

Integrated Disease Surveillance & Response (IDSR) Report

Center of Disease Control
National Institutes of Health, Islamabad

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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Overview

IDSR Reports

Ongoing Events

Field Reports

The **Integrated Disease Surveillance & Response (IDSR) Weekly Public Health Bulletin** is your trusted source for the latest disease trends, outbreak updates, and essential public health information in Pakistan. Published weekly, the bulletin provides **timely, reliable, and evidence-based** information for public health professionals, policymakers, healthcare workers, and the public. It presents key surveillance findings, outbreak investigations, seasonal disease trends, and practical public health recommendations to support informed decision-making and strengthen disease prevention efforts.

The bulletin is developed using verified surveillance data and expert review to ensure its content remains accurate, relevant, and aligned with Pakistan's public health priorities. It also addresses emerging health misinformation by providing factual, science-based information that communities can trust.

This Week's Highlights:

- **Strengthening Healthcare–Associated Infections Surveillance in Balochistan through DHIS – 2: The NIH - UKHSA Capacity Building Initiative**
- **Outbreak Investigation Report of Acute Watery Diarrhea (Suspected Cholera) Village China Kundi, UC Toiser, District Musakhel, Balochistan, 2025**
- **Knowledge Hub – Understanding Acute Watery Diarrhea (AWD): A Public Health Priority**

Together, we can strengthen disease surveillance, promote informed action, and build a healthier Pakistan.

By transforming surveillance data into actionable public health intelligence, the IDSR Weekly Public Health Bulletin continues to support evidence-based decision-making and protect communities across Pakistan.

Subscribe to the Weekly Bulletin today!

Stay informed. Stay prepared. Stay healthy.

*Sincerely,
The Chief Editor*



Note: All reported cases in this report are suspected cases

- During Week 27, the most frequently reported cases were of Acute Diarrhea (Non-Cholera), followed by Malaria, ILI, TB, ALRI <5 years, Animal/ Dog Bite, B. Diarrhea, VH (B, C & D), Typhoid, SARI, and AWD (S. Cholera).
- Twenty-four cases of AFP were reported from KP, eleven from Sindh, and two from GB.
- Thirteen suspected cases of HIV/ AIDS were reported from Sindh and five from KP.
- One suspected case of Brucellosis was reported from KP.
- Among VPDs, there is an increase in the number of cases of Measles, Chickenpox, Mumps, Meningitis, Pertussis, AFP, and Diphtheria this week.
- Among Respiratory diseases, there is an increase in the number of cases of ILI, TB, and ALRI <5 years this week.
- Among Water/food-borne diseases, there is an increase in the number of cases of AD (Non-Cholera), B. Diarrhea, Typhoid, and AVH (A & E) this week.
- Among Vector-borne diseases, there is an increase in the number of cases of Malaria and CL this week.
- Among STDs, there is an increase in the number of suspected cases of Gonorrhea this week.
- Among Zoonotic/Other diseases, there is an increase in the number of cases of Animal/ Dog Bite and VH (B, C & D) this week.
- Field investigation is required for verification of the alerts and for prevention and control of the outbreaks.

IDSR compliance attributes

- The national compliance rate for IDSR reporting in 158 implemented districts is 72%.
- Sindh is the top reporting region with a compliance rate of 98%, followed by ICT 89%, KP 80%, GB 80%, and Balochistan 41%.
- In Week 27, the lowest compliance rate is observed in AJK, 0%, due to the non-availability of an internet connection in the region.

Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	2,277	1,815	80
Azad Jammu Kashmir	476	0	0
Islamabad Capital Territory	36	32	89
Balochistan	1,305	532	41
Gilgit Baltistan	405	326	80
Sindh	2,115	2,068	98
National	6,614	4,773	72



Federal, Provincial, and Regional Health Departments and relevant programs may consider following public health actions to prevent and control diseases.

Bloody Diarrhea

Strengthen Surveillance and Case Notification: Enhance reporting of bloody diarrhea cases through the IDSR system by training healthcare providers on standard case definitions, early detection of clusters, and immediate notification of suspected outbreaks.

Improve Laboratory Diagnosis and Antimicrobial Sensitivity Testing: Expand diagnostic capacity to identify bacterial causes (e.g., *Shigella*, *E. coli* O157:H7, *Entamoeba histolytica*) and conduct antimicrobial resistance testing to guide appropriate treatment.

Promote Water, Sanitation, and Hygiene (WASH): Coordinate with WASH stakeholders to improve access to safe water, sanitation infrastructure, and hygiene promotion, particularly in outbreak-prone or underserved communities.

Support Outbreak Investigation and Control: Deploy rapid response teams to investigate suspected outbreaks, identify sources of infection (e.g., contaminated food/water), and implement control measures, including community-level sanitation improvements.

Acute Lower Respiratory Infections (ALRI) in Children Under Five Years

Strengthen Surveillance and Early Detection: Enhance surveillance systems to monitor ALRI trends, detect outbreaks, and identify high-risk populations; ensure timely reporting and investigation of severe cases and deaths.

Improve Case Management Capacity: Train healthcare workers on Integrated Management of Childhood Illness (IMCI) guidelines, early recognition of danger signs, appropriate antibiotic use, oxygen therapy, and referral of severe cases.

Increase Immunization Coverage: Strengthen routine immunization services to ensure high coverage of vaccines that protect against respiratory infections, including pneumococcal, *Haemophilus influenzae* type b (Hib), measles, pertussis, influenza, and COVID-19 vaccines where recommended.

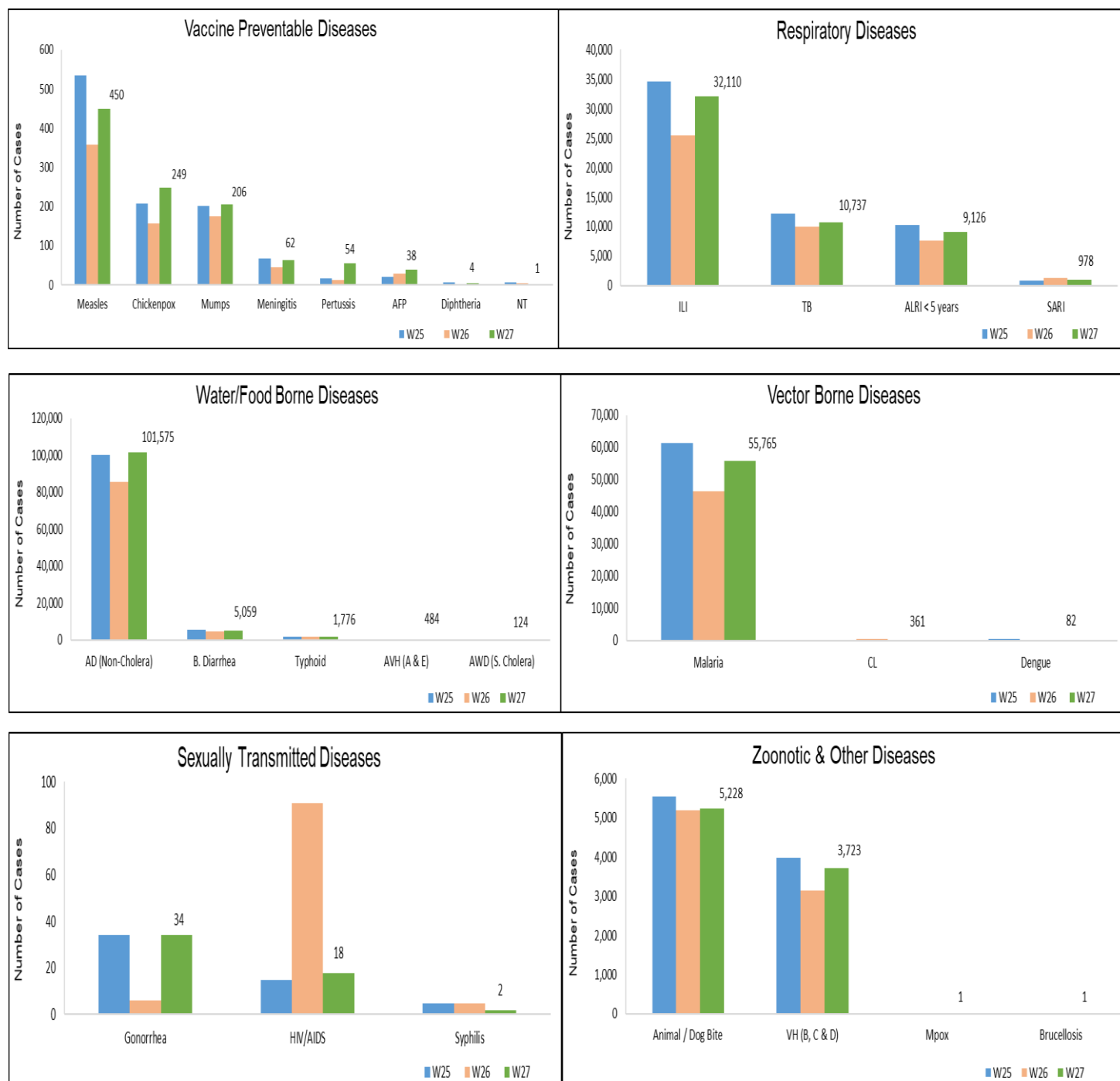
Promote Child Nutrition and Environmental Health: Support exclusive breastfeeding, adequate nutrition, vitamin supplementation where appropriate, and interventions to reduce indoor air pollution, household smoke exposure, and overcrowding.

Raise Caregiver and Community Awareness: Conduct community education campaigns on prevention of respiratory infections, recognition of warning signs such as fast breathing and chest indrawing, appropriate care-seeking behavior, hand hygiene, respiratory etiquette, and timely healthcare utilization.

Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 27, Pakistan

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (non-cholera)	NR	5,146	1,428	517	45,703	NR	48,781	101,575
Malaria	NR	1,311	0	3	5,322	NR	49,129	55,765
ILI	NR	2,993	266	1,231	3,537	NR	24,083	32,110
TB	NR	9	83	7	245	NR	10,393	10,737
ALRI < 5 years	NR	883	515	0	736	NR	6,992	9,126
Animal / Dog Bite	NR	118	5	0	1,343	NR	3,762	5,228
B. Diarrhea	NR	702	90	0	1,161	NR	3,106	5,059
VH (B, C & D)	NR	22	1	81	122	NR	3,497	3,723
Typhoid	NR	211	100	1	620	NR	844	1,776
SARI	NR	286	55	0	476	NR	161	978
AWD (S. Cholera)	NR	105	11	0	1	NR	7	124
Measles	NR	2	9	2	373	NR	64	450
AVH (A & E)	NR	6	3	0	223	NR	252	484
CL	NR	8	0	0	346	NR	7	361
Chickenpox/ Varicella	NR	3	6	5	213	NR	22	249
Mumps	NR	9	6	5	143	NR	43	206
Dengue	NR	3	0	0	34	NR	45	82
Meningitis	NR	0	0	0	16	NR	46	62
Pertussis	NR	48	0	0	4	NR	2	54
AFP	NR	1	2	0	24	NR	11	38
Gonorrhea	NR	26	0	0	0	NR	8	34
HIV/AIDS	NR	0	0	0	5	NR	13	18
Diphtheria (Probable)	NR	0	0	0	3	NR	1	4
Syphilis	NR	0	0	0	0	NR	2	2
Brucellosis	NR	0	0	0	1	NR	0	1
NT	NR	0	0	0	1	NR	0	1
Mpox	NR	0	0	0	0	NR	1	1

Figure 1: Most frequently reported suspected cases during Week 27, Pakistan.



- Malaria cases were maximum followed by AD (Non-Cholera), ILI, TB, ALRI<5 Years, Animal/ Dog Bite, VH (B, C, D), B. Diarrhea, Typhoid and AVH (A & E).
- Malaria cases were mostly from Umerkot, Sanghar, and Badin whereas AD (Non-Cholera) cases were from Badin, Khairpur, and Mirpurkhas.
- Eleven cases of AFP reported from Sindh. They are suspected cases and need field verification.
- There is a decline in number of cases of Animal/ Dog Bite, SARI, Mumps, AFP, and AWD (S. Cholera) while an increase in number of cases of Malaria, AD (Non-Cholera), ILI, TB, ALRI<5 Years, VH (B, C, D), B. Diarrhea, Typhoid, AVH (A & E), Measles, Meningitis, Dengue, Chickenpox, HIV/ AIDS, Gonorrhea, CL, Pertussis, and Diphtheria this week.

Table 2: District wise distribution of most frequently reported suspected cases during Week 27, Sindh.

Districts	Malaria	AD (non-cholera)	ILI	TB	ALRI < 5 years	Animal / Dog Bite	VH (B, C & D)	B. Diarrhea	Typhoid	AVH (A & E)
Badin	3,546	4,315	2,583	817	229	151	189	288	108	0
Dadu	2,009	2,325	537	447	1,026	293	71	386	95	41
Ghotki	2,868	1,404	0	405	636	328	636	101	0	0
Hyderabad	809	2,959	1,334	400	139	91	120	67	8	7
Jacobabad	1,254	614	493	210	226	230	125	85	28	0
Jamshoro	2,004	1,774	51	560	251	95	147	80	35	17
Kamber	1,820	2,098	0	595	136	269	35	109	13	0
Karachi Central	1	2,116	1,360	286	101	65	20	3	107	5
Karachi East	90	424	10	18	26	39	20	3	1	2
Karachi Keamari	16	721	387	14	16	11	0	3	0	7
Karachi Korangi	68	552	7	58	1	10	1	14	4	0
Karachi Malir	65	1,380	2,247	98	210	42	7	23	9	8
Karachi South	16	101	0	0	0	0	0	0	0	0
Karachi West	200	996	1,401	71	212	72	12	26	17	1
Kashmore	1,644	433	231	117	103	143	11	49	3	0
Khairpur	3,469	3,305	4,826	884	774	253	168	333	206	15
Larkana	2,649	1,991	0	576	211	77	28	225	3	0
Matlari	2,874	1,710	2	611	136	97	285	57	2	8
Mirpurkhas	2,594	3,182	2,470	683	247	147	92	135	13	45
Naushero Feroze	1,188	1,158	782	218	198	238	106	165	47	5
Sanghar	3,613	1,744	237	959	336	235	730	46	11	3
Shaheed Benazirabad	2,275	1,708	0	236	153	174	66	98	91	0
Shikarpur	1,475	1,252	4	177	182	259	80	178	1	0
Sujawal	796	817	0	123	168	48	62	25	0	0
Sukkur	1,471	1,517	1,515	331	166	115	43	132	10	0
Tando Allahyar	2,267	1,795	737	360	84	107	260	156	5	3
Tando Muhammad Khan	958	1,197	0	453	120	77	9	65	6	0
Tharparkar	1,808	2,082	897	371	510	0	23	109	5	20
Thatta	1,514	1,454	1,972	24	173	96	78	70	10	65
Umerkot	3,768	1,657	0	291	222	0	73	75	6	0
Total	49,129	48,781	24,083	10,393	6,992	3,762	3,497	3,106	844	252

Figure 2: Most frequently reported suspected cases during Week 27, Sindh.

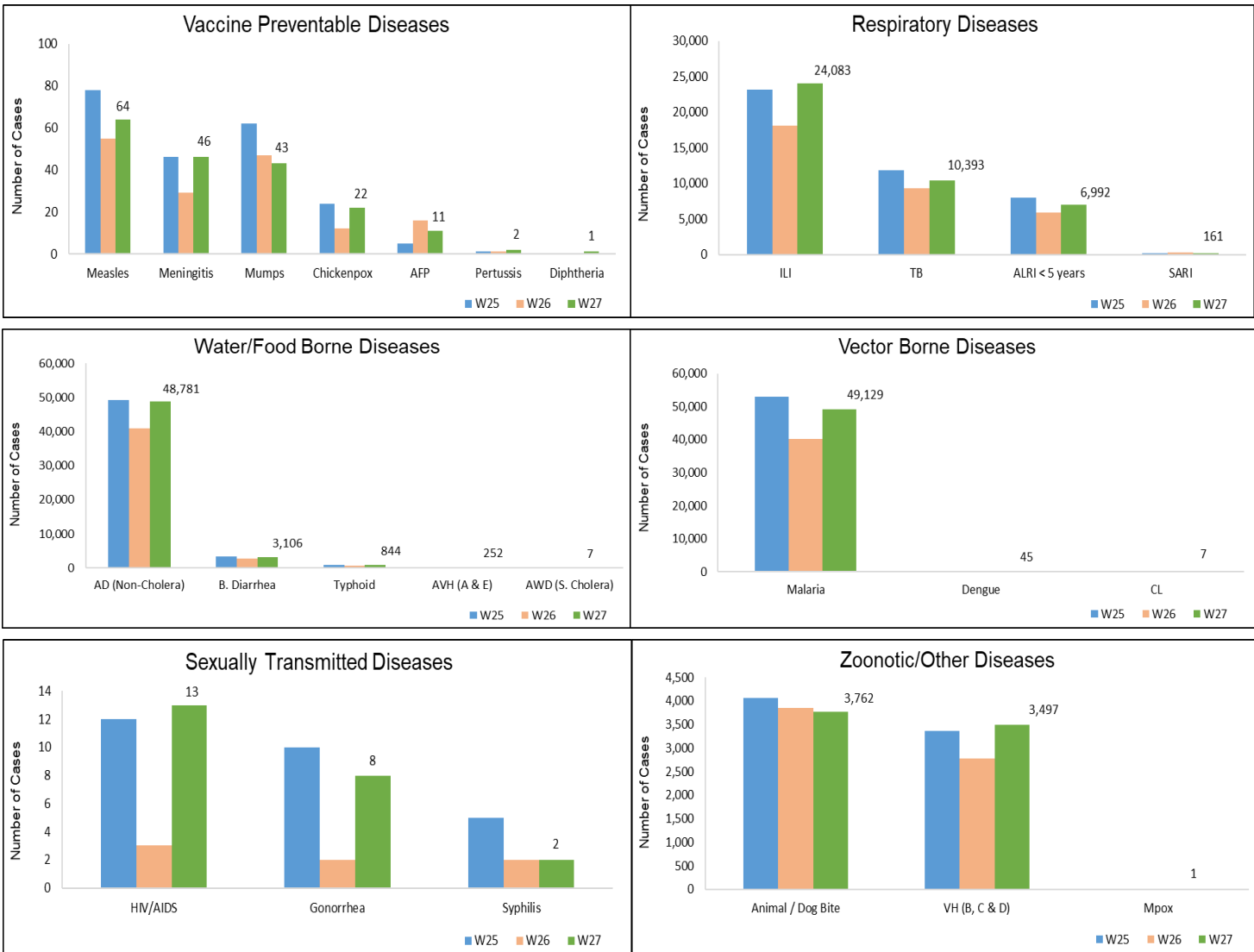
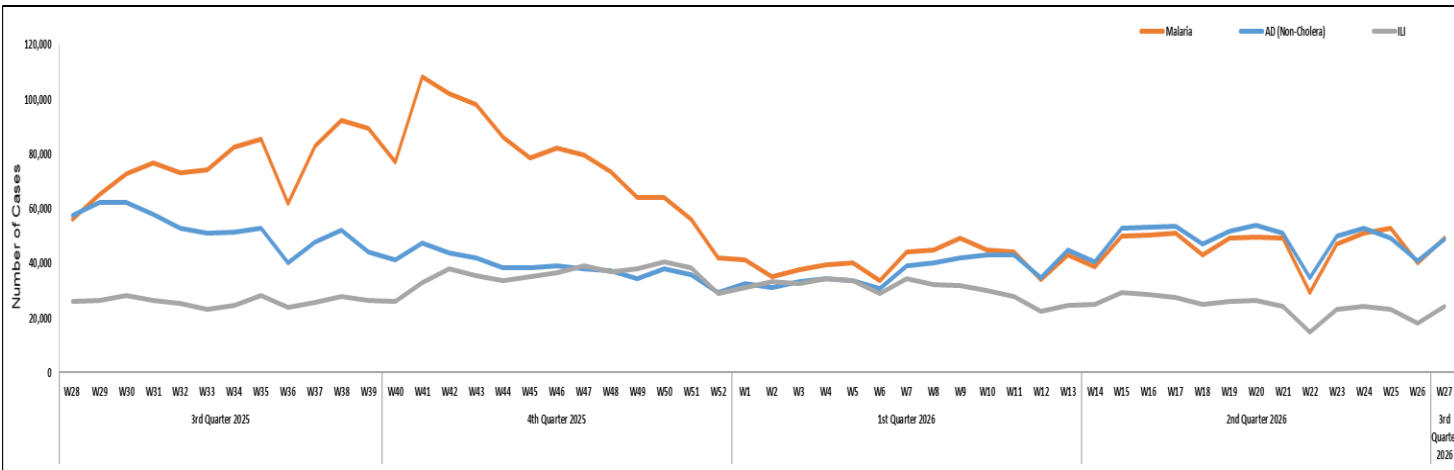


Figure 3: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Sindh.



- AD (Non-Cholera), ILI, Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, Animal/ Dog Bite, AWD (S. Cholera), and Pertussis cases were the most frequently reported diseases from Balochistan province.
- AD (non-cholera) cases were mostly reported from Usta Muhammad, Mastung, and Gwadar while ILI cases were mostly reported from Gwadar, Loralai, and Kharan.
- One case of AFP was reported from Balochistan. Field investigation is required to confirm the case.
- AD (Non-Cholera), Malaria, ALRI <5 years, B. Diarrhea, Pertussis, Gonorrhea, AVH (A & E), Chickenpox, and AFP showed an increase in the number of cases. At the same time, a decline has been observed in the number of cases of ILI, SARI, Typhoid, Animal/ Dog Bite, AWD (S. Cholera), VH (B, C & D), Mumps, TB, CL, and Measles.

Table 3: District wise distribution of most frequently reported suspected cases during Week 27, Balochistan.

Districts	AD (Non-Cholera)	ILI	Malaria	ALRI < 5 years	B. Diarrhea	SARI	Typhoid	Animal / Dog Bite	AWD (S. Cholera)	Pertussis
Awaran	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Barkhan	90	50	100	8	8	3	35	16	6	0
Chagai	156	186	34	0	29	0	7	0	0	0
Chaman	1	260	13	0	43	21	30	0	14	0
Dera Bugti	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Duki	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Gwadar	578	680	26	NR	23	NR	NR	NR	NR	NR
Harnai	179	5	41	144	63	0	0	1	0	0
Hub	213	75	64	5	13	1	0	3	0	0
Jaffarabad	99	4	73	2	16	0	0	5	0	0
Jhal Magsi	84	30	13	35	0	35	0	0	0	0
Kachhi (Bolan)	187	198	257	36	33	59	NR	10	16	45
Kalat	1	0	0	0	0	0	0	0	0	0
Kech (Turbat)	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Kharan	235	426	16	3	85	1	10	0	0	0
Khuzdar	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Killa Abdullah	245	121	5	18	43	42	15	7	39	NR
Killa Saifullah	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Kohlu	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Lasbella	533	79	201	270	36	3	9	6	0	0
Loralai	347	405	53	24	81	37	31	0	5	0
Mastung	605	173	74	85	36	35	14	25	0	0
MusaKhel	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Naseerabad	332	0	159	48	13	25	48	40	0	2
Nushki	190	0	0	9	45	0	0	0	0	0
Panjgur	26	0	4	14	5	0	0	0	0	0
Pishin	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Quetta	91	47	3	18	8	3	1	0	1	1
Sherani	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Sibi	222	154	130	21	16	14	10	2	24	0
Sohbat pur	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Surab	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Usta Muhammad	732	100	45	143	106	7	1	3	0	0
Washuk	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Zhob	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Ziarat	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
Total	5,146	2,993	1,311	883	702	286	211	118	105	48

Figure 4: Most frequently reported suspected cases during Week 27, Balochistan.

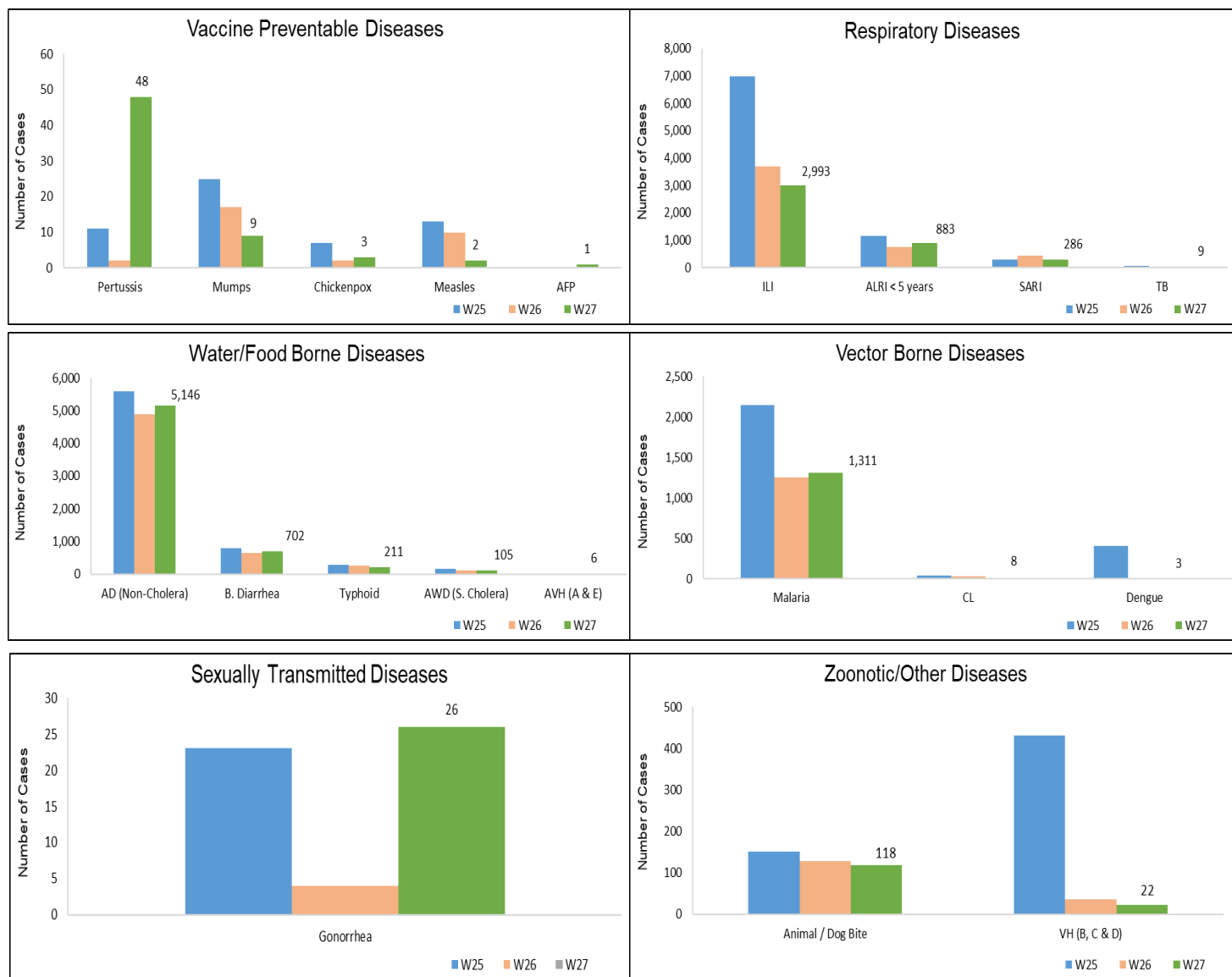
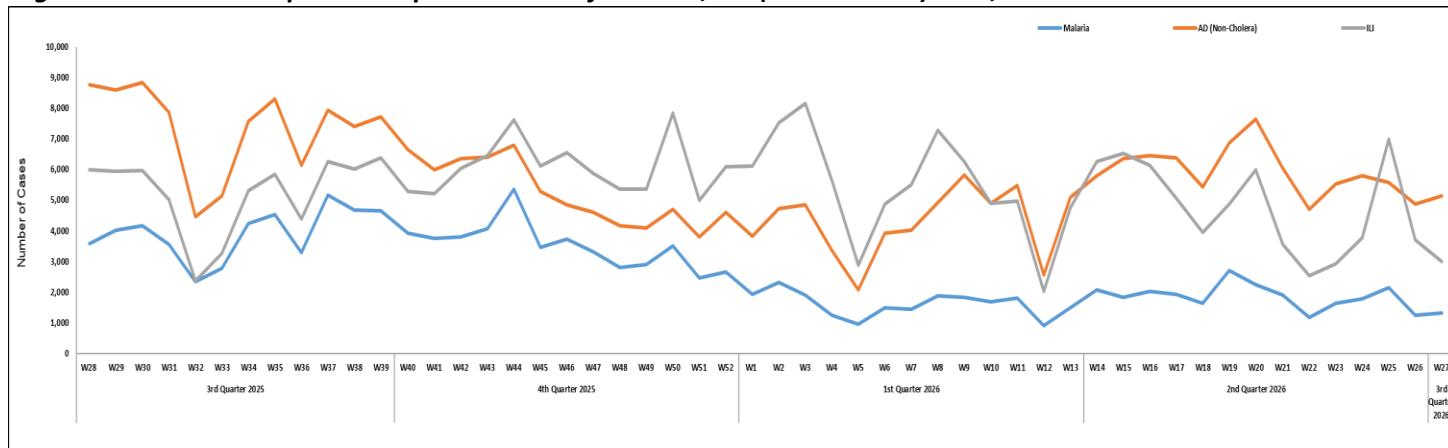


Figure 5: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Balochistan.



- Cases of AD (Non-Cholera) were maximum followed by Malaria, ILI, Animal/ Dog Bite, B. Diarrhea, ALRI<5 Years, Typhoid, SARI, Measles, and CL.
- AD (Non-Cholera), Malaria, ILI, Animal/ Dog Bite, B. Diarrhea, ALRI<5 Years, Typhoid, SARI, Measles, AVH (A & E), Chickenpox, Mumps, VH (B, C & D), Dengue, AFP, Meningitis, Diphtheria, and AWD (S. Cholera) cases showed an increase in number while CL, TB, HIV/ AIDS, NT, and Brucellosis showed a decline in number this week.
- Twenty-four cases of AFP were reported from KP. All are suspected cases and need field verification.
- Five suspected cases of HIV/AIDS were reported from KP. Field investigation is required.
- One suspected case of Brucellosis was reported from KP, which requires field verification.

Table 4: District wise distribution of most frequently reported suspected cases during Week 27, KP.

Districts	AD (Non-Cholera)	Malaria	ILI	Animal / Dog Bite	B. Diarrhea	ALRI < 5 years	Typhoid	SARI	Measles	CL
Abbottabad	1,563	5	33	57	20	32	4	15	9	0
Bajaur	1,161	355	3	123	66	16	4	6	17	36
Bannu	1,168	622	13	2	15	5	93	8	66	4
Battagram	363	73	556	1	1	6	13	0	12	0
Buner	353	101	0	16	0	0	0	0	1	0
Charsadda	2,880	199	385	6	95	161	104	0	7	0
Chitral Lower	1,155	19	16	18	53	7	4	6	1	7
Chitral Upper	196	7	18	5	7	3	14	5	0	1
D.I. Khan	1,997	508	0	29	23	11	7	0	50	2
Dir Lower	2,263	145	0	77	92	5	33	0	24	13
Dir Upper	2,101	25	35	37	60	72	18	0	9	0
Hangu	224	70	6	0	0	0	1	0	1	7
Haripur	2,132	0	398	49	9	23	9	55	5	0
Karak	592	193	48	38	34	42	13	0	9	92
Khyber	879	650	7	43	107	45	33	2	0	113
Kohat	832	174	0	23	20	0	13	0	0	22
Kohistan Lower	87	1	0	0	10	0	3	0	0	0
Kohistan Upper	269	8	0	2	16	2	0	0	6	0
Kolai Palas	89	9	8	0	2	1	0	0	0	0
L & C Kurram	29	3	19	2	19	2	3	0	0	0
Lakki Marwat	660	208	0	97	2	3	23	0	1	1
Malakand	996	56	157	3	0	1	2	2	18	1
Mansehra	1,790	1	555	0	46	0	4	0	0	0
Mardan	2,051	277	3	20	48	86	64	26	13	0
Mohmand	52	72	2	2	0	0	1	0	1	8
North Waziristan	79	69	1	0	0	6	7	8	10	1
Nowshera	2,791	171	15	98	31	28	5	13	4	24
Orakzai	184	10	3	0	0	0	0	0	0	0
Peshawar	5,841	71	225	32	96	28	62	0	58	0
Shangla	1,480	584	0	191	9	37	41	0	6	0
South Waziristan (Lower)	134	124	198	20	57	5	7	196	17	13
SWU	42	5	3	0	0	0	0	0	0	0
Swabi	2,758	112	567	129	34	15	4	91	12	0
Swat	5,673	101	193	189	135	75	8	0	15	0
Tank	380	191	21	3	7	3	3	3	0	0
Tor Ghar	228	79	0	10	24	6	7	0	1	1
Upper Kurram	231	24	49	21	23	10	13	40	0	0
Total	45,703	5,322	3,537	1,343	1,161	736	620	476	373	346

Figure 6: Most frequently reported suspected cases during Week 27, KP.

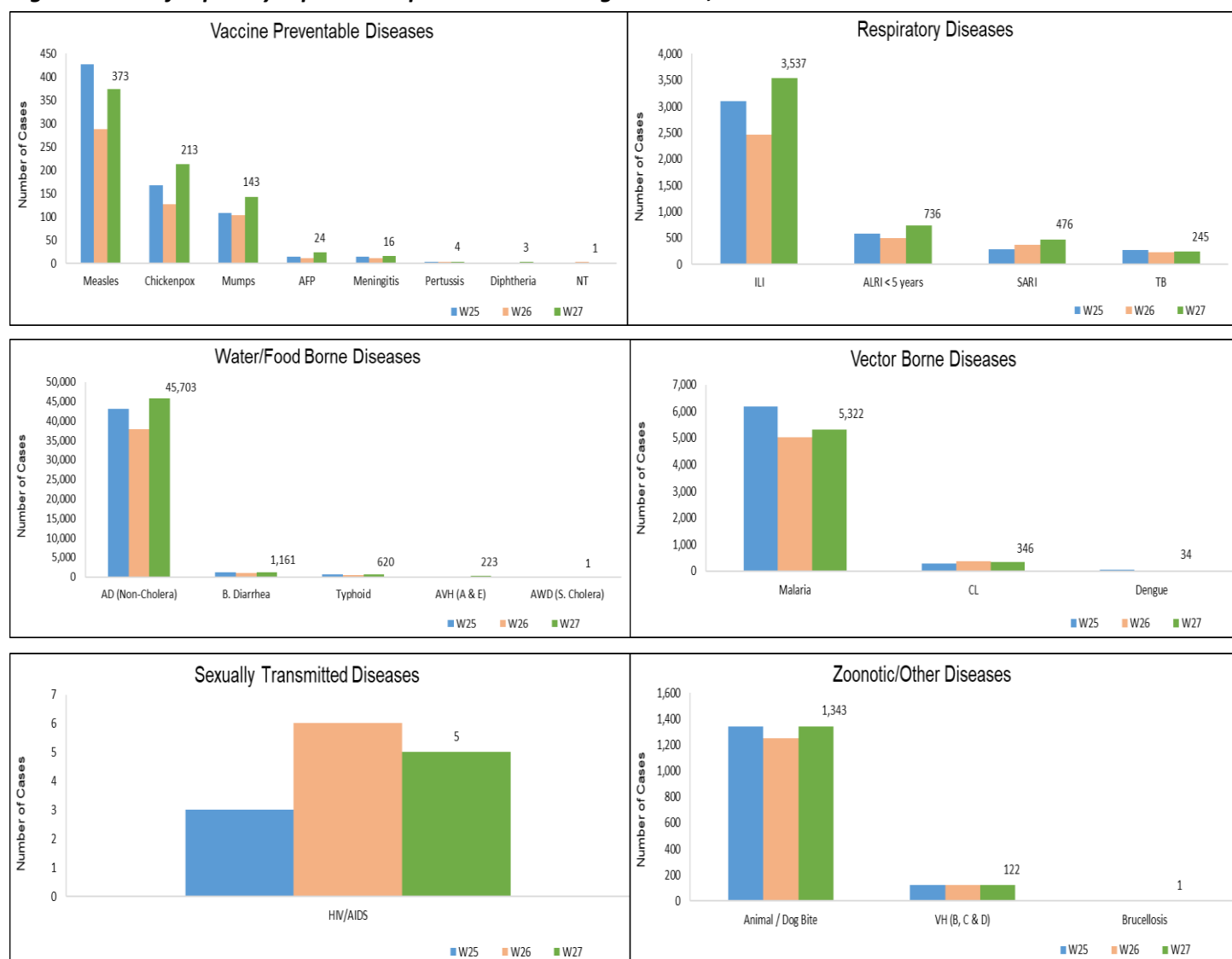
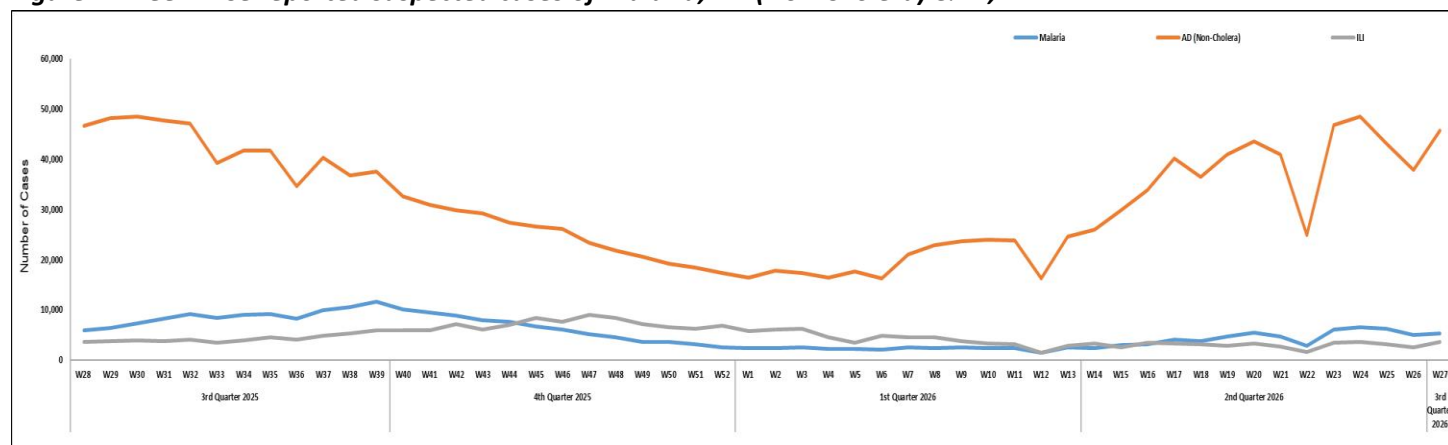


Figure 7: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, KP.



ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera), VH (B, C & D), TB, Chickenpox, Mumps, Malaria, Measles, and Typhoid. Typhoid cases showed a decline in number while an increase in number was observed in ILI, AD (Non-Cholera), VH (B, C & D), TB, Chickenpox, Mumps, Malaria, and Measles cases this week.

AJK: Data for Week 27 is not shared due to the non-availability of internet connection in the region.

GB: AD (non-cholera) cases were the most frequently reported disease, followed by ALRI <5 Years, ILI, Typhoid, B. Diarrhea, TB, SARI, AWD (S. Cholera), Measles, Mumps, Chickenpox/ Varicella, Animal/ Dog Bite, AVH (A & E), AFP, and VH (B, C & D) cases. An increase in cases is observed for AD (Non-Cholera), ALRI <5 Years, ILI, Typhoid, B. Diarrhea, TB, AWD (S. Cholera), Measles, Animal/ Dog Bite, and VH (B, C & D), while a decline is observed in the number of cases of SARI, Chickenpox/ Varicella, and AVH (A & E) this week.

NOTE: Due to the political conditions AJK data for Week 27 is not shared.
Figure 8: Most frequently reported suspected cases during Week 22, AJK.

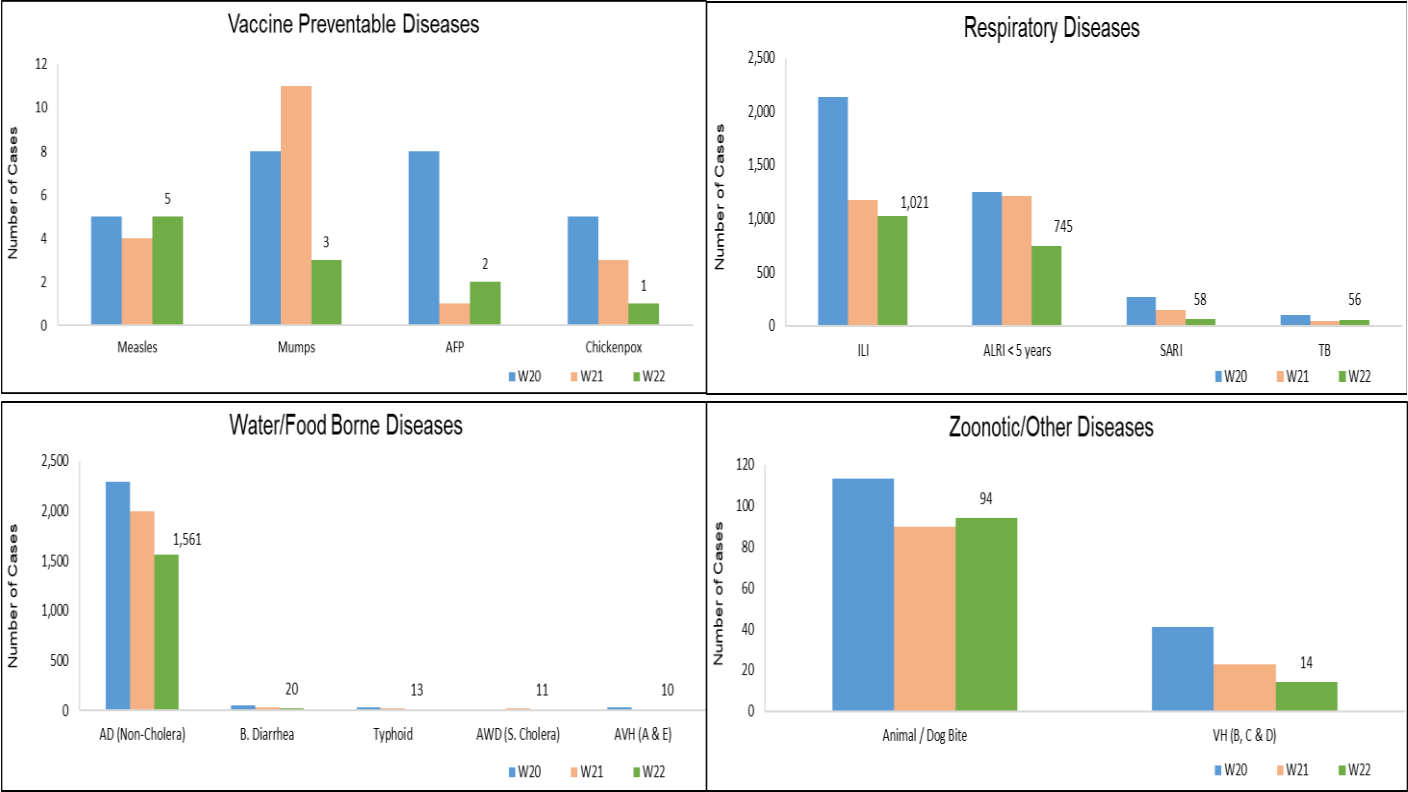


Figure 9: Week wise reported suspected cases of ILI and AD (Non-Cholera), AJK.

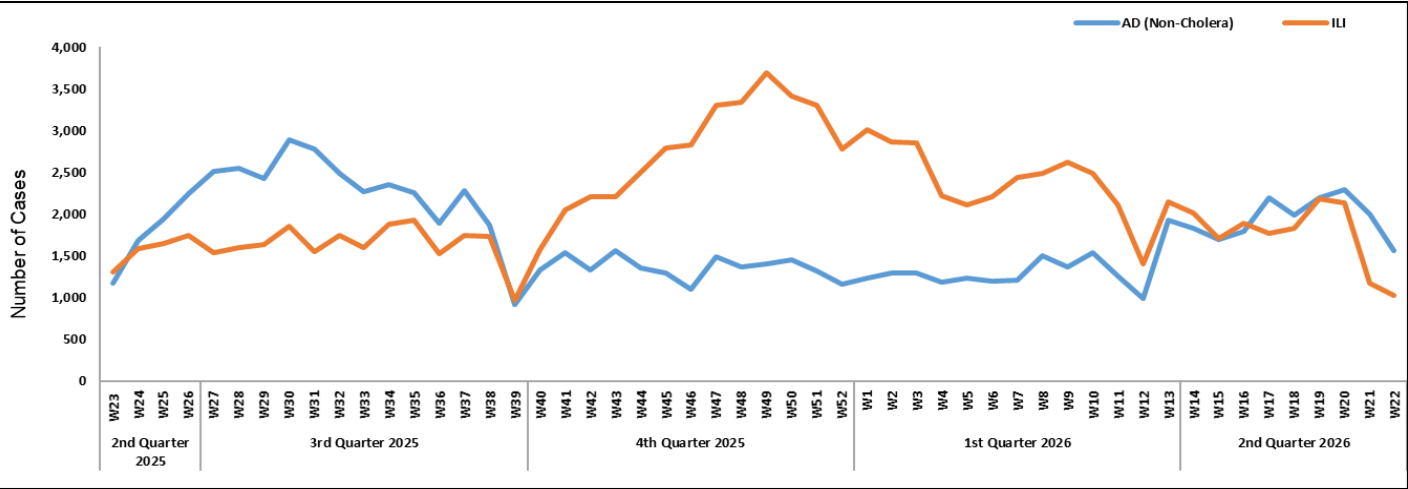


Figure 10: Most frequently reported suspected cases during Week 27, ICT.

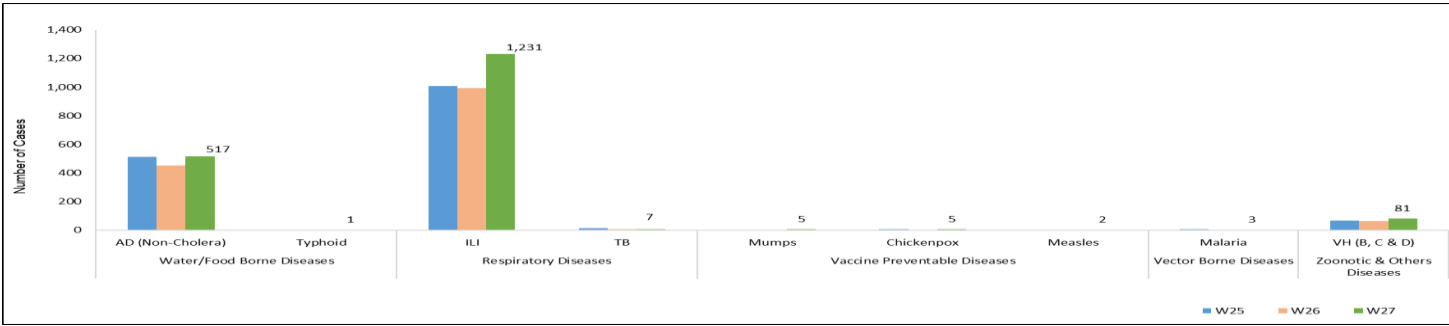


Figure 11: Week wise reported suspected cases of ILI, ICT.

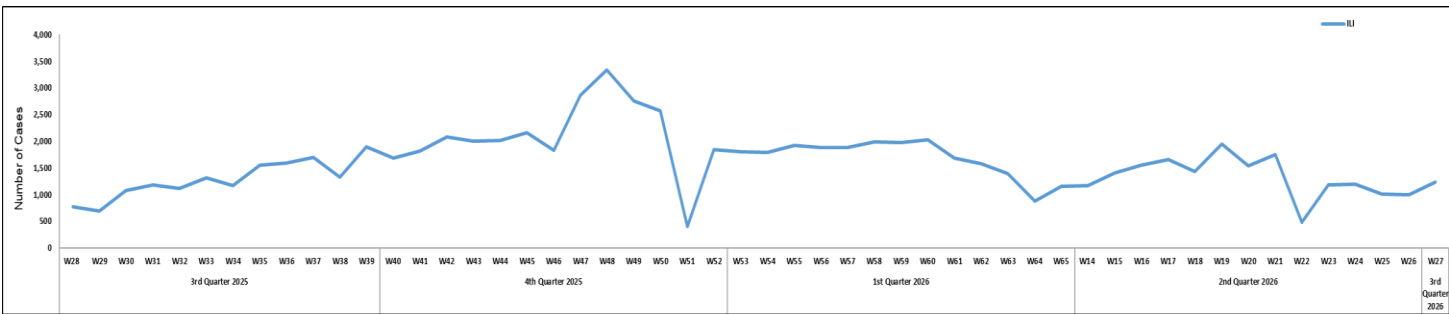


Figure 12: Most frequently reported suspected cases during Week 27, GB.

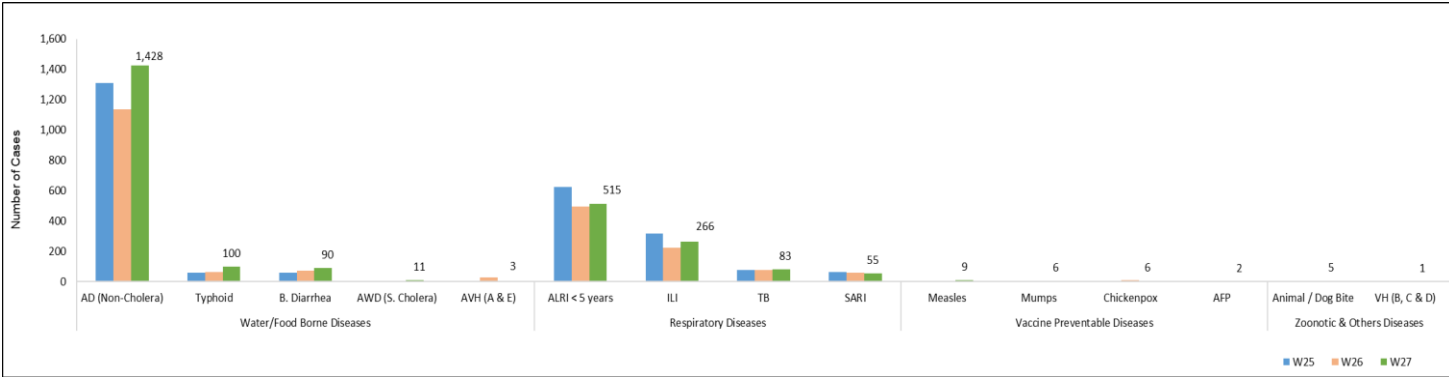


Figure 13: Week wise reported suspected cases of AD (Non-Cholera), GB.

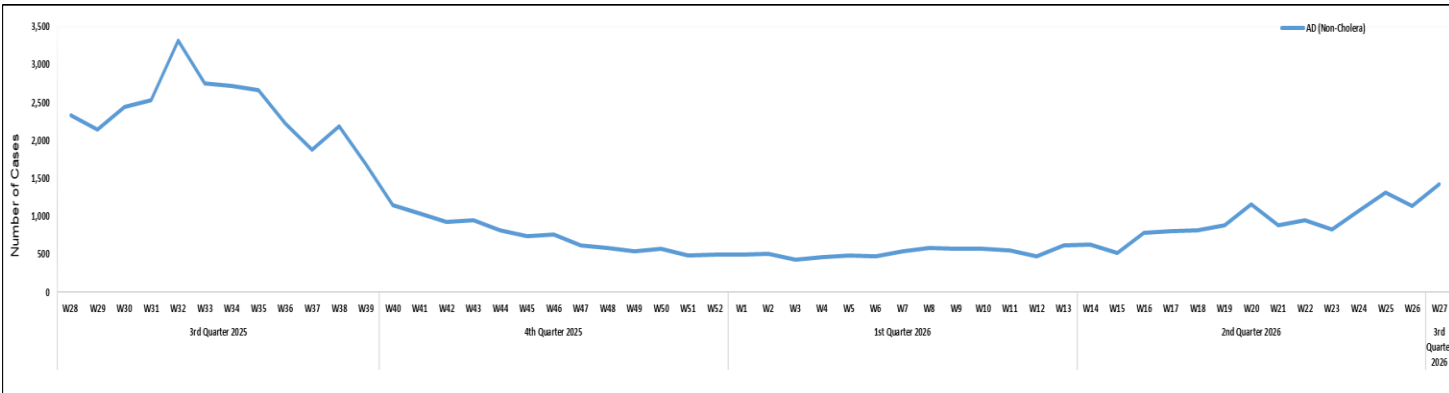


Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epi Week 27, Pakistan.

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)	21	2	-	-	-	-	-	-	-	-	-	-	-	-
Stool culture & Sensitivity	188	1	-	-	-	-	-	-	-	-	-	-	-	-
Malaria	6,731	432	526	58	-	-	-	-	253	0	-	-	-	-
CCHF	-	-	2	0	-	-	-	-	-	-	-	-	-	-
Dengue	1,068	45	152	1	-	-	-	-	6	0	-	-	-	-
VH (B)	11,075	192	585	41	-	-	-	-	1,072	17	-	-	-	-
VH (C)	11,375	735	576	26	-	-	-	-	1,081	7	-	-	-	-
VH (D)	224	71	-	-	-	-	-	-	-	-	-	-	-	-
VH (A)	204	90	-	-	-	-	-	-	-	-	-	-	-	-
VH (E)	110	20	-	-	-	-	-	-	-	-	-	-	-	-
Covid-19	15	0	-	-	-	-	-	-	-	-	-	-	-	-
TB	694	70	60	6	-	-	-	-	99	0	-	-	-	-
HIV/ AIDS	4,356	25	350	0	-	-	-	-	293	0	-	-	-	-
Syphilis	1,262	20	-	-	-	-	-	-	247	0	-	-	-	-
Typhoid	146	5	77	15	-	-	-	-	204	3	-	-	-	-
Diphtheria	4	1	-	-	-	-	-	-	-	-	-	-	-	-
ILI	16	0	2	0	-	-	-	-	-	-	-	-	-	-
Pneumonia (ALRI)	139	4	2	0	-	-	-	-	-	-	-	-	-	-
Meningitis	17	0	-	-	-	-	-	-	-	-	-	-	-	-
Measles	273	100	31	11	342	129	9	5	5	3	515	115	9	1
Leishmaniosis (cutaneous)	-	-	9	4	-	-	-	-	3	0	-	-	-	-
Mpox	12	3	-	-	-	-	-	-	-	-	-	-	-	-
SARI	42	26	-	-	-	-	-	-	-	-	-	-	-	-
Covid-19	ILI	-	-	-	-	-	-	-	-	-	10	0	-	-
	SARI	-	-	-	-	20	0	9	0	-	78	1	-	-
Influenza A	ILI	-	-	-	-	-	-	-	-	-	10	0	-	-
	SARI	-	-	-	-	20	0	9	0	-	78	1	-	-
Influenza B	ILI	-	-	-	-	-	-	-	-	-	10	0	-	-
	SARI	-	-	-	-	20	0	9	0	-	78	2	-	-
RSV	ILI	-	-	-	-	-	-	-	-	-	10	0	-	-
	SARI	-	-	-	-	20	0	9	0	-	78	0	-	-

Integrated Respiratory Viruses Sentinel Surveillance, National Influenza Centre

- The National Influenza Centre (NIC) comprises twelve Laboratory-Based sentinel surveillance sites strategically located at major tertiary care hospitals across Pakistan providing comprehensive geographical coverage. These sites collect samples from individuals with Influenza-Like Illness (ILI) and Severe Acute Respiratory Infections (SARI), which are then analyzed for high-impact Respiratory pathogens with epidemic and pandemic potential, including Influenza, SARS-CoV-2, and Respiratory Syncytial Virus.

Figure 14: District wise Influenza sentinel sites, Pakistan.

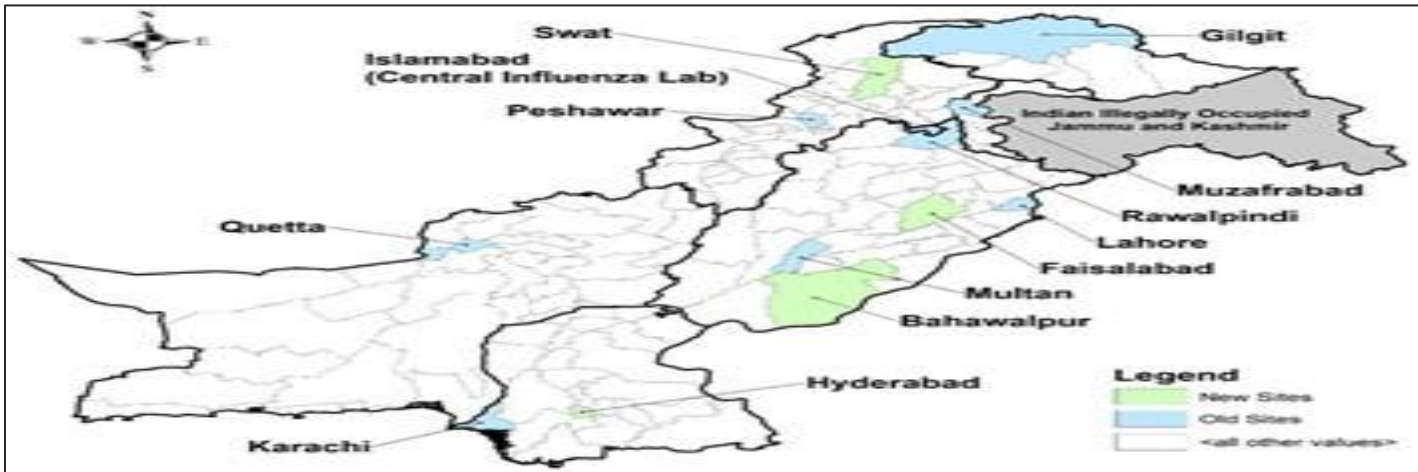


Figure 15: Distribution of suspected samples of ILI and positive cases of Influenza A, Influenza B, COVID-19 and RSV, Week 27, Pakistan.

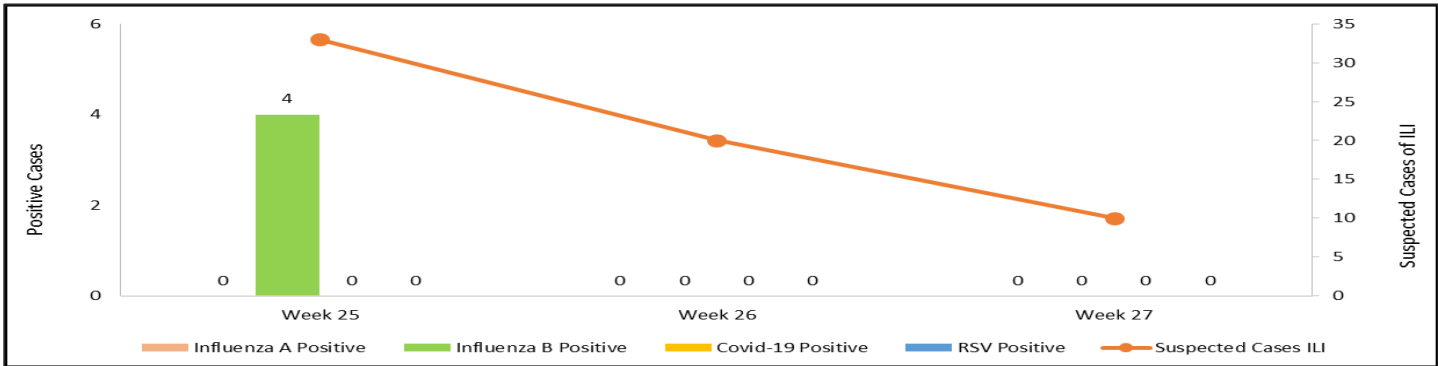
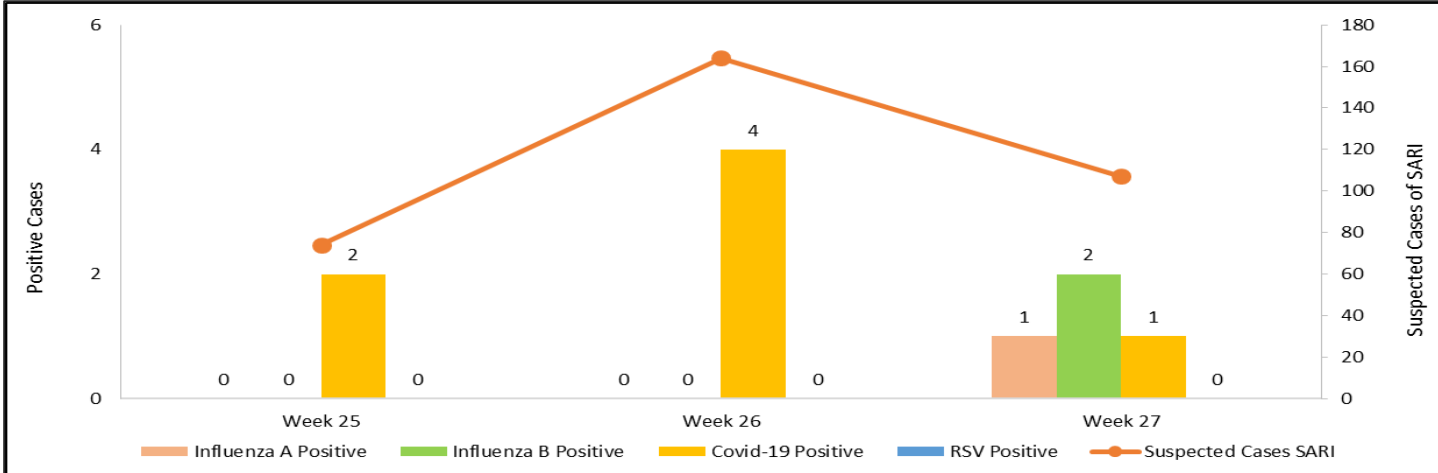


Figure 16: Distribution of suspected samples of SARI and positive cases of Influenza A, Influenza B, COVID-19 and RSV, Week 27, Pakistan.



IDSR Reports Compliance

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

Table 6: Compliance of IDSR reporting districts Week 27, Pakistan.

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	105	95%
	Bannu	228	124	54%
	Battagram	59	43	73%
	Buner	34	33	97%
	Bajaur	43	43	100%
	Charsadda	61	60	98%
	Chitral Upper	31	31	100%
	Chitral Lower	37	37	100%
	D.I. Khan	115	114	99%
	Dir Lower	63	62	98%
	Dir Upper	56	52	93%
	Hangu	22	18	82%
	Haripur	72	72	100%
	Karak	36	36	100%
	Khyber	53	43	81%
	Kohat	61	61	100%
	Kohistan Lower	13	7	54%
	Kohistan Upper	22	12	55%
	Kolai Palas	10	8	80%
	Lakki Marwat	70	69	99%
	Lower & Central Kurram	34	11	32%
	Upper Kurram	38	38	100%
	Malakand	41	41	100%
	Mansehra	133	130	98%
	Mardan	82	69	84%
	Nowshera	57	55	96%
	North Waziristan	10	8	80%
	Peshawar	157	130	83%
	Shangla	37	35	95%
	Swabi	65	61	94%
	Swat	75	73	97%
	South Waziristan (Upper)	93	35	38%
	South Waziristan (Lower)	29	27	93%
	Tank	34	33	97%
	Torghar	13	13	100%
	Mohmand	68	19	28%
	Orakzai	69	7	10%
Azad Jammu Kashmir	Mirpur	41	0	0%
	Bhimber	85	0	0%
	Kotli	60	0	0%
	Muzaffarabad	45	0	0%
	Poonch	46	0	0%
	Haveli	39	0	0%

	Bagh	54	0	0%
	Neelum	39	0	0%
	Jhelum Velley	29	0	0%
	Sudhnooti	27	0	0%
Islamabad Capital Territory	ICT	24	24	100%
	CDA	12	8	67%
Balochistan	Gwadar	26	25	96%
	Kech	45	0	0%
	Khuzdar	74	0	0%
	Killa Abdullah	26	22	85%
	Lasbella	55	55	100%
	Pishin	65	0	0%
	Quetta	56	6	11%
	Sibi	36	19	53%
	Zhob	39	0	0%
	Jaffarabad	16	16	100%
	Naseerabad	32	32	100%
	Kharan	30	30	100%
	Sherani	15	0	0%
	Kohlu	75	0	0%
	Chagai	36	20	56%
	Kalat	41	40	98%
	Harnai	17	16	94%
	Kachhi (Bolan)	35	18	51%
	Jhal Magsi	28	26	93%
	Sohbat pur	25	0	0%
	Surab	32	0	0%
	Mastung	46	46	100%
	Loralai	33	25	76%
	Killa Saifullah	28	0	0%
	Ziarat	29	0	0%
	Duki	31	0	0%
	Nushki	29	29	100%
	Dera Bugti	45	0	0%
	Washuk	46	0	0%
	Panjgur	38	1	3%
	Awaran	23	0	0%
	Chaman	25	24	96%
	Barkhan	20	20	100%
	Hub	33	30	91%
	Musakhel	41	0	0%
	Usta Muhammad	34	32	94%
Gilgit Baltistan	Hunza	32	31	97%
	Nagar	20	20	100%
	Ghizer	38	0	0%
	Gilgit	44	44	100%
	Diamer	62	58	94%
	Astore	55	55	100%
	Shigar	23	23	100%

	Skardu	54	54	100%
	Ganche	29	16	55%
	Kharmang	25	25	100%
Sindh	Hyderabad	72	72	100%
	Ghotki	64	64	100%
	Umerkot	65	65	100%
	Naushahro Feroze	102	94	92%
	Tharparkar	273	271	99%
	Shikarpur	59	59	100%
	Thatta	50	49	98%
	Larkana	67	66	99%
	Kamber Shadadkot	71	71	100%
	Karachi-East	21	16	76%
	Karachi-West	20	20	100%
	Karachi-Malir	35	29	83%
	Karachi-Kemari	22	21	95%
	Karachi-Central	12	11	92%
	Karachi-Korangi	18	18	100%
	Karachi-South	6	4	67%
	Sujawal	55	54	98%
	Mirpur Khas	106	106	100%
	Badin	123	122	99%
	Sukkur	63	63	100%
	Dadu	90	90	100%
	Sanghar	100	100	100%
	Jacobabad	44	44	100%
	Khairpur	168	168	100%
	Kashmore	59	59	100%
	Matlari	42	41	98%
	Jamshoro	74	74	100%
	Tando Allahyar	54	54	100%
	Tando Muhammad Khan	41	41	100%
	Shaheed Benazirabad	122	122	100%

Table 7: Compliance of IDSR reporting Tertiary care hospitals Week 27, Pakistan.

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
AJK	Mirpur	2	0	0%
	Bhimber	1	0	0%
	Kotli	1	0	0%
	Muzaffarabad	2	0	0%
	Poonch	2	0	0%
	Haveli	1	0	0%
	Bagh	1	0	0%

	Neelum	1	0	0%
	Jhelum Vellay	1	0	0%
	Sudhnooti	1	0	0%
Sindh	Karachi-South	3	2	67%
	Sukkur	1	1	100%
	Shaheed Benazirabad	1	1	100%
	Karachi-East	1	1	100%
	Karachi-Central	1	1	100%
KP	Peshawar	3	0	0%
	Swabi	1	0	0%
	Nowshera	1	1	100%
	Mardan	1	1	100%
	Abbottabad	1	1	100%
	Swat	1	1	100%

Strengthening Healthcare-Associated Infections Surveillance in Balochistan through DHIS 2: The NIH – UKHSA Capacity Building Initiative



The National Institute of Health (NIH), in collaboration with the United Kingdom Health Security Agency (UKHSA), successfully conducted a two-day capacity-building workshop to strengthen the implementation of Healthcare-Associated Infections (HAIs) Surveillance through the DHIS-2-based surveillance application across tertiary care hospitals in Balochistan.

The workshop focused on enhancing the capacity of healthcare professionals to effectively implement standardized HAI surveillance practices and improve the use of digital surveillance tools. It brought together infection prevention and control focal persons, surveillance officers, healthcare professionals, data management teams, and representatives from tertiary care hospitals across Balochistan. Participants received comprehensive training on key components of HAI surveillance, including case identification, standardized data collection, reporting mechanisms, data validation, analysis, and interpretation using the DHIS-2 platform.



The training methodology incorporated interactive technical presentations, practical demonstrations, hands-on exercises, and group discussions to facilitate learning. Participants actively engaged in DHIS-2 application-based exercises, strengthening their skills in data entry, indicator monitoring, report generation, and the use of surveillance information for evidence-based decision-making.



The initiative marks an important milestone toward establishing a robust and sustainable HAI surveillance system in Baluchistan. By improving data quality, accuracy, completeness, and timeliness of reporting, the program will support healthcare facilities in identifying infection trends, strengthening IPC practices, and implementing targeted interventions to reduce healthcare-associated infections.

Notes from the field:

Outbreak Investigation Report of Acute Watery Diarrhea (Suspected Cholera) Village Cheena Kundi, UC Toiser, District Musakhel, Balochistan, Pakistan, December 2025

Dr. Abdul Rasheed (FETP Fellow)
Dr. Abdul Kareem (PDSRU Balochistan)

Introduction

Cholera is an acute diarrheal disease caused by toxigenic strains of *Vibrio cholerae* and is primarily transmitted through ingestion of contaminated food and water (1). The disease remains a significant global public health challenge, particularly in low- and middle-income countries with inadequate water, sanitation, and hygiene (WASH) infrastructure (2). Cholera outbreaks continue to occur in regions affected by poverty, limited healthcare access, humanitarian emergencies, and unsafe water supplies, with children being among the most vulnerable (3). Pakistan remains endemic for cholera, with recurrent outbreaks reported from different provinces, particularly in areas with weak WASH systems and limited access to safe drinking water (4).

On 13 December 2025, the Provincial Disease Surveillance and Response Unit (PDSRU), Balochistan, received notification of suspected cholera cases and eight deaths from Village Cheena Kundi, UC Toiser, District Musakhel. A team was deployed on 14 December 2025 to investigate the outbreak, identify risk factors, and implement control measures.

Objectives

1. To determine the magnitude of the outbreak.
2. To identify possible risk factors associated with transmission.
3. To recommend control and preventive measures.

Methods

A descriptive outbreak investigation was conducted in Village Cheena Kundi, UC Toiser, District Musakhel, Balochistan, from 26 November to 29 December. The study population included residents of Village Cheena Kundi, with an estimated population of approximately 600 individuals.

A suspected case was defined as “any person aged ≥ 2 years residing in Village Cheena Kundi, UC Toiser, District Musakhel, who developed acute watery diarrhea between 26 November and 29 December 2025.” Data were collected using a customized cholera outbreak investigation questionnaire through patient interviews, household assessments, and community visits. Active case finding was conducted through house-to-house surveys of 30 households, community-based surveillance, and preparation of a line list of suspected cases. Healthcare records were reviewed. Environmental investigations were conducted, and eight water samples were collected from drill boring sources, natural springs, household water sources, and pipeline leakage points. Stool samples from suspected cases and water samples were sent to the Provincial Public Health Laboratory for laboratory confirmation.

Descriptive analysis was performed to summarize demographic characteristics, clinical features, possible exposures, attack rates, case fatality rate, and the association between suspected risk factors and illness using odds ratios.



Results

A total of 98 suspected acute watery diarrhea cases were identified during the outbreak period, with eight deaths reported between 28 November and 06 December 2025. The predominant clinical presentation was acute watery diarrhea, with associated gastrointestinal symptoms among affected individuals.

The median age of investigated cases was 11 years (SD ± 15.12). Children aged 0–10 years were the most affected age group, accounting for 50% of investigated cases. Males were more frequently affected than females, with a male-to-female ratio of 1.8:1. The outbreak resulted in an overall attack rate of 16.3%. Exposure assessment identified consumption of water from the community cement tank supplied by drill boring as a probable risk factor. Among individuals consuming tank water, 12/400 developed illness compared with 2/200 among those who did not consume tank water. The attack rate among tank water users was 3.0%, compared with 1.0% among non-users, with an odds ratio of 3, indicating that individuals consuming tank water had three times higher odds of developing suspected cholera.

Environmental assessment revealed that the community relied on an old, leaking water supply system connected to a drill boring through a 500–600-meter pipeline leading to a shared cement tank. The same water storage facility was used for drinking, household activities, and animal watering. Additional contributing factors included poor sanitation, open defecation, inadequate handwashing practices, unclean household utensils, animal presence inside living areas, and limited community awareness regarding cholera prevention.

Laboratory investigations included 13 rapid diagnostic tests (RDTs), of which eight

(61.5%) tested positive. Eight water samples collected from different sources were submitted to the Provincial Public Health Laboratory for testing. Stool culture and water sample results were pending at the time of reporting.

Public health response activities included deployment of mobile health teams, provision of oral rehydration therapy and antibiotics, strengthening of healthcare services at Cheena Kundi health facility, replacement of damaged pipelines, installation of four 2,000-gallon water storage tanks, distribution of water purification supplies, and community awareness sessions regarding WASH practices. Daily surveillance was maintained following the implementation of control measures, with no further increase in reported cases.

Discussion

This investigation identified an outbreak of acute watery diarrhea in Village Cheena Kundi, District Musakhel, with epidemiological and environmental findings suggesting contaminated water as the probable source of transmission. Cholera outbreaks are strongly associated with unsafe drinking water, inadequate sanitation, and poor hygiene practices, particularly in vulnerable communities with limited infrastructure. (1,2)

Children below 10 years were disproportionately affected, consistent with previous reports demonstrating increased susceptibility of young children to severe diarrheal disease because of dehydration risk, nutritional vulnerabilities, and limited immunity (3). Males were affected more frequently than females, possibly reflecting differences in exposure patterns or healthcare-seeking behavior.

Consumption of water from a shared cement tank supplied by drilling was identified as an important risk factor. The three-fold increased odds of illness among tank water



users, together with evidence of leaking pipelines, shared water storage, and poor sanitation, strongly support waterborne transmission through the fecal–oral route. Similar outbreaks in rural settings have been linked to contamination of community water systems and inadequate sanitation facilities (4).

Rapid response interventions, including active surveillance, strengthening of treatment services, improvement of water infrastructure, and community education, likely contributed to controlling the outbreak. Integrated surveillance, WASH interventions, and sustained community engagement remain essential to prevent future cholera outbreaks in vulnerable settings (2,5).

Conclusion

The outbreak was most likely associated with contaminated community water supplies and poor WASH conditions. Prompt epidemiological investigation and coordinated public health interventions effectively controlled transmission. Strengthening surveillance, improving water and sanitation infrastructure, and promoting community hygiene practices are essential to prevent similar outbreaks in the future.

Recommendations

1. Strengthen routine surveillance for acute watery diarrhea and cholera through the Integrated Disease Surveillance and Response System (IDSR).
2. Ensure regular monitoring, chlorination, and microbiological testing of community drinking water sources.
3. Repair and maintain damaged pipelines and prevent contamination of community water storage facilities.
4. Improve sanitation infrastructure and promote safe disposal of human waste to reduce fecal contamination.
5. Conduct continuous community awareness sessions on hand hygiene, safe water practices, and cholera prevention.
6. Strengthen community-based surveillance through Lady Health Workers and local health staff for early outbreak detection.
7. Ensure availability of oral rehydration solution, essential medicines, and trained healthcare providers at peripheral health facilities.
8. Consider targeted oral cholera vaccination campaigns in high-risk areas with recurrent outbreaks.
9. Promote multisectoral coordination between health, public health engineering, livestock, and local administration departments

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Knowledge Hub

Understanding Acute Watery Diarrhea (AWD): A Public Health Priority

Acute Watery Diarrhea (AWD) is a significant global public health concern, characterized by the sudden onset of frequent, loose, or watery stools. While often self-limiting, AWD can rapidly lead to severe dehydration, especially in vulnerable populations, and can be life-threatening if not managed promptly and effectively (1,2).

What is Acute Watery Diarrhea (AWD)?

It is defined as the passage of three or more loose or liquid stools within 24 hours, with a sudden onset and lasting less than 14 days. (1) Unlike dysentery (acute bloody diarrhea) or persistent diarrhea (lasting 14 days or longer), AWD is characterized by significant fluid loss, making dehydration its most dangerous complication (1,2)

Causes of Acute Watery Diarrhea

It is predominantly caused by a variety of infectious agents, which are typically spread through contaminated food or water or via the fecal-oral route due to poor hygiene. (2)

Common infectious causes include:

Viruses:

Rotavirus is a leading cause of severe diarrhea in infants and young children worldwide. (3) Norovirus is highly contagious and a common cause of foodborne illness and outbreaks in communities. (4) Other viral agents include *Adenovirus* and *Astrovirus* (2)

Bacteria:

Vibrio cholerae is a causative agent of a severe form of AWD that can lead to rapid and extreme dehydration (5). *Escherichia coli* (E. coli), particularly enterotoxigenic E. coli (ETEC), is a

common cause of traveler's diarrhea (6). *Shigella sonnei* is typically associated with bloody diarrhea, but some strains can cause watery diarrhea initially (12)

Parasites:

Cryptosporidium, *Giardia*, and *Entamoeba histolytica* are important parasitic causes (9,11).

Other factors: These include poor sanitation, unsafe food, malnutrition, certain medications, and food intolerances (1,2)

Symptoms of Acute Watery Diarrhea

The primary symptom of AWD is the frequent passage of loose or watery stools. Associated symptoms can vary in intensity and may include abdominal cramps and pain, nausea and vomiting (especially at the onset), bloating and gas, headache, aching limbs, urgent need to defecate, and loss of appetite (1,2)

The most critical complication is dehydration, which may manifest with increased thirst, dry mouth, sunken eyes, decreased urine output, lethargy, irritability or drowsiness, poor skin turgor, and weak pulse (1,7)

Prevention of Acute Watery Diarrhea

It focuses on improving hygiene, sanitation, and access to safe water.

Safe drinking Water: Key preventive measures include drinking only boiled or treated water, maintaining proper sanitation, safely disposing of faeces, washing hands regularly with soap, preparing and storing food safely, and avoiding raw or undercooked foods.

Vaccine: The rotavirus vaccine is highly effective in preventing severe diarrhea in children (3). Oral cholera vaccines are recommended in high-risk settings and during outbreaks (5)

Exclusive breastfeeding: Exclusive breastfeeding for six months protects against diarrheal diseases in infants (7).



Treatment of Acute Watery Diarrhea

Rehydration is a key component of AWD treatment. It includes Oral Rehydration Therapy (ORT). ORS should be given frequently, especially after each loose stool. Continued breastfeeding is essential for infants. In cases of severe dehydration, intravenous fluids (e.g., Ringer's Lactate) should be administered.

Zinc Supplementation reduces the duration and severity of diarrhea (10)

Antibiotics are generally not recommended. They are only prescribed if a specific bacterial or parasitic infection is confirmed or strongly suspected.

Over-the-counter antidiarrheal medications like loperamide or bismuth subsalicylate can help reduce stool frequency in adults.

Probiotics may help restore gut balance and potentially shorten the duration in some cases (2)

More information:

For official guidelines, visit:

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Acute Diarrhea

Food is contaminated with bacteria.
In hot weather, food turns bad easily.

Consume contaminated
food or water

Symptoms



Fever



Nausea and
vomiting



Pass watery
stools
more than
3 times



Bloody
mucus
stools

Prevention



<https://phb.nih.org.pk/>



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idsr-pak@nih.org.pk



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