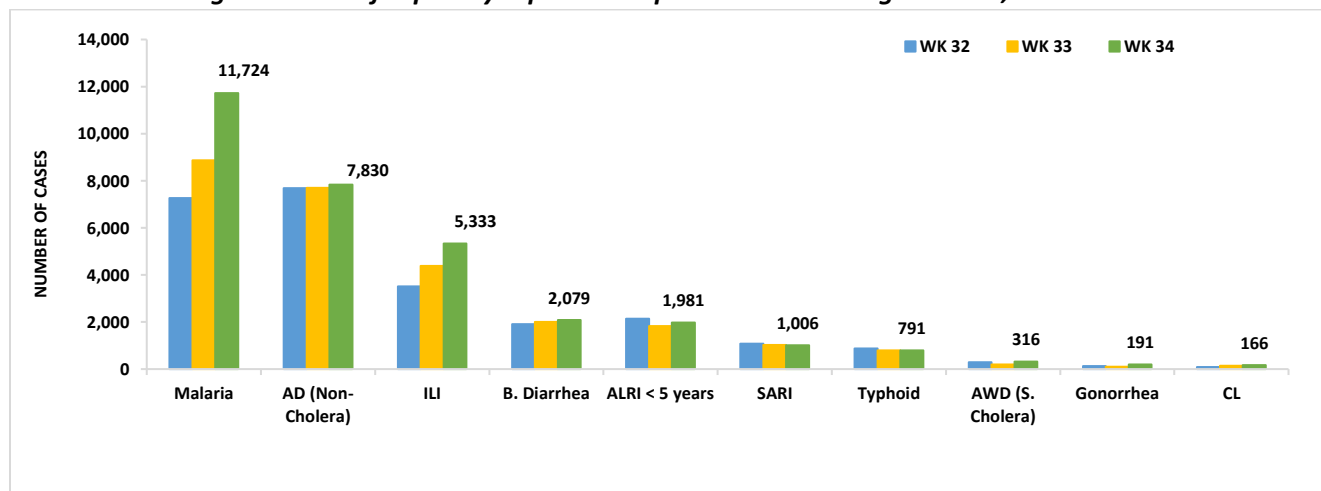


- Malaria, AD (Non-Cholera), ILI, B. Diarrhea, ALRI <5 years, SARI, Typhoid, AWD (S. Cholera), CL and VH (A&E) and Gonorrhoea were the most frequently reported diseases from Balochistan province.
- Trend for Malaria and ILI showed an increase whereas AD cases declined this week.
- Cases of malaria and AD( Non-Cholera) reported in high numbers from Sohbatpur and Jaffarabad. All are suspected cases and need field investigation to verify the cases.

**Table 3: District wise distribution of most frequently reported suspected cases during week 34, Balochistan**

Districts	Malaria	AD (Non-Cholera)	ILI	B. Diarrhea	ALRI < 5 years	SARI	Typhoid	AWD (S. Cholera)	Gonorrhoea	CL
Chagai	30	151	231	47	0	0	30	10	0	0
Chaman	12	52	67	25	2	14	16	31	0	5
Dera Bugti	570	71	18	41	26	28	14	7	0	0
Duki	188	135	124	108	20	45	22	39	2	5
Gwadar	212	406	735	80	15	NR	42	NR	NR	NR
Harnai	122	117	8	202	232	0	11	13	0	0
Hub	382	459	67	53	18	193	16	8	0	3
Jaffarabad	3,594	1,064	277	119	122	43	25	0	9	23
Jhal Magsi	844	461	80	23	34	16	10	44	0	0
Kachhi (Bolan)	184	141	46	33	52	16	46	4	0	1
Kalat	33	14	2	7	10	0	9	0	8	3
Kech (Turbat)	658	393	774	98	92	0	5	9	0	1
Kharan	129	128	246	85	0	0	6	9	5	0
Khuzdar	136	170	122	61	7	7	14	0	10	6
Killa Saifullah	585	261	0	111	195	88	56	10	0	21
Kohlu	231	178	336	137	28	51	65	24	1	3
Lasbella	1,142	683	160	33	510	57	16	5	0	18
Loralai	109	303	295	51	85	117	41	8	0	0
Mastung	212	704	232	196	60	77	127	25	130	0
Nushki	187	224	0	85	0	0	0	10	2	0
Panjgur	349	118	108	58	18	7	7	39	9	2
Pishin	26	178	148	68	17	2	25	0	4	20
Quetta	39	614	1,073	146	39	46	43	0	1	36
Sherani	29	17	27	11	2	3	8	0	2	9
Sibi	114	68	39	23	15	0	27	13	8	2
Sohbat pur	1,388	518	20	106	134	151	96	4	0	8
SURAB	3	1	0	0	0	0	1	0	0	0
Zhob	216	201	98	72	248	45	13	4	0	0
<b>Total</b>	<b>11,724</b>	<b>7,830</b>	<b>5,333</b>	<b>2,079</b>	<b>1,981</b>	<b>1,006</b>	<b>791</b>	<b>316</b>	<b>191</b>	<b>166</b>

**Figure 3: Most frequently reported suspected cases during week 34, Balochistan**

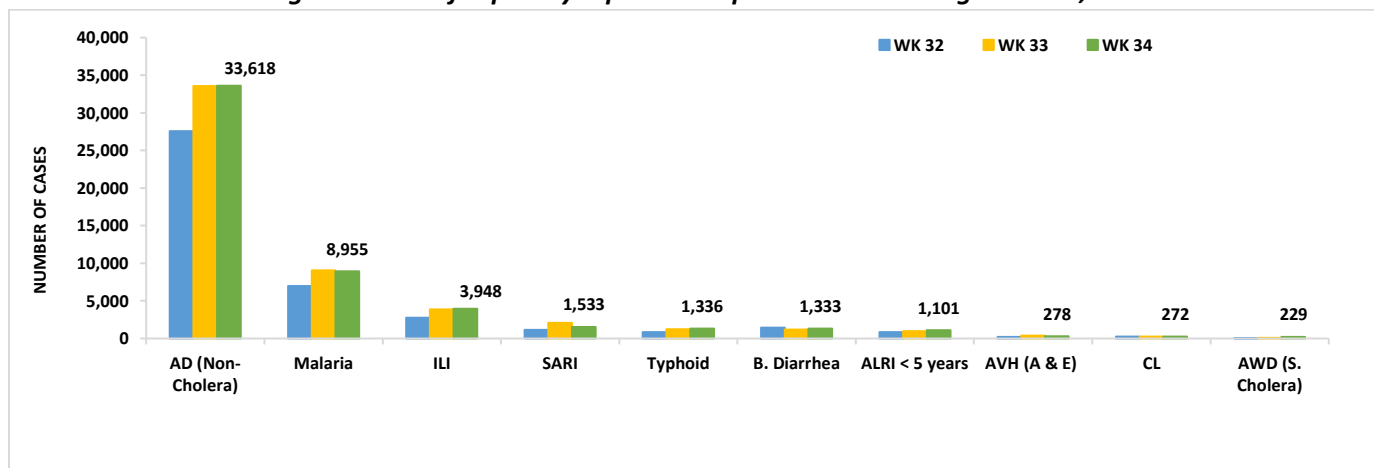


- Cases of AD (Non-Cholera) were maximum followed by Malaria, ILI, SARI, Typhoid, B. Diarrhea, ALRI<5 Years, AVH (A&E), CL and AWD (S. Cholera).
- Nowshera, Karak and Hangu reported high numbers of CL. All are suspected cases and need verification.
- Trend for Malaria, AD and ILI cases remained same this week.
- Dir Lower, Peshawar, swat and Upper Kurram districts reported increased numbers of Typhoid cases. Cases are suspected. field investigations required to verify cases.

**Table 4: District wise distribution of most frequently reported suspected cases during week 34, KP**

Districts	AD (Non-Cholera)	Malaria	ILI	SARI	Typhoid	B. Diarrhea	ALRI < 5 years	AVH (A & E)	CL	AWD (S. Cholera)
Abbottabad	786	3	20	11	16	4	12	0	0	0
Bajaur	316	166	25	0	0	27	6	0	1	8
Bannu	729	1,350	50	2	40	1	1	0	2	0
Buner	771	604	0	0	27	1	38	1	0	0
Charsadda	1,417	45	197	8	5	0	11	0	0	0
Chitral Lower	704	40	135	444	42	0	10	3	13	0
Chitral Upper	125	5	0	151	6	0	0	1	0	0
D.I. Khan	1,012	930	18	53	0	22	18	0	0	0
Dir Lower	2,466	843	2	2	53	205	155	42	12	0
Dir Upper	1,890	8	4	0	45	51	18	6	4	142
Hangu	457	649	195	65	17	26	5	4	35	0
Haripur	1,373	86	378	10	55	6	155	29	0	1
Karak	375	317	61	7	2	0	7	0	91	2
Khyber	20	154	48	2	4	10	2	0	15	0
Kohat	72	51	0	1	1	0	3	0	3	0
Kohistan Lower	206	3	0	1	0	24	13	0	0	1
Kohistan Upper	498	3	41	44	43	17	2	0	0	0
Kolai Palas	129	4	0	1	0	12	3	0	1	16
L & C Kurram	31	36	20	0	1	16	1	0	1	6
Lakki Marwat	758	1,911	0	0	25	16	16	0	9	0
Malakand	678	17	0	14	8	99	22	24	0	0
Mansehra	1,050	26	628	37	55	27	56	16	0	0
Mardan	1,254	82	123	0	0	32	308	19	1	0
Nowshera	2,633	229	77	49	18	23	2	0	46	0
Peshawar	3,739	81	529	48	168	188	45	24	23	7
Shangla	364	375	0	0	17	5	5	2	0	0
SWA	0	0	0	5	0	0	0	0	0	0
Swabi	1,341	108	436	6	30	22	85	19	0	0
Swat	7,675	132	380	0	259	185	62	12	0	0
Tank	280	417	0	0	0	2	0	0	0	0
Tor Ghar	138	176	0	31	15	17	1	0	15	0
Upper Kurram	331	104	581	541	384	295	39	76	0	46

**Figure 4: Most frequently reported suspected cases during week 34, KP**



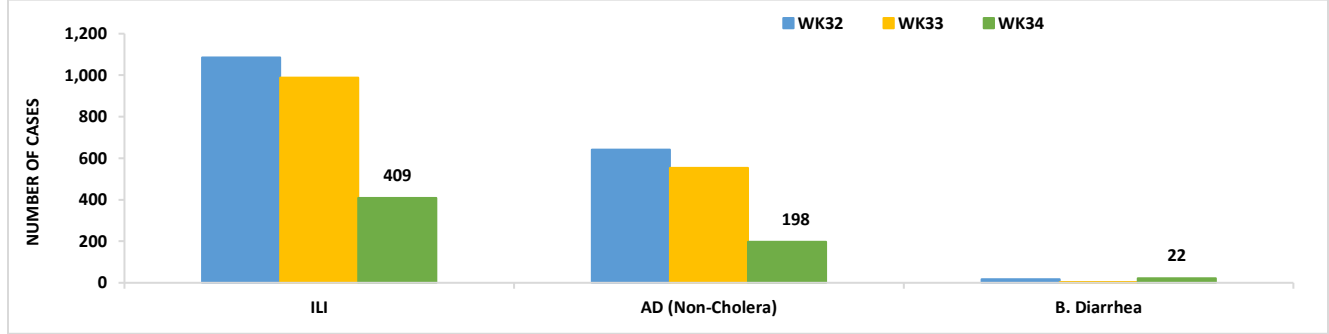
**ICT:** The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera). ILI cases showed a downward trend in cases this week..

**AJK:** ILI cases were maximum followed by AD (Non-Cholera) , ALRI <5 years, SARI, Malaria, B. Diarrhea, Mumps ,dogbite, AWD (S. Cholera) and Typhoid . ILI cases showed an upward trend in cases this week.

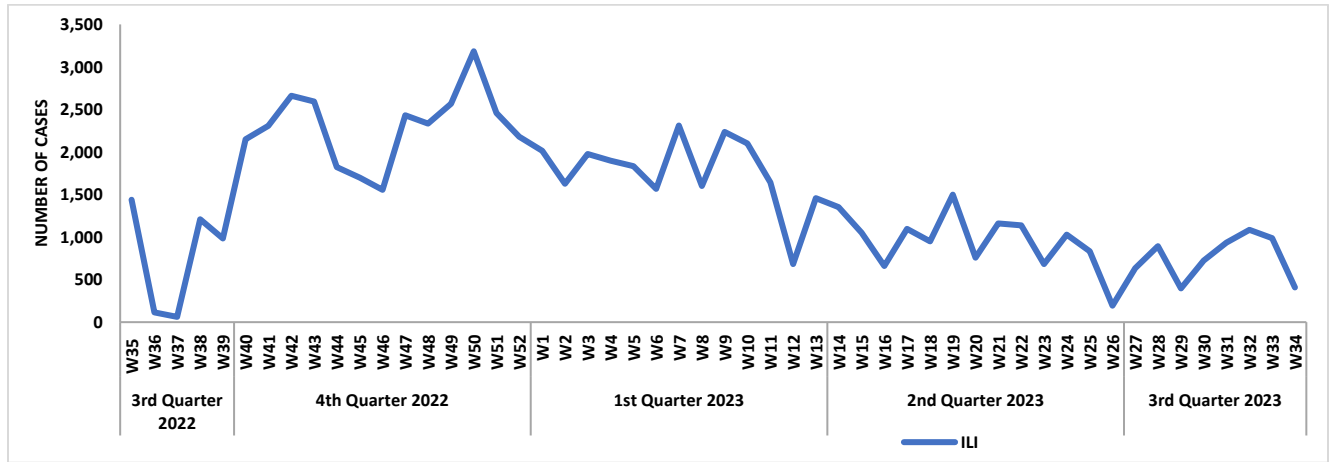
**GB:** AD (Non. Cholera) cases were maximum followed by SARI, ILI, ALRI<5 years, and AWD (S. Cholera), B. Diarrhea and Mumps. AD (Non Cholera) show downward trend in cases this week.

# ICT, AJK & GB

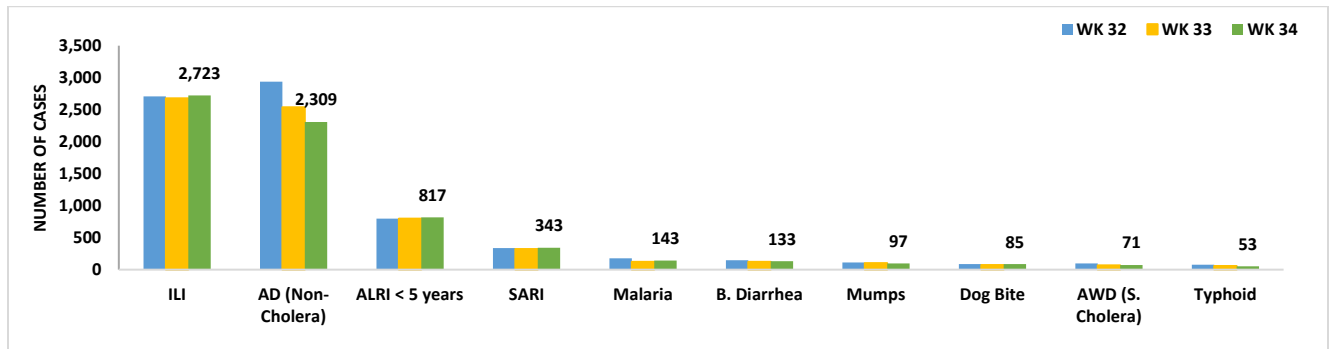
**Figure 6: Week wise reported suspected cases of ILI, ICT**



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

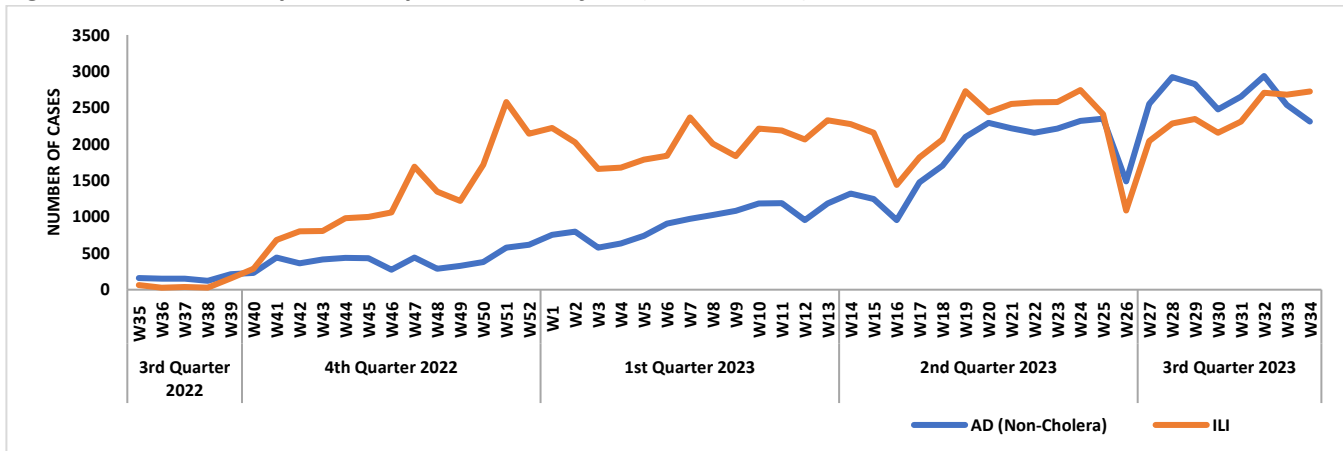


**Figure 7: Most frequently reported suspected cases during week 34, AJK**

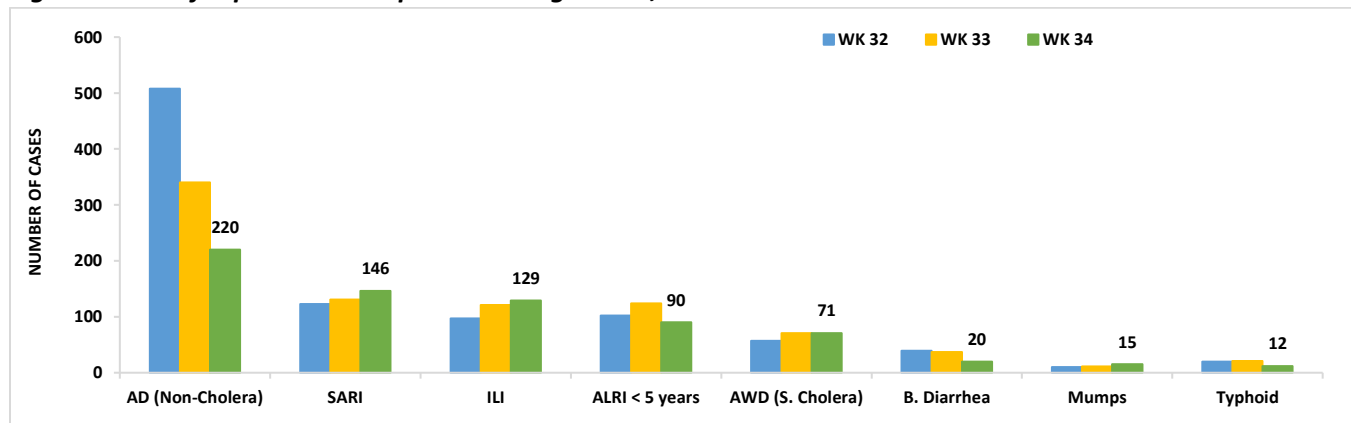




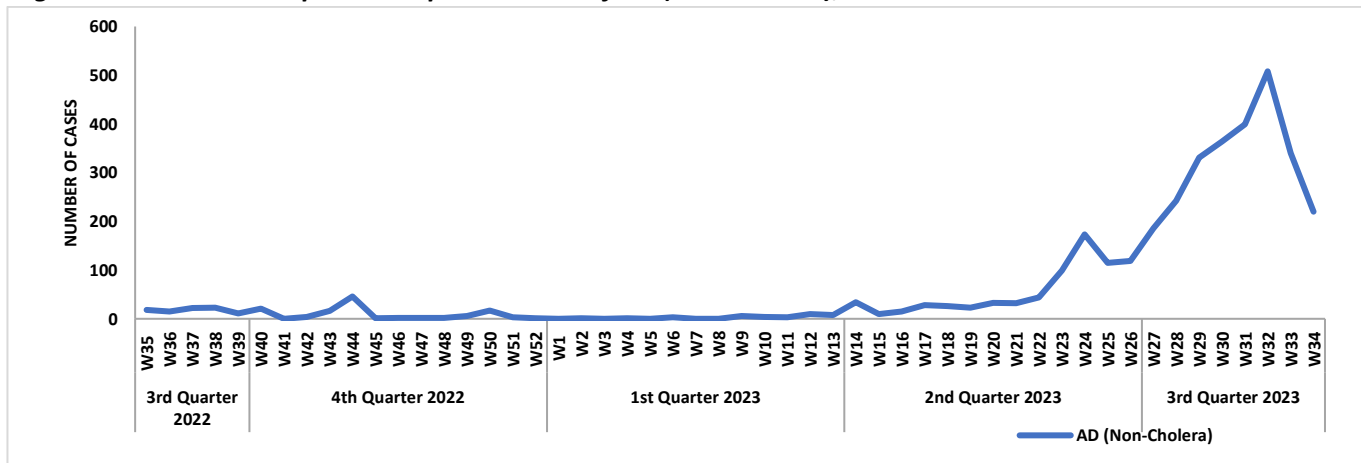
**Figure 8: Week wise reported suspected cases of AD (Non-Cholera) and ILI, AJK**



**Figure 9: Most frequent cases reported during WK 34, GB**

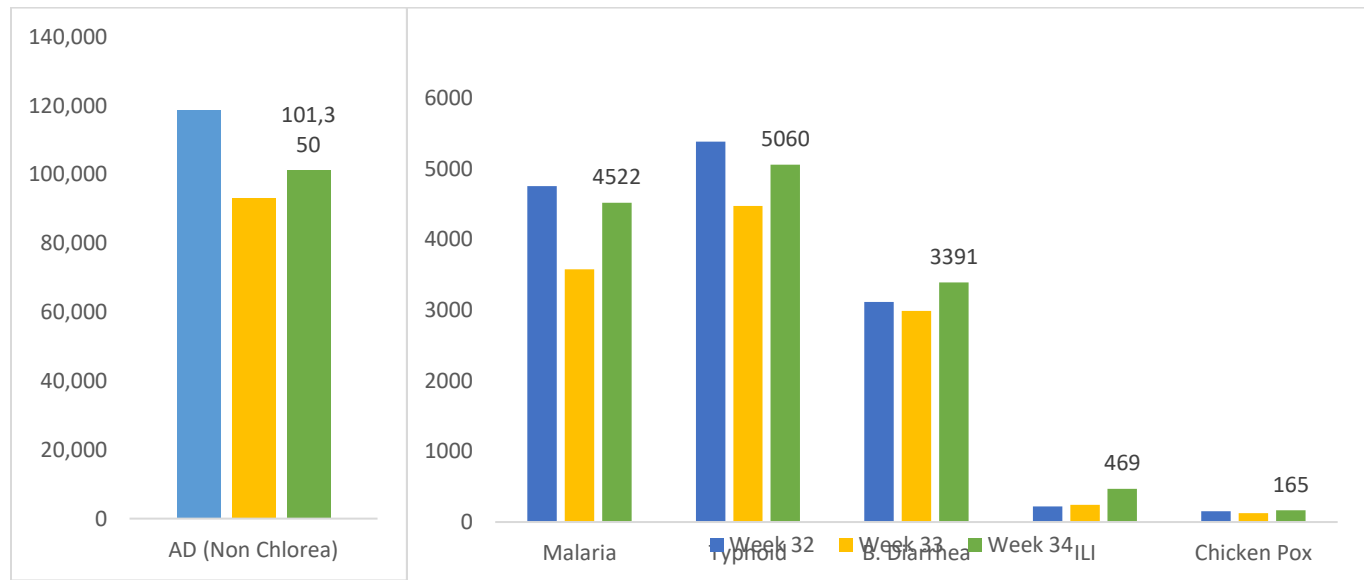


**Figure 10: Week wise reported suspected cases of AD (Non-Cholera), GB**



- AD (Non. Cholera) cases were most frequent followed by Malaria and Typhoid.
- Diarrhea cases were reported in high numbers from Lahore, Faisalabad, Rawalpindi and Gujranwala. All are suspected cases and need verification.

**Figure 11: District wise distribution of most frequently reported suspected cases during week 34, Punjab**



**Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 34**

Diseases	Sindh	Balochistan	ICT	kp	Gilgit
Acute Watery Diarrhoea (S. Cholera)	1			0	1
Acute diarrhea(non-cholera)	1		0		
Malaria	430				
CCHF		2		1	
Dengue	20		2		
Acute Viral Hepatitis(A)	4				1
Acute Viral Hepatitis(B)	73	18			3
Acute Viral Hepatitis(C)	205		0		
Acute Viral Hepatitis(E)	26				
Typhoid	3			12	
influenza		0		1	
MPOX			1		
COVID19			6		

# IDSR Reports Compliance

- Out of 113 IDSR implemented districts, compliance is low from Balochistan districts. Green color showing >50% compliance while red color is <50% compliance

**Table 6: IDSR reporting districts Week 33**

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Agreed Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	110	110	99	90%
	Bannu	92	92	69	75%
	Buner	34	34	27	79%
	Bajaur	44	44	29	66%
	Charsadda	61	61	53	87%
	Chitral Upper	33	33	9	27%
	Chitral Lower	35	35	31	89%
	D.I. Khan	89	89	73	82%
	Dir Lower	75	75	62	83%
	Dir Upper	55	55	36	65%
	Hangu	22	22	21	95%
	Haripur	69	69	61	88%
	Karak	34	34	36	106%
	Kohat	59	59	59	100%
	Kohistan Lower	11	11	11	100%
	Kohistan Upper	20	20	14	70%
	Kolai Palas	10	10	10	100%
	Lakki Marwat	49	49	49	100%
	Lower & Central Kurram	40	40	11	28%
	Upper Kurram	42	42	31	74%
	Malakand	42	42	32	76%
	Mansehra	133	133	68	51%
	Mardan	84	84	53	63%
	Nowshera	52	52	50	96%
	Peshawar	102	102	102	100%
	N. Waziristan	21	21	2	10%
	Shangla	36	36	7	19%
	Swabi	60	60	53	88%
	Swat	77	77	68	88%
	Tank	34	34	28	82%
Torghar	11	11	11	100%	
Azad Jammu Kashmir	Mirpur	37	37	36	100%
	Bhimber	20	20	19	95%
	Kotli	60	60	60	100%
	Muzaffarabad	43	43	43	100%
	Poonch	46	46	46	100%
	Haveli	34	34	31	91%



	Bagh	40	40	38	95%
	Neelum	39	39	36	92%
	Jhelum Vellay	29	29	29	100%
	Sudhnooti	27	27	27	100%
Islamabad Capital Territory	ICT/CDA	27	18	18	100%
Baluchistan	Gwadar	24	24	20	83%
	Kech	78	44	23	52%
	Khuzdar	136	20	18	90%
	Lasbella	85	85	55	65%
	Pishin	118	23	9	39%
	Quetta	77	22	19	86%
	Sibi	42	42	15	36%
	Zhob	37	37	28	76%
	Jaffarabad	47	47	16	34%
	Naserabad	37	37	32	86%
	Kharan	32	32	29	91%
	Sherani	32	32	5	16%
	Kohlu	75	75	45	60%
	Chagi	35	35	23	66%
	Kalat	65	65	7	11%
	Harnai	18	18	17	94%
	Kachhi (Bolan)	35	35	13	37%
	Jhal Magsi	39	39	26	67%
	Sohbat pur	25	25	25	100%
	Surab	33	33	31	94%
	Mastung	45	45	45	100%
	Loralai	34	34	26	76%
	Killa Saifullah	31	31	26	84%
	Duki	31	31	28	90%
	Nushki	32	32	30	94%
	Dera Bugti	45	45	26	58%
	Washuk	46	46	26	57%
	Panjgur	38	38	16	42%
	Chaman	22	22	8	36%
	Hub	33	33	33	100%
Usta Muhammad	34	34	34	100%	
Gilgit Baltistan	Hunza	31	31	31	100%
	Ghizer	62	62	5	8%
	Gilgit	48	48	16	8%
	Diamer	79	79	1	1%
	Astore	53	53	4	8%
	Shigar	24	24	1	4%



	Skardu	51	51	2	4%
Sindh	Hyderabad	71	71	25	35%
	Ghotki	65	65	64	98%
	Umerkot	98	43	42	98%
	Naushahro Feroze	68	68	62	91%
	Tharparkar	278	100	96	96%
	Shikarpur	60	60	60	100%
	Thatta	53	53	52	98%
	Larkana	67	67	67	100%
	Kamber Shadadkot	71	71	71	100%
	Karachi-East	14	14	14	100%
	Karachi-West	20	20	20	100%
	Karachi-Malir	37	37	30	81%
	Karachi-Kemari	17	17	14	82%
	Karachi-Central	11	11	11	100%
	Karachi-Korangi	18	18	16	89%
	Karachi-South	4	4	4	100%
	Sujawal	54	54	50	93%
	Mirpur Khas	104	104	104	100%
	Badin	124	124	108	87%
	Sukkur	64	64	64	100%
	Dadu	90	90	85	94%
	Sanghar	101	101	99	98%
	Jacobabad	43	43	41	95%
	Khairpur	168	168	164	98%
	Kashmore	59	59	59	100%
	Matitari	42	42	42	100%
	Jamshoro	70	70	66	94%
	Tando Allahyar	54	54	54	100%
	Tando Muhammad Khan	40	40	40	100%
	Shaheed Benazirabad	124	124	124	100%



## Public Health Bulletin-Pakistan: Vol 3, Issue 35 Special Edition World Field Epidemiology Day.

**Dear Health Managers, Field Epidemiologists,  
Surveillance Coordinators, and Data Collection  
and Dissemination Teams,**

On behalf of Public Health Bulletin-Pakistan: Vol 3, Issue 35 Special Edition World Field Epidemiology Day, I am writing to invite you to join us in celebrating World Field Epidemiology Day on September 7, 2023. This year's theme is "Increasing Diversity, Equity, and Inclusion in Field Epidemiology."

Field epidemiology is the practice of applying epidemiological principles and methods to the investigation and control of diseases in the field. It is a critical field of public health that plays a vital role in preventing and controlling infectious diseases.

The theme of this year's World Field Epidemiology Day is particularly important in light of the growing diversity of the global population. We need to ensure that field epidemiology is inclusive and welcoming to all people, regardless of their race, ethnicity, gender, sexual orientation, or socio-economic status.

There are many ways to celebrate World Field Epidemiology Day and to promote diversity, equity, and inclusion in the field. Here are a few ideas:

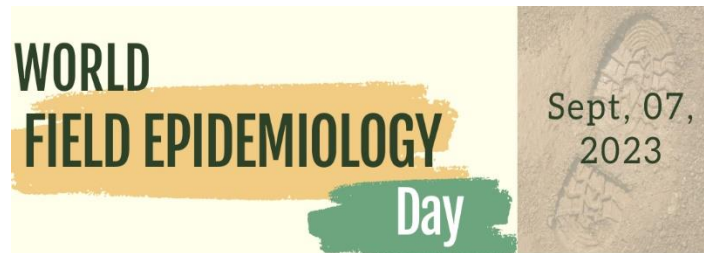
- Share your work with us with HQ field work images and become a part of PHB-Pakistan.
- Write a blog post or article about the importance of field epidemiology and how to increase diversity in the field.
- Reach out to your colleagues and networks to discuss the importance of diversity, equity, and inclusion in field epidemiology.
- Attend or organize an event or workshop on the theme of diversity, equity, and inclusion in field epidemiology.

We also invite you to share stories on the theme of increasing diversity, equity, and inclusion in field epidemiology. These stories can highlight the

challenges and opportunities of increasing diversity in the field, and they can also celebrate the contributions of diverse field epidemiologists.

*Write for yourself and send it to [phb@nih.org.pk](mailto:phb@nih.org.pk)*

Together, we can make a strong case for increased support and investment in field epidemiology for the health and security of the world.




**WORLD  
FIELD EPIDEMIOLOGY  
Day**

Sept, 07,  
2023




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## A note from Field Activities.

### Investigation of a Suspected Typhoid Outbreak in Dera Allah Yar, Jaffarabad, Balochistan, Pakistan (August 23-27, 2023)

Source: DHIS-2 Reports

<https://dhis2.nih.org.pk/dhis-web-event-reports/>

#### Background

Dera Allah Yar, a district in the Jaffarabad region, experienced a probable typhoid outbreak in the 32nd epidemiological week of 2023. The outbreak occurred in the aftermath of floods in the region, which damaged water infrastructure and sanitation systems. The outbreak was characterized by an unusually high number of cases of acute febrile diseases, including typhoid fever. Typhoid fever is a waterborne illness caused by the bacterium *Salmonella enterica* serotype Typhi. It is spread through the consumption of contaminated food or water.

#### Objectives

- To determine the magnitude of the typhoid outbreak in Dera Allah Yar Jaffarabad.
- To identify, assess, and evaluate the risk factors associated with typhoid fever in Dera Allah Yar Jaffarabad.
- To formulate future recommendations to contain the outbreak.

#### Methods:

A retrospective outbreak investigation was conducted in Dera Allah Yar Jaffarabad during the 32nd epidemiological week of 2023. The investigation included the following methods:

- **Case definition:** A case was defined as a person with acute febrile illness, a fever of at least 38°C for 3 or more days with abdominal discomfort, fatigue, and diarrhea or constipation.
- **Case ascertainment:** Cases were identified through active surveillance and passive surveillance. Active surveillance involved the active search for cases by healthcare providers. Passive surveillance involved the reporting of cases by healthcare providers. A structured questionnaire from the Integrated Disease Surveillance and Response (IDSR) for typhoid fever was used to assess the clinical signs and symptoms, as well as the source of drinking water, travel

history, treatment history, and contact tracing of the suspected patients.

- **Laboratory confirmation:** Blood samples were collected from suspected cases and tested for the presence of the bacteria *Salmonella enterica* serotype Typhi.
- **Epidemiological investigation:** A structured questionnaire was used to collect information on the clinical signs and symptoms, source of drinking water, travel history, treatment history, and contact tracing of suspected patients.
- **Environmental investigation:** Environmental samples were collected from suspected sources of contamination, such as water, food, and sewage.

#### Findings

A total of 300 suspected cases of typhoid fever were reported during this period. The affected population included individuals of all age groups, with a slight predominance of cases among the 15-25 year-old age group. 56.6% of cases were male, while 43.3% were female. Common clinical symptoms among suspected cases included high fever, abdominal pain, headache, and general malaise. Cases were dispersed throughout Dera Allah Yar, with specific clusters identified in Murad Colony and Hospital Colony.

The preliminary findings of the investigation suggest that the primary mode of transmission was the consumption of contaminated water. Other possible modes of transmission include the consumption of contaminated food, contact with an infected person, and the handling of contaminated feces. The investigation is ongoing, and the findings will be used to develop strategies to prevent future outbreaks.

#### Conclusion

A significant typhoid outbreak occurred in Dera Allah Yar, Jaffarabad District during the 32nd epidemiological week of 2023. The outbreak was caused by the consumption of contaminated water, and it affected people of all age groups. The investigation is ongoing, and the findings will be used to develop strategies to prevent future outbreaks.



## Correspondence to Editor.

### Progress on Local Hepatitis Elimination and Prevention program, Rawalpindi

**Dr. Ansar Ishaq**  
Coordinator to  
Minister Health Dr.  
Jamal Nasir (PSHD),  
Punjab



The District Health Authority (DHA) and the Coalition for Global Hepatitis Elimination have expanded the Local Hepatitis Elimination and Prevention Program to raise awareness of the deadly virus and develop strategies to contain its spread. The program was initially launched in Khayaban-i-Sir Syed and has since expanded to other union councils in the district. After completing a pilot project in selected union councils, the program has been extended to four high-risk urban areas to target 100,000 individuals.

Out of 20,480 individuals screened so far, 115 people have been diagnosed with hepatitis B, 350 with hepatitis C, and 297 with a positive PCR test. A total of 6,098 people has been vaccinated against hepatitis B, of whom 6,098 have received the first dose and 1,945 have received the second dose. The remaining 4,153 people are pending the second dose of the vaccine.

The program aims to prevent new hepatitis B infections (including mother-to-child transmission), hepatitis C infections, testing and diagnosis of hepatitis B and C, and treatment of persons with hepatitis C.

Dr. Ansar Ishaq, coordinator Health, said that the rapid test for hepatitis B and C is sometimes inaccurate, so a polymerase chain reaction (PCR) test is also being conducted to confirm the results. The pathological test of liver function is also being done for the hepatitis patients. He said that vaccination and other medicines are provided to the patients after consulting senior medical practitioners without any charges.

20 teams have been trained for the drive and the program will continue until all the eligible people in the district have been screened for hepatitis B and C. He urged the people to come forward and get themselves screened for hepatitis B and C as early

detection and treatment of the disease can prevent serious liver damage and death.

Following are the recommendations for the further improvement of the Local Hepatitis Elimination and Prevention Program

- The program should be expanded to cover all the union councils in the district.
- The number of teams conducting the screening should be increased.
- The program should be made more visible to the public.
- More resources should be allocated to the program.

## Knowledge Hub

### Typhoid Fever: A Persistent Global Health Threat.

#### Introduction

Typhoid fever, a serious and potentially life-threatening infectious disease, has been a significant public health concern for centuries. Caused by the bacterium *Salmonella enterica* serovar Typhi (*S. Typhi*), typhoid fever primarily affects developing countries with poor sanitation and limited access to clean water. The World Health Organization (WHO) estimates that approximately 11-21 million people contract typhoid fever each year, with approximately 128,000 to 161,000 fatalities. This essay aims to delve into the causes, transmission, and treatment options for typhoid fever using available scientific articles as resources.

#### Causes of Typhoid Fever

*S. Typhi* is responsible for causing typhoid fever. This bacterium is part of the *Salmonella* genus and is primarily transmitted through the fecal-oral route. The bacterium lives within the human intestines and bloodstream, with infected individuals shedding the bacteria in their feces. When contaminated feces come into contact with food or water sources meant for human consumption, it can lead to typhoid fever infection in previously unexposed individuals.

#### Transmission

Contaminated food and water are the primary sources of typhoid fever transmission to humans. Poor sanitation practices and inadequate access to safe water supplies contribute significantly to the persistence of this public health threat in developing countries. Additionally, carriers who have



recovered from typhoid fever can still shed *S. Typhi* bacteria in their feces for several months after they've stopped experiencing symptoms of the disease. This indicates that proper personal hygiene practices and sanitation systems are crucial for preventing typhoid transmission within communities.

### Transmission and Risk Factors

*Salmonella Typhi* colonizes the intestines of infected individuals. Transmission generally occurs via fecal-oral route through contaminated water and food sources or poor hygiene. Typhoid fever outbreaks frequently correlate with contaminated municipal water supplies or close human contact with carriers.

Risk factors for typhoid fever encompass environmental factors such as inadequate sanitation measures, overcrowding and insufficient access to clean water. Additionally, individuals traveling to high-risk areas without receiving proper vaccination may be more susceptible to infection.

### Clinical Manifestations and Treatment Strategies

Symptoms generally manifest within 1-2 weeks of exposure, characterized by high fever, weakness, abdominal pain, constipation or diarrhea, and a maculopapular rash known as "rose spots". If untreated, severe complications may arise, including intestinal perforation and internal bleeding.

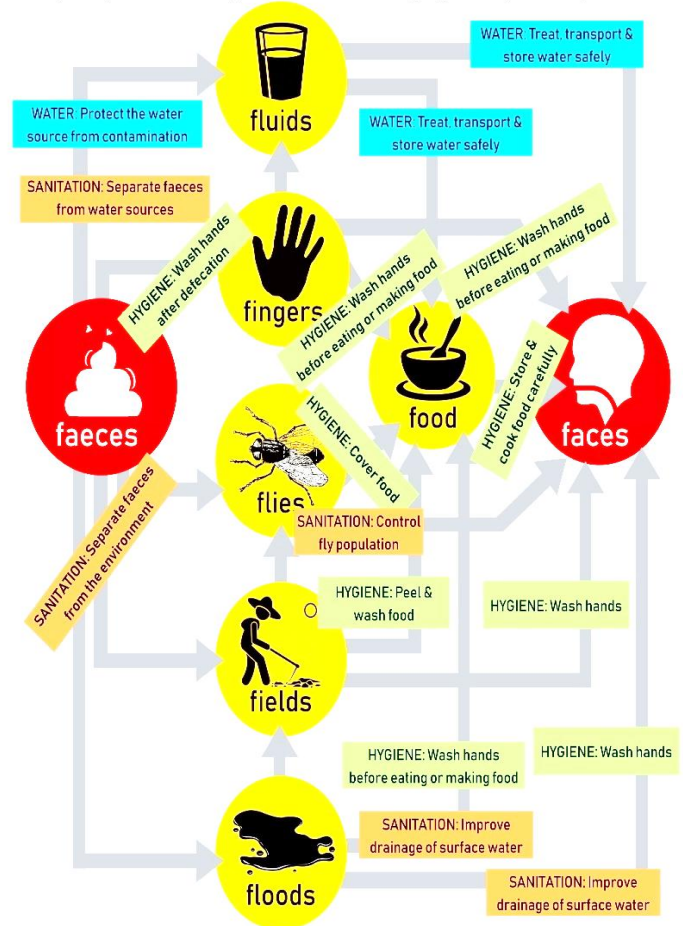
The treatment involves antibiotics such as azithromycin or ceftriaxone administered after laboratory confirmation. However, the emergence of antibiotic-resistant strains poses severe challenges to treatment efforts.

### Public Health Approaches

Preventing typhoid fever is centered around swift detection and management of cases to break the transmission chain. Public health strategies encompass immunization programs targeting high-risk communities, accurate water quality monitoring systems to detect contamination risks and advocating initiatives such as handwashing and proper food handling practices.

# Stop the Transmission

Use water, sanitation and hygiene interventions to block the paths of pathogens from a sick person's faeces to being ingested by another person.



credit typhoidland





# World FIELD EPIDEMIOLOGY Day



**WORLD FIELD  
EPIDEMIOLOGY DAY**  
7 SEPTEMBER



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