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28th JULY, 2025

Integrated Disease Surveillance & Response (IDSR) Report

Center of Disease Control
National Institute 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.

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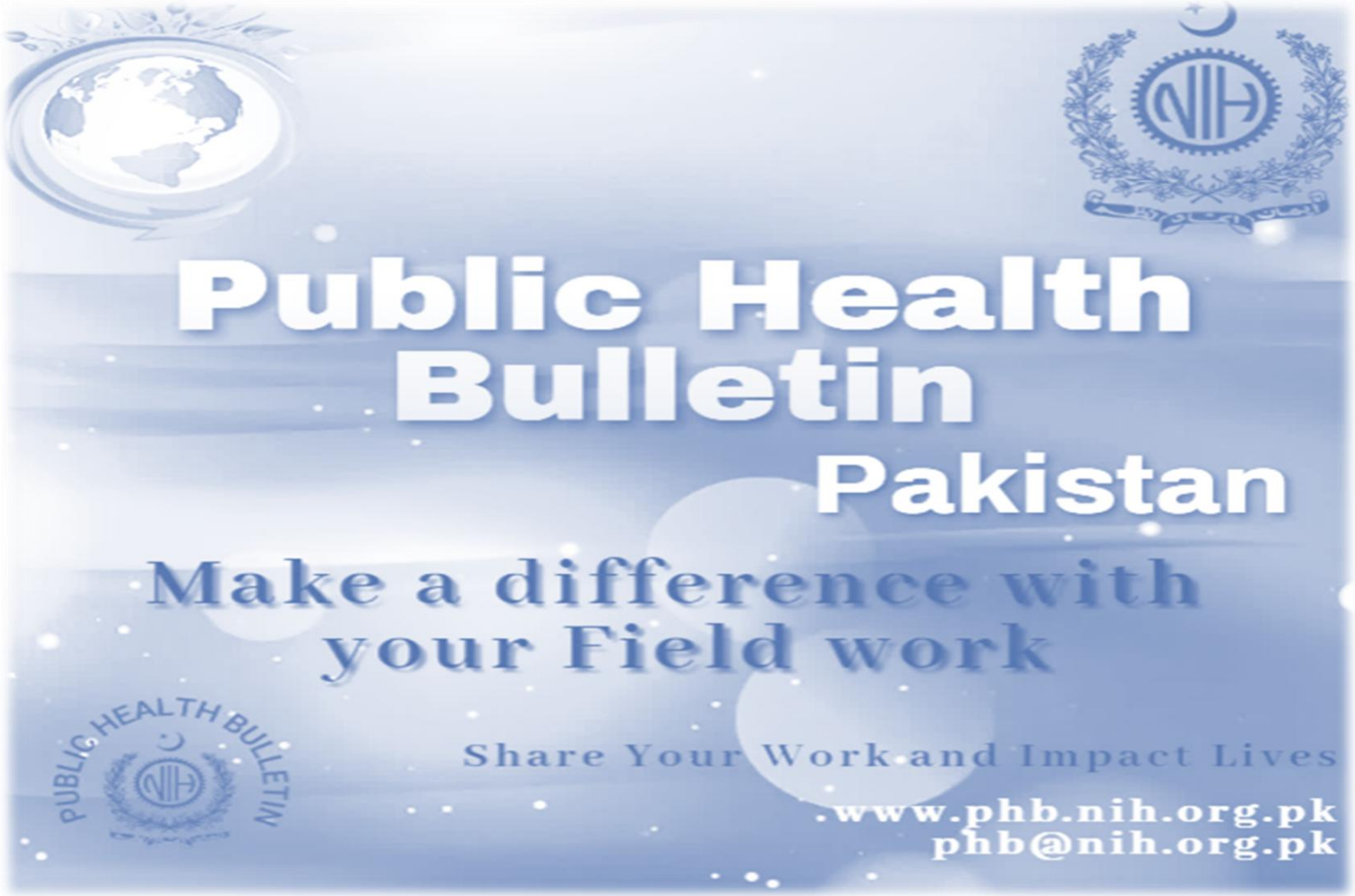

Public Health Bulletin - Pakistan, Week 29, 2025

The Public Health Bulletin (PHB) provides timely, reliable, and actionable health information to the public and professionals. It disseminates key IDSR data, outbreak reports, and seasonal trends, along with actionable public health recommendations. Its content is carefully curated for relevance to Pakistan's priorities, excluding misinformation. The PHB also proactively addresses health misinformation on social media and aims to be a trusted resource for informed public health decision-making.

This Weeks Highlights include;

- *Outbreak Investigation Report: Acute Diarrhea in UC Panam Dheri, District Peshawar, Khyber Pakhtunkhwa, 2025*
- *Knowledge hub on Understanding Acute Watery Diarrhea: A Public Health Priority*

By transforming complex health data into actionable intelligence, the Public Health Bulletin continues to be an indispensable tool in our collective journey toward a healthier Pakistan.

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Stay informed. Stay prepared. Stay healthy.

Sincerely,
The Chief Editor

Overview

- *During Week 29, 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*
- *Twenty cases of AFP reported from KP, eight from Sindh, seven from AJK and two from GB.*
- *Eighteen suspected cases of HIV/ AIDS reported from Sindh, eight from Baluchistan, two from KP and one from AJK.*
- *Seven suspected cases of Brucellosis reported from KP.*
- *Among VPDs, there is an increase in number of cases of Meningitis, NT and Rubella this week.*
- *Among Respiratory diseases, there is an increase in number of cases of ILI, TB, ALRI<5 years and SARI this week.*
- *Among Water/food-borne diseases, there is an increase in number of cases of Acute Diarrhea (Non-Cholera), B. Diarrhea and Typhoid this week.*
- *Among Vector-borne diseases, there is an increase in number of cases of Malaria this week.*
- *Among STDs, there is a decrease in number of cases of HIV/AIDs this week*

IDSR compliance attributes

- *The national compliance rate for IDSR reporting in 158 implemented districts is 80%*
- *Sindh is the top reporting regions with a compliance rate of 96%, followed by AJK 92%, GB 90% and ICT 76%.*
- *The lowest compliance rate was observed in **Baluchistan** 64% and KP 63%.*

Region	Expected Reports	Received Reports	Compliance (%)
Khyber Pakhtunkhwa	2704	1708	63
Azad Jammu Kashmir	414	381	92
Islamabad Capital Territory	38	29	76
Baluchistan	1308	834	64
Gilgit Baltistan	410	370	90
Sindh	2111	2027	96
National	6985	5349	80

Public Health Actions

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

Meningitis

- **Strengthen Surveillance and Outbreak Detection:** Enhance meningitis case reporting under IDSR by training healthcare providers on syndromic case definitions and ensuring rapid notification of suspected cases and clusters.
- **Improve Laboratory Confirmation:** Improve diagnostic capacity for cerebrospinal fluid (CSF) analysis, including culture, Gram stain, latex agglutination, and PCR to identify causative organisms (*Neisseria meningitidis, Streptococcus pneumoniae, Haemophilus influenzae*).
- **Ensure Prompt Case Management:** Train healthcare workers to recognize early signs of meningitis and provide immediate treatment with appropriate antibiotics; ensure availability of essential medicines at all levels.
- **Support Preventive Vaccination:** Promote meningococcal, pneumococcal, and Hib vaccines through routine immunization and outbreak response vaccination campaigns in high-risk populations.
- **Raise Public Awareness and Risk Communication:** Conduct community education on early symptoms (sudden fever, stiff neck, altered consciousness), importance of early care-seeking, and preventive practices during outbreaks (avoiding overcrowding).

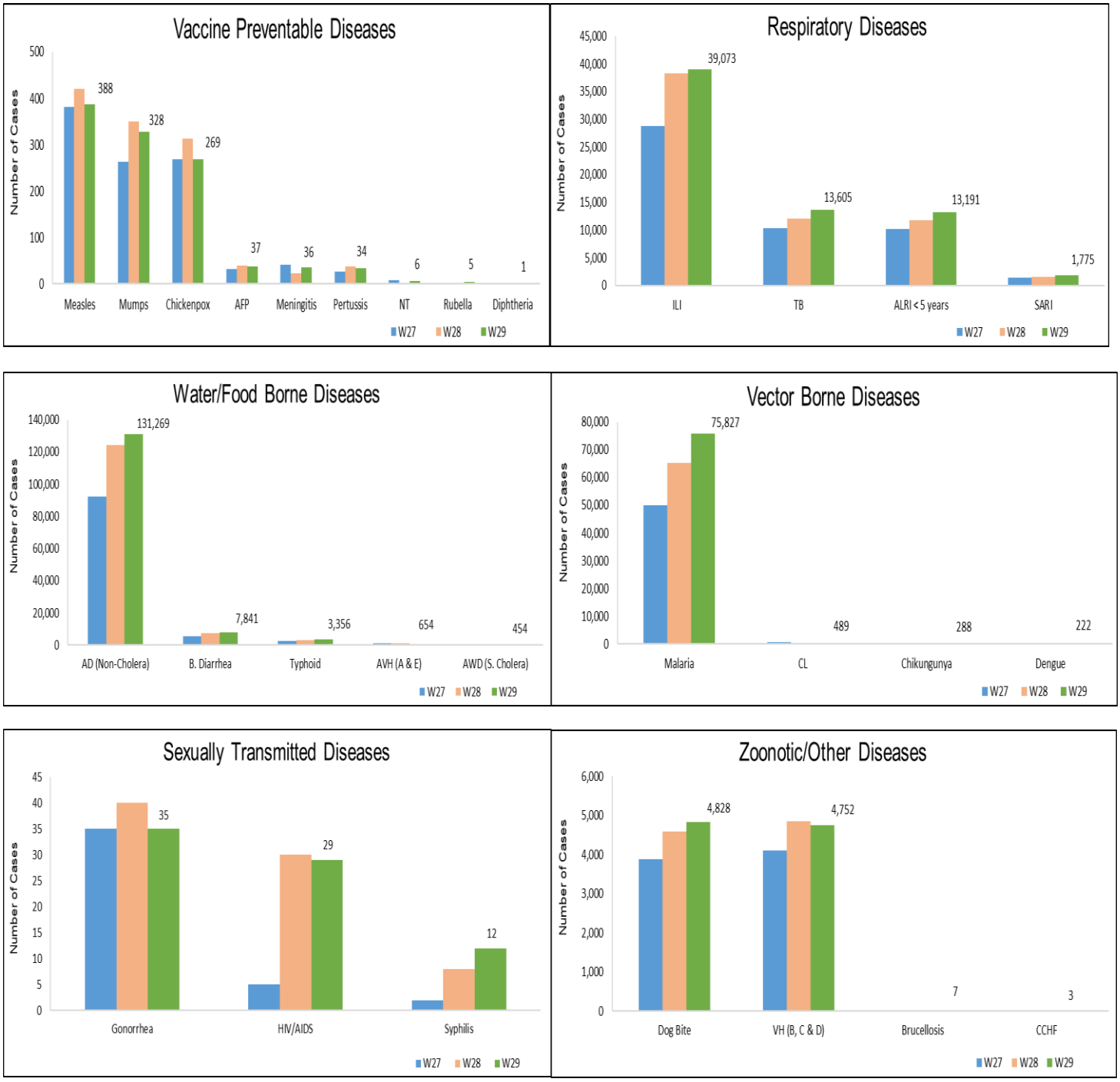
Neonatal Tetanus (NT)

- **Strengthen Surveillance and Case Detection:** Integrate neonatal tetanus surveillance into IDSR, with active case finding in high-risk areas and immediate notification of suspected cases.
- **Ensure Maternal Immunization:** Scale up coverage of tetanus toxoid (TT) vaccination among pregnant women and women of childbearing age through routine immunization and supplemental campaigns.
- **Promote Clean Delivery and Cord Care:** Train skilled birth attendants and community health workers in clean delivery practices and hygienic cord care; discourage harmful traditional practices.
- **Ensure Prompt Case Management:** Strengthen referral systems and availability of tetanus antitoxin (TAT), antibiotics, and supportive care for suspected cases.
- **Conduct Community Awareness Campaigns:** Educate families and communities on the importance of maternal immunization, safe delivery, and hygienic newborn care to prevent tetanus.
- **Strengthen Partnerships:** Collaborate with maternal and child health programs, traditional birth attendants, and community leaders to reach underserved populations with immunization and safe birth interventions.

Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 29, Pakistan.

Diseases	AJK	Balochistan	GB	ICT	KP	Punjab	Sindh	Total
AD (Non-Cholera)	2,429	8,597	2,147	434	48,191	NR	69,471	131,269
Malaria	5	4,009	0	1	6,455	NR	65,357	75,827
ILI	1,632	5,999	419	687	3,727	NR	26,609	39,073
TB	73	74	143	5	372	NR	12,938	13,605
ALRI < 5 years	845	1,843	542	4	847	NR	9,110	13,191
B. Diarrhea	64	1,607	108	6	1,436	NR	4,620	7,841
Dog Bite	139	137	1	0	1,273	NR	3,278	4,828
VH (B, C & D)	63	61	10	0	105	NR	4,513	4,752
Typhoid	32	545	86	1	1,022	NR	1,670	3,356
SARI	116	709	128	0	715	NR	107	1,775
AVH (A & E)	22	6	3	0	311	NR	312	654
CL	0	36	0	0	450	NR	3	489
AWD (S. Cholera)	29	225	47	0	89	NR	64	454
Measles	7	10	18	0	269	NR	84	388
Mumps	2	53	6	0	212	NR	55	328
Chikungunya	0	0	0	0	0	NR	288	288
Chickenpox/ Varicella	10	0	37	0	163	NR	59	269
Dengue	1	17	0	0	59	NR	145	222
AFP	7	0	2	0	20	NR	8	37
Meningitis	3	0	2	0	11	NR	20	36
Gonorrhea	0	18	0	0	9	NR	8	35
Pertussis	0	23	0	0	10	NR	1	34
HIV/AIDS	1	8	0	0	2	NR	18	29
Syphilis	0	0	0	0	2	NR	10	12
Brucellosis	0	0	0	0	7	NR	0	7
NT	0	0	0	0	6	NR	0	6
Rubella (CRS)	0	0	0	0	5	NR	0	5
CCHF	0	0	0	0	2	NR	1	3
Diphtheria (Probable)	0	0	0	0	1	NR	0	1

Figure 1: Most frequently reported suspected cases during Week 29, Pakistan.



Sindh

- AD (non-cholera) cases are mostly from Karachi South, Mirpur Khas, Badin & Sujawal whereas Malaria cases are from Sanghar, Larkana, Badin, Ghotki & Kamber.
- Eight cases of AFP reported from Sindh. They are suspected cases and and field verification.
- There is a decline in number of cases of Measles, Mumps, Pertussis, AFP and VH (B, C&D) while an increase in number of cases of Chickenpox, Meningitis, ILI, TB, ALRI< 5 years, Malaria, Dog bite, AD (non- cholera), B. Diarrhea & Typhoid this week.

...equently reported suspected cases during Week 29, Sindh

Districts	AD (Non-Cholera)	Malaria	ILI	TB	ALRI < 5 years	B. Diarrhea	VH (B, C & D)	Dog Bite	Typhoid	AVH (A & E)
Badin	4,878	4,427	2,611	833	472	362	80	157	70	6
Dadu	3,061	3,627	581	446	868	549	68	374	133	38
Ghotki	1,741	3,871	17	575	418	141	594	240	0	0
Hyderabad	3,225	1,019	1,286	358	131	91	100	61	16	2
Jacobabad	669	655	564	155	411	142	130	256	24	0
Jamshoro	2,135	2,541	60	594	242	132	202	77	25	4
Kamber	2,206	3,629	0	785	232	120	94	166	24	0
Karachi Central	1,378	25	1,522	245	10	16	16	13	172	19
Karachi East	373	35	127	30	10	10	0	3	24	0
Karachi Keamari	755	4	350	3	17	2	0	0	4	0
Karachi Korangi	421	79	1	11	5	9	1	1	3	1
Karachi Malir	2,321	195	3,238	205	328	64	22	54	20	6
Karachi South	6,740	249	22	444	172	378	260	188	417	137
Karachi West	900	287	1,037	79	229	21	23	71	24	0
Kashmore	512	1,762	368	283	133	80	19	119	8	0
Khairpur	3,798	5,145	6,944	1,260	896	346	159	259	225	24
Larkana	1,914	4,786	0	830	217	287	60	33	6	15
Matiari	2,390	3,529	0	622	226	92	334	71	2	5
Mirpurkhas	5,127	3,243	2,419	755	329	122	249	94	17	9
Naushero Feroze	1,281	1,568	628	309	301	248	40	224	164	0
Sanghar	2,564	5,184	116	1,259	357	139	1,125	224	51	8
Shaheed Benazirabad	2,133	2,473	8	307	193	95	146	152	94	0
Shikarpur	1,259	1,970	4	266	147	181	183	146	3	1
Sujawal	4,265	1,587	12	164	297	161	2	72	76	6
Sukkur	1,466	2,185	1,906	332	480	124	153	118	4	0
Tando Allahyar	2,563	2,598	740	516	154	140	148	54	12	1
Tando Muhammad Khan	2,140	1,521	115	488	159	163	65	20	0	0
Tharparkar	3,194	3,358	1,239	441	498	249	73	6	25	24
Thatta	1,581	1,027	694	61	839	75	77	25	13	6
Umerkot	2,481	2,778	0	282	339	81	90	0	14	0
Total	69,471	65,357	26,609	12,938	9,110	4,620	4,513	3,278	1,670	312

Figure 2: Most frequently reported suspected cases during Week 29 Sindh

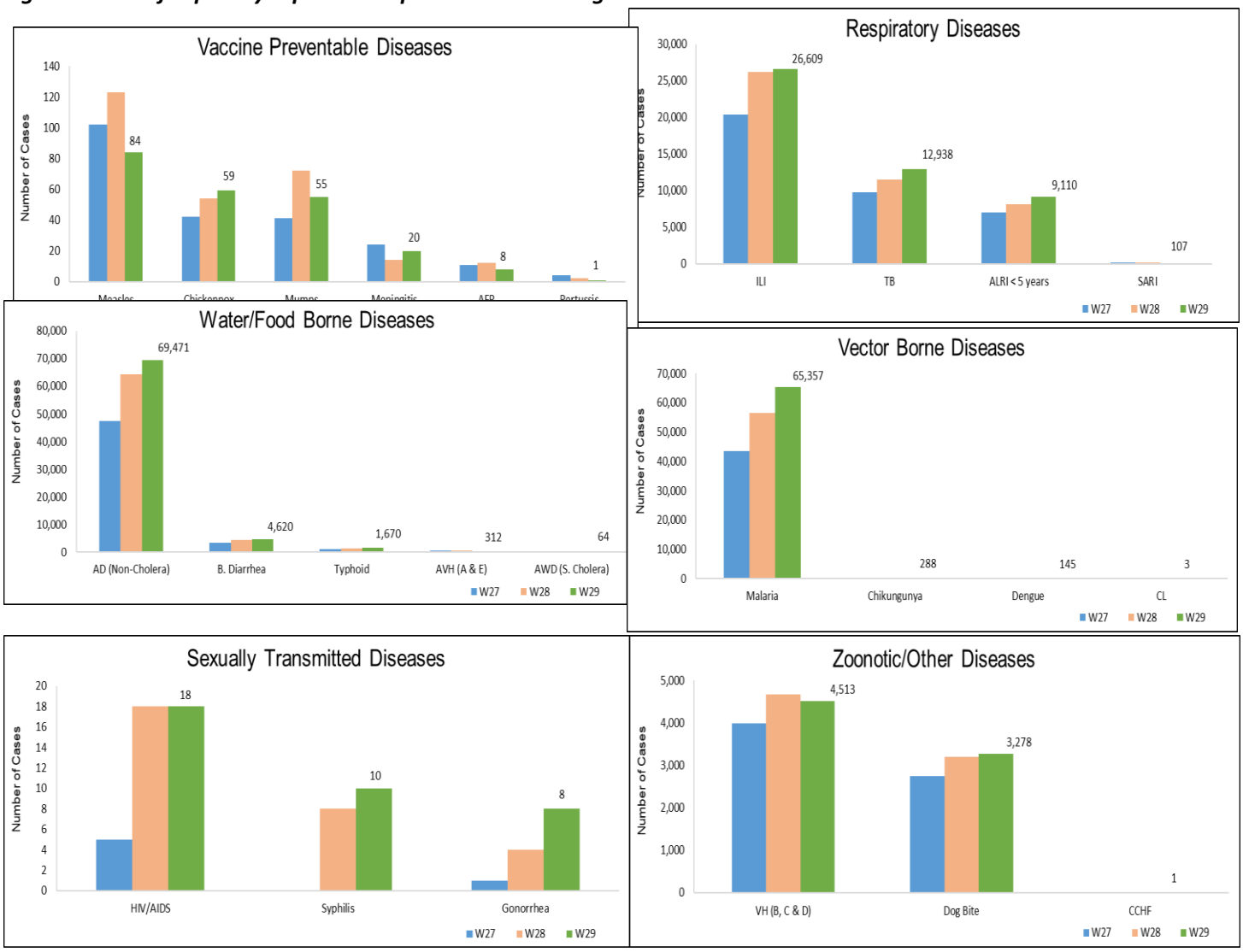
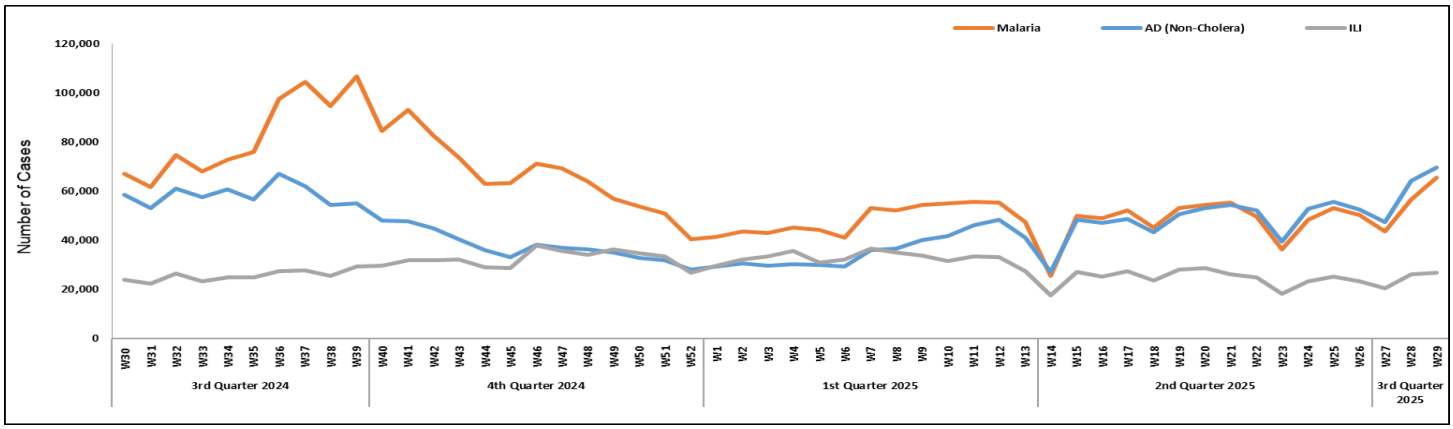


Figure 3: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Sindh



Balochistan

- AD (Non-Cholera), ILI, Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, AWD (S. Cholera), dog bite and TB cases were the most frequently reported diseases from Baluchistan province.
- AD (non-cholera) cases are mostly reported from Quetta, Gwadar, Lasbella and Pishin while ILI cases are mostly reported from Gwadar, Quetta and Kech (Turbat).
- Eight cases of HIV/AIDs reported from Balochistan. Field investigation is required to confirm the cases.
- Mumps, Pertussis, ALRI < 5 years, Malaria, VH (B, C & D), Typhoid and AWD (S. Cholera) showed an increase in number of cases this week.

Table 3: District wise distribution of most frequently reported suspected cases during Week 29, Balochistan

Districts	AD (Non-Cholera)	ILI	Malaria	ALRI < 5 years	B. Diarrhea	SARI	Typhoid	AWD (S. Cholera)	Dog Bite	TB
Awaran	32	5	85	0	11	0	74	3	0	0
Barkhan	110	72	114	10	8	0	38	5	22	0
Chagai	175	232	71	0	41	0	10	0	0	0
Chaman	0	142	62	0	28	1	28	1	1	0
Dera Bugti	63	0	86	0	10	0	0	0	0	0
Gwadar	714	875	120	6	112	0	62	0	4	0
Harnai	241	0	113	165	68	0	0	0	10	0
Hub	400	33	263	3	16	10	2	0	0	2
Jaffarabad	222	86	308	28	60	8	4	0	11	26
Jhal Magsi	88	318	140	0	0	0	6	0	9	3
Kachhi (Bolan)	137	18	49	13	45	111	8	16	0	1
Kalat	61	1	43	0	30	0	26	0	0	0
Kech (Turbat)	410	678	492	106	54	2	1	1	NR	NR
Kharan	236	467	40	0	94	13	6	0	0	0
Khuzdar	93	68	100	6	18	15	21	5	3	1
Killa Abdullah	178	120	18	23	54	63	14	50	5	0
Killa Saifullah	227	0	245	130	113	27	16	4	5	0
Kohlu	224	280	115	7	67	4	29	NR	1	NR
Lasbella	687	50	318	181	48	2	9	0	11	3
Loralai	306	373	63	36	33	118	18	22	2	0
Mastung	201	120	78	38	27	45	11	0	0	1
MusaKhel	45	20	60	5	8	2	8	13	0	0
Naseerabad	348	27	142	10	14	12	44	0	6	9
Nushki	201	0	29	0	70	12	0	1	0	0
Panjgur	241	96	206	38	43	0	1	1	0	0
Pishin	656	439	46	119	215	43	37	67	4	0
Quetta	742	749	12	142	44	38	9	16	0	0
Sherani	35	31	9	0	16	8	0	0	0	0
Sibi	348	382	118	87	38	99	33	14	10	0
Sohbat pur	247	10	117	124	89	2	11	3	7	0
Surab	8	19	11	0	0	0	0	0	0	0
Usta Muhammad	580	98	198	140	82	0	12	0	26	0
Washuk	44	63	48	6	20	0	1	2	0	0
Zhob	297	127	90	420	31	74	6	1	0	28
Total	8,597	5,999	4,009	1,843	1,607	709	545	225	137	74

Figure 4: Most frequently reported suspected cases during Week 29, Balochistan

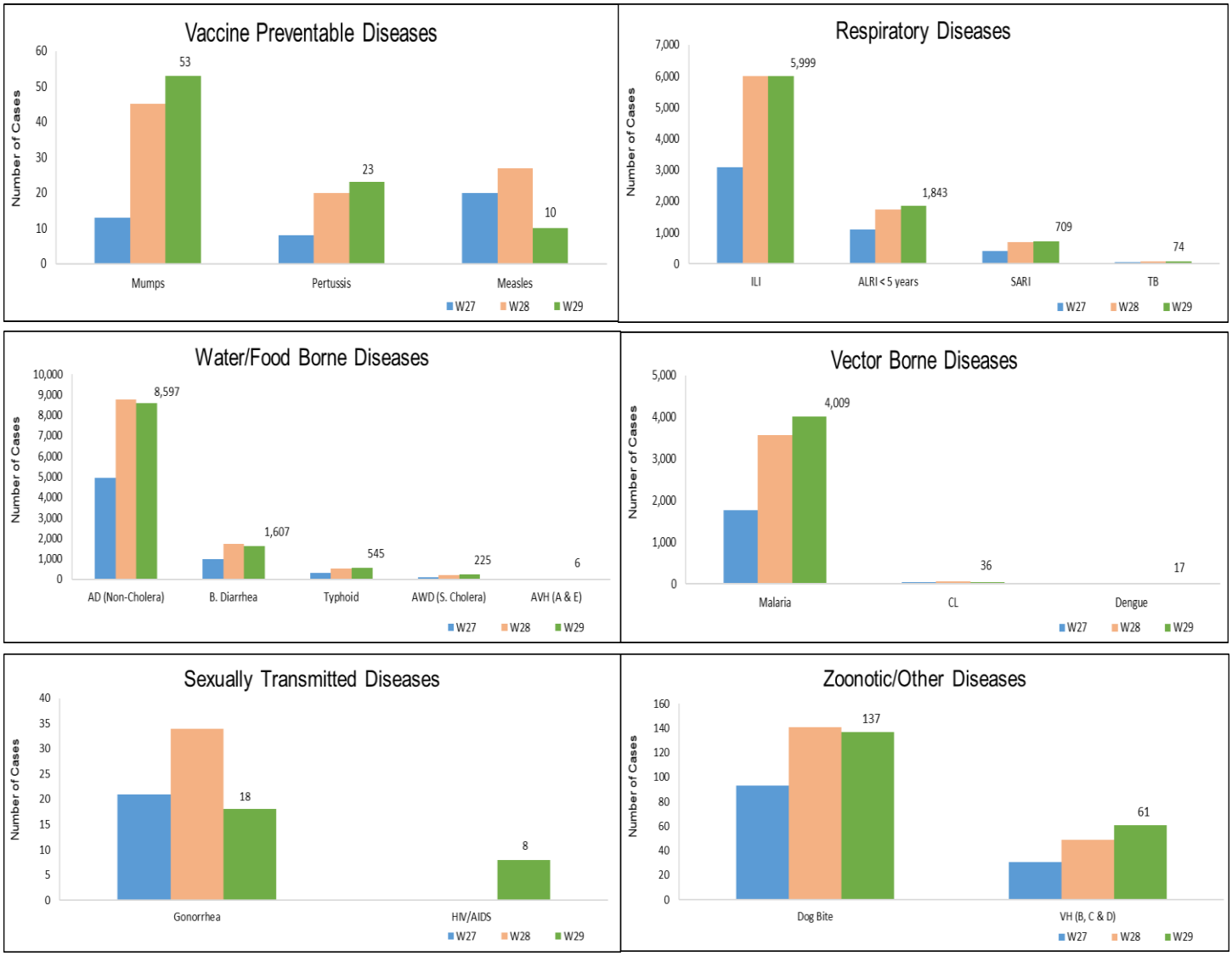
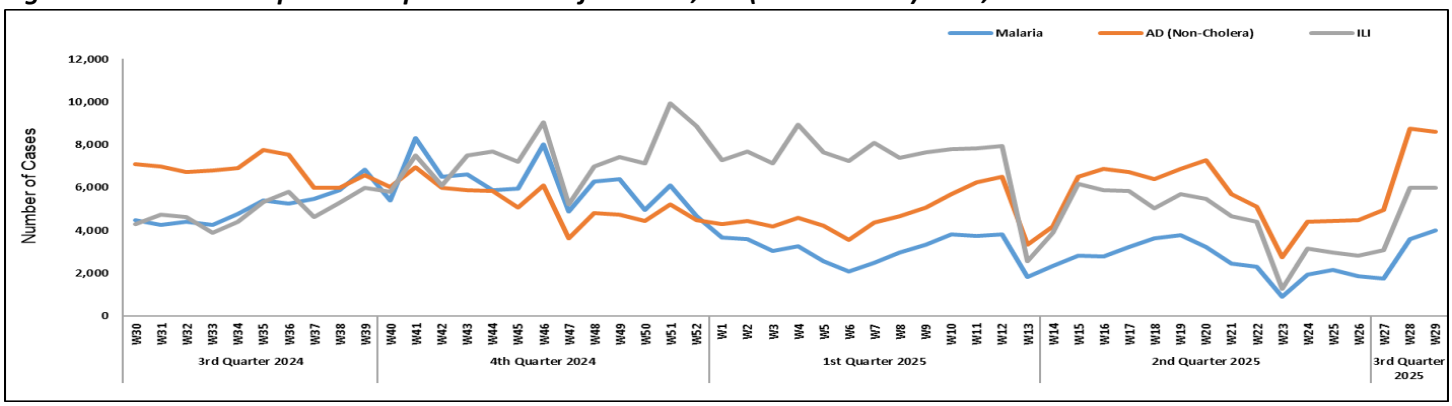


Figure 5: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Balochistan



Khyber Pakhtunkhwa

- Cases of AD (Non-Cholera) were maximum followed by Malaria, ILI, B.Diarrhea, dog bite, Typhoid, ALRI<5 Years, SARI, CL & TB.
- Mumps, Chicken pox and TB cases showed a decline in number while Measles, AFP, Meningitis, Pertussis, NT, Rubella (CRS), ILI, ALRI<5 years, SARI, Malaria, CL, dog bite, VH(B, C & D), Brucellosis, AD (non- cholera), B. Diarrhea, AVH(A&E) showed an increase in number this week.
- Twenty cases of AFP reported from KP. All are suspected cases and need field verification.
- Two cases of HIV/AIDs reported from KP. Field investigation is required.
- Seven suspected cases of Brucellosis reported from KP. They require field verification.

Table 4: District wise distribution of most frequently reported suspected cases during Week 29, KP

Districts	AD (Non-Cholera)	Malaria	ILI	B. Diarrhea	Dog Bite	Typhoid	ALRI < 5 years	SARI	CL	TB
Abbottabad	1,889	0	40	23	13	13	7	0	0	11
Bajaur	1,253	361	0	114	98	8	6	80	18	15
Bannu	1,054	1,573	4	33	4	91	18	0	0	26
Battagram	817	53	557	7	8	NR	NR	NR	3	37
Buner	370	350	0	0	9	5	0	0	0	1
Charsadda	3,121	403	1,043	156	18	102	333	6	0	7
Chitral Lower	1,229	18	15	34	13	6	15	10	7	3
Chitral Upper	237	5	23	9	4	17	7	24	0	2
D.I. Khan	1,798	387	0	30	63	2	0	0	2	38
Dir Lower	2,594	222	0	59	43	50	8	0	0	1
Dir Upper	1,915	8	67	35	22	16	77	0	0	0
Hangu	116	64	77	1	0	4	0	0	25	1
Haripur	1,460	5	200	0	17	2	10	0	0	1
Karak	698	173	57	17	67	10	40	26	229	11
Khyber	922	460	67	197	34	132	52	246	67	15
Kohat	1,074	126	0	24	46	12	0	0	25	0
Kohistan Lower	199	1	0	13	1	0	1	0	0	0
Kohistan Upper	330	2	0	22	2	0	8	1	0	0
Kolai Palas	101	0	8	7	0	4	1	0	0	0
L & C Kurram	9	0	0	19	0	0	0	0	0	0
Lakki Marwat	871	441	0	8	64	15	0	0	0	6
Malakand	1,292	37	27	0	0	62	0	0	0	2
Mansehra	1,610	8	229	0	77	10	20	0	0	0
Mardan	1,466	64	4	35	89	15	90	0	2	1
Mohmand	224	247	89	36	19	3	0	111	45	3
North Waziristan	121	94	0	7	4	21	15	4	10	4
Nowshera	3,664	219	62	17	50	35	5	4	10	19
Orakzai	165	45	11	10	3	0	0	0	0	0
Peshawar	5,502	85	343	142	11	208	13	28	1	19
SD Tank	25	15	0	9	0	0	0	0	0	0
Shangla	2,712	391	0	6	116	8	6	0	0	66
South Waziristan (Lower)	30	148	95	4	14	13	2	14	6	6
SWU	59	5	20	2	0	0	0	0	0	0
Swabi	2,090	72	403	37	236	35	38	63	0	32
Swat	6,024	25	121	156	111	63	64	3	0	35
Tank	727	273	64	78	2	42	5	0	0	6
Tor Ghar	165	55	0	42	6	5	0	30	0	1
Upper Kurram	258	20	101	47	9	13	6	65	0	3
Total	48,191	6,455	3,727	1,436	1,273	1,022	847	715	450	372

Figure 6: Most frequently reported suspected cases during Week 29, KP

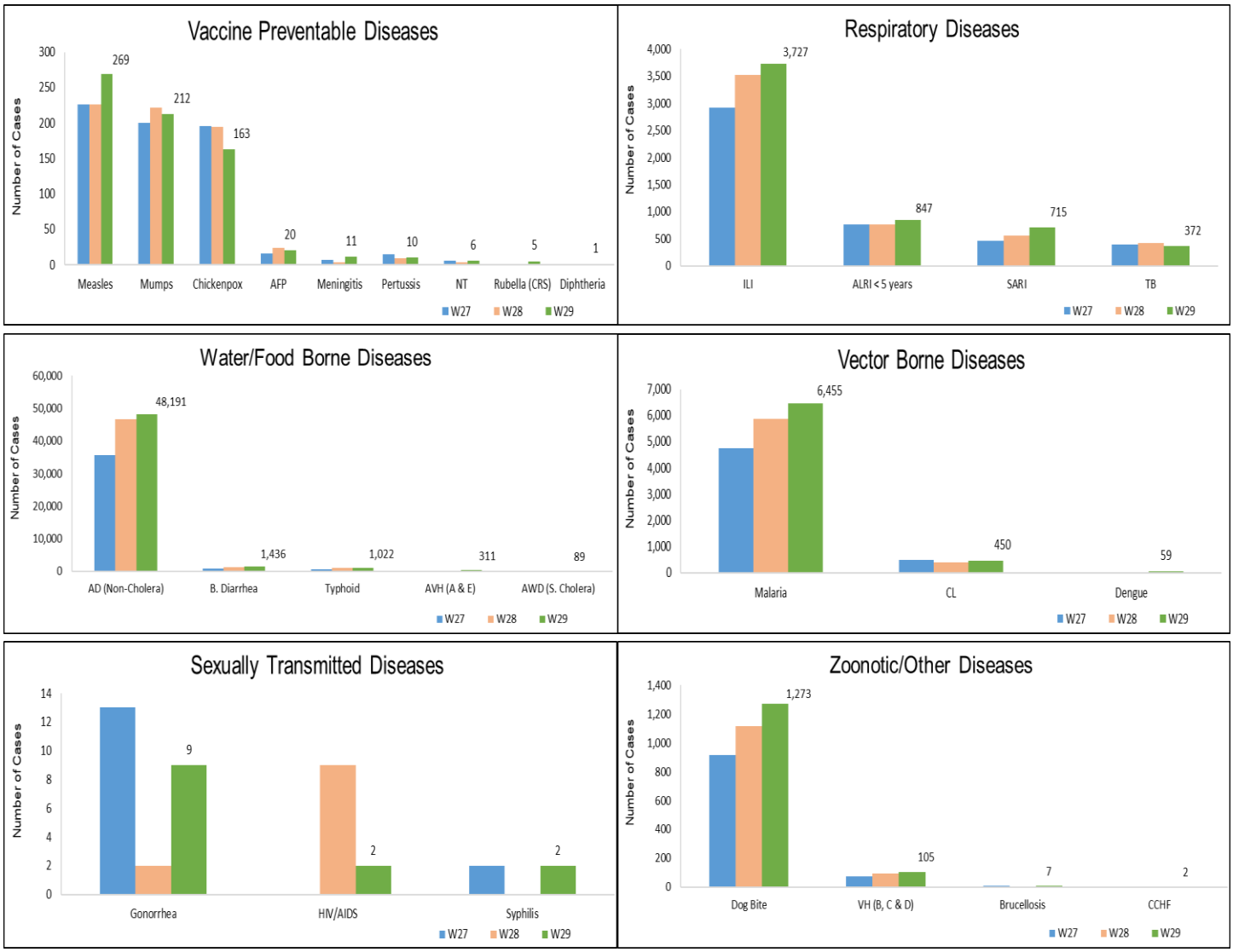
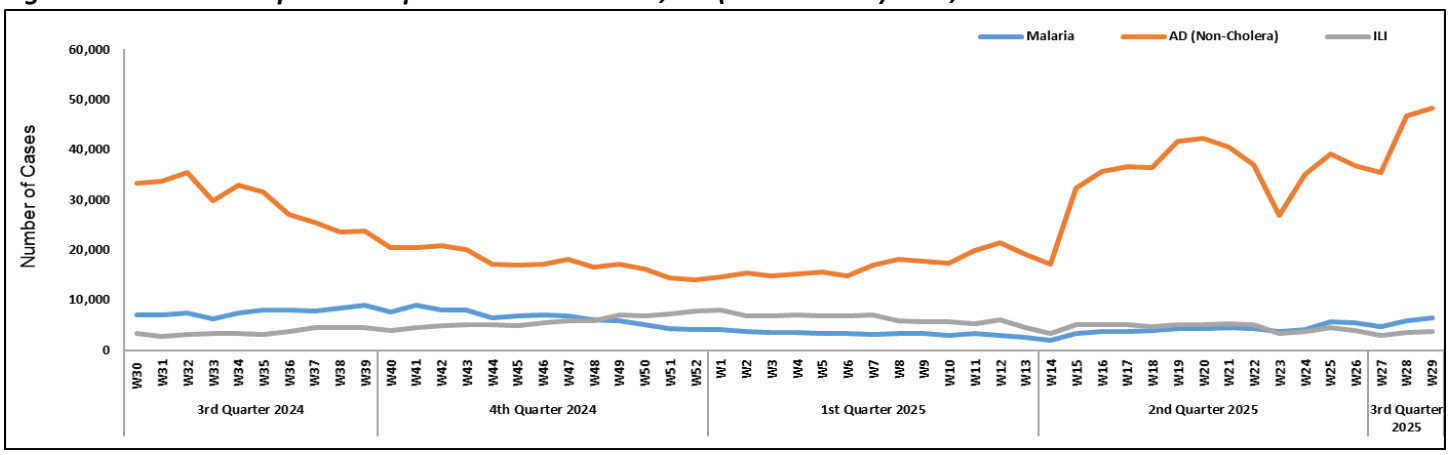


Figure 7: Week wise reported suspected cases Malaria, AD (Non-Cholera) & ILI, KP



PUNJAB

- The most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by TB, dog bite, ALRI <5 years, Malaria, Typhoid and AWD (S. Cholera) this week.
- There is a decline in cases observed for Acute Diarrhea (Non-Cholera), TB, dog bite, ALRI <5 years, Malaria and Typhoid this week.
- Five cases of AFP reported Punjab this week. They are suspected cases and need field verification.
- Five suspected cases of HIV/ AIDS reported from Punjab this week. They require field investigation.

Figure 8: Most frequently reported suspected cases during Week 14, Punjab

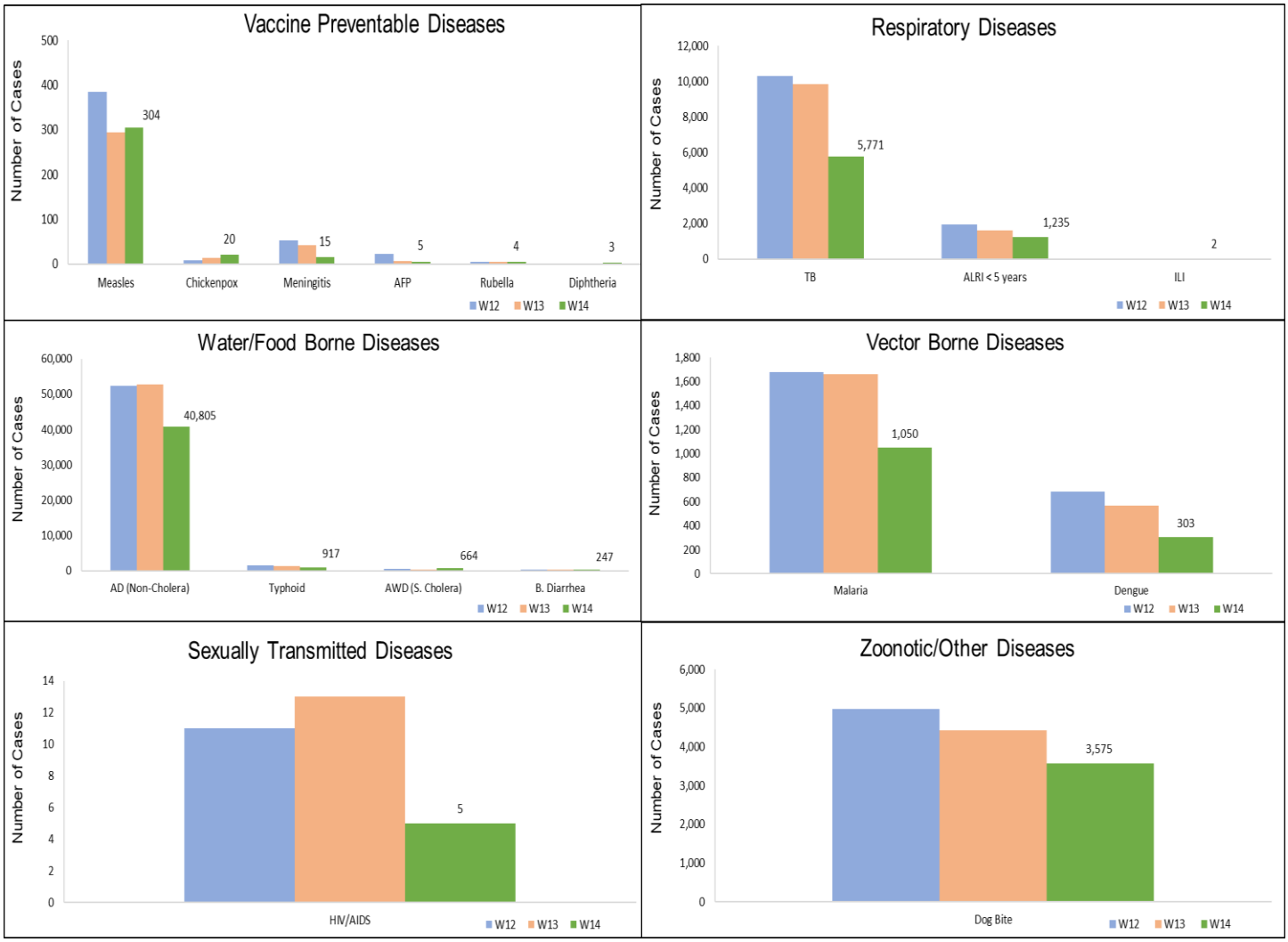
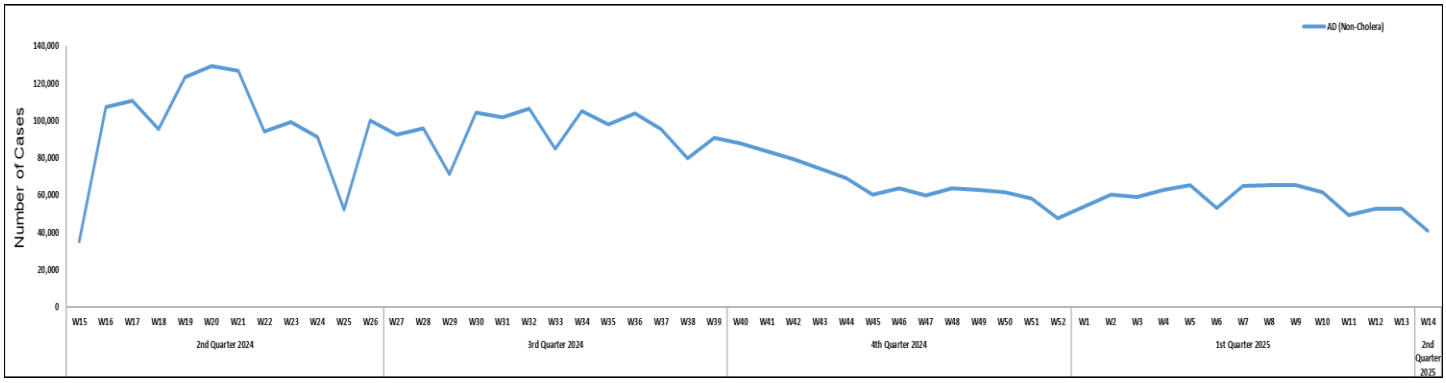


Figure 9: Week wise reported suspected cases of AD (Non-Cholera), Punjab



ICT, AJK & GB

ICT: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and B.Diarrhea. ILI and AD (Non-Cholera) cases showed a decline in number this week.

AJK: AD (non-cholera) cases were maximum followed by ILI and ALRI < 5years cases. An increase in number of suspected cases was observed for ALRI <5 Years, ILI, SARI, TB, AFP, Chicken pox, Typhoid, dog bite and VH (B, C & D) and Dengue while a decline in cases observed for Measles, Meningitis, Mumps, AD (non- cholera) & AWD (S. Cholera) this week.

GB: AD (non- cholera) cases were the most frequently reported diseases followed by ALRI<5 years and ILI cases. An increase in cases observed for AWD (S. Cholera) ILI and TB while there is decline in the cases of AD (non- cholera), B. Diarrhea, Typhoid, ALRI< 5 years and SARI this week.

Figure 10: Most frequently reported suspected cases during Week 29, AJK

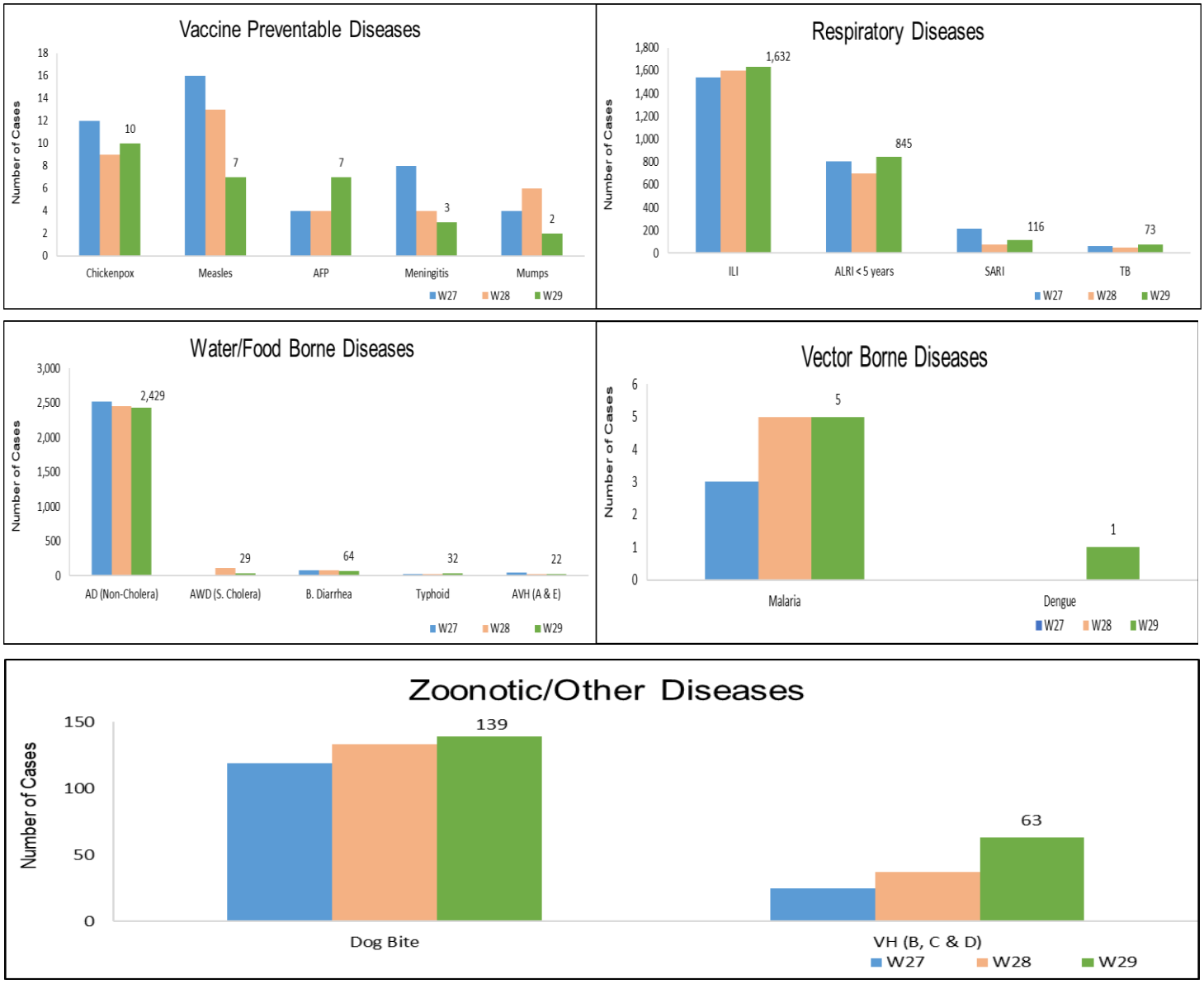


Figure 11: Week wise reported suspected cases of ILI and AD (Non-Cholera)

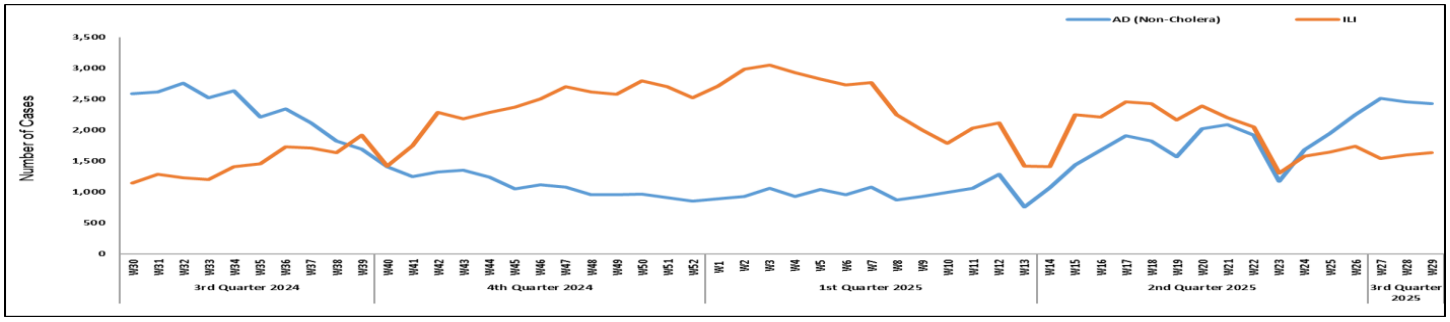


Figure 12: Most frequently reported suspected cases during Week 29, ICT

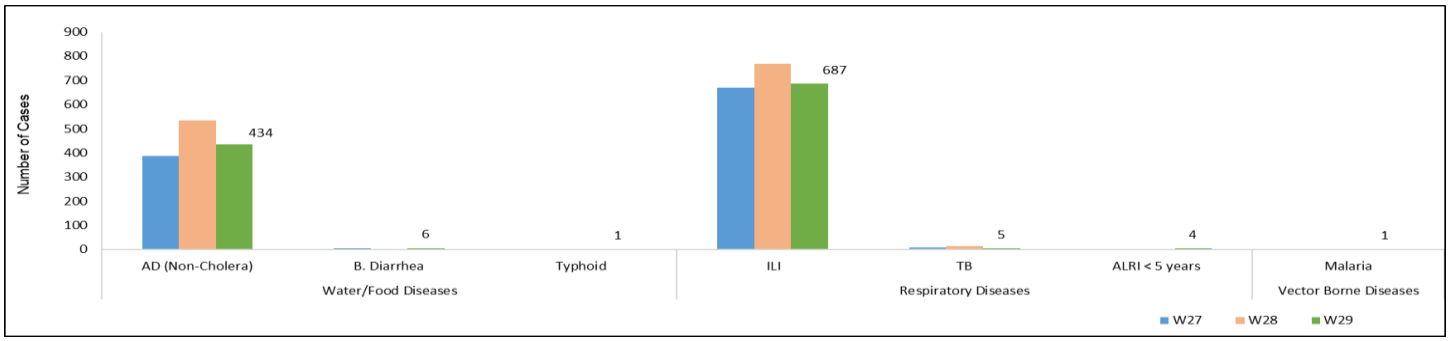


Figure 13: Week wise reported suspected cases of ILI, ICT

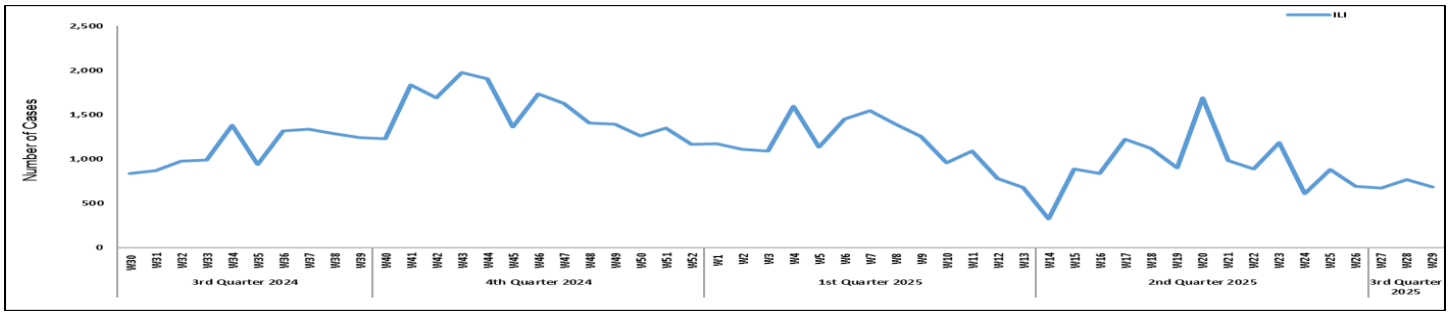


Figure 14: Most frequent cases reported during Week 29, GB

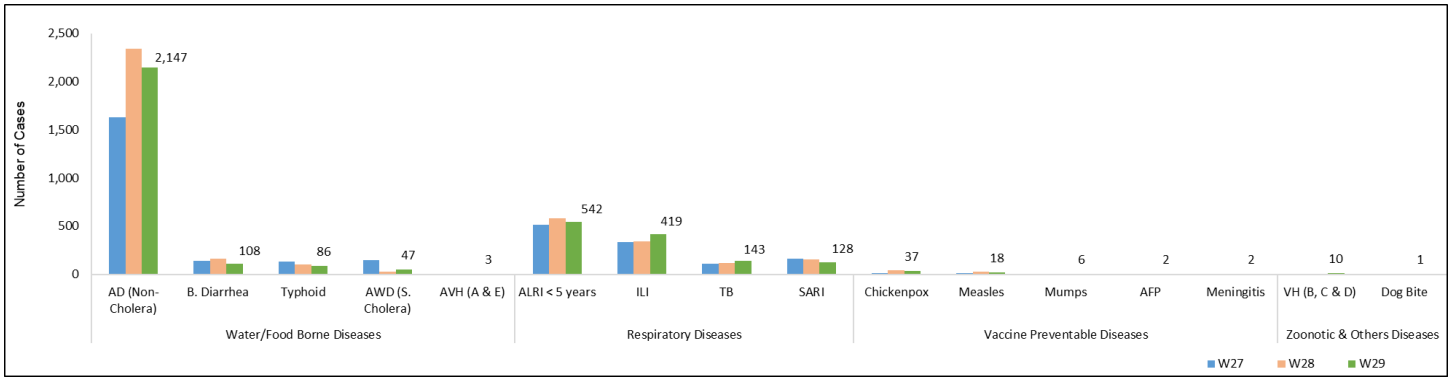


Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 29

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	Tota l Pos	Total Test	Total Pos	Total Test	Total Pos
AWD (S. Cholera)		215	2	-	-	0	0	-	-	0	0	-	-	0	0
Stool culture & Sensitivity		397	2	-	-	0	0	-	-	0	0	-	-	0	0
Malaria		9,948	978	-	-	21	15	-	-	181	0	-	-	24	0
CCHF		1	0	10	2	0	0	-	-	0	0	-	-	0	0
Dengue		3,123	412	1	0	0	0	-	-	0	0	-	-	0	0
VH (B)		16,951	426	164	121	0	0	-	-	973	15	-	-	525	4
VH (C)		17,726	1,374	69	17	0	0	-	-	974	1	-	-	524	34
VH (D)		86	18	82	17	0	0	-	-	0	0	-	-	0	0
VH (A)		186	61	-	-	0	0	-	-	1	0	-	-	0	0
VH (E)		131	29	-	-	0	0	-	-	0	0	-	-	0	0
Covid-19		27	0	-	-	0	0	-	-	0	0	-	-	11	0
TB		489	97	-	-	0	0	-	-	8	1	-	-	82	14
HIV/ AIDS		6,399	62	-	-	0	0	-	-	193	0	-	-	529	1
Syphilis		1,879	33	-	-	0	0	-	-	171	2	-	-	0	0
Gonorrhea		1	1	-	-	0	0	-	-	0	0	-	-	0	0
Typhoid		1,958	50	-	-	2	0	-	-	72	3	-	-	0	0
Diphtheria		4	0	-	-	0	0	9	3	0	0	-	-	0	0
Pneumonia (ALRI)		242	68	-	-	0	0	-	-	0	0	-	-	0	0
Meningitis		30	1	-	-	0	0	-	-	0	0	-	-	0	0
Measles		130	52	22	14	223	107	11	4	22	11	391	95	17	9
Rubella		130	2	22	1	223	2	11	0	22	1	391	5	17	0
Rubella (CRS)		5	4	-	-	0	0	-	-	0	0	-	-	0	0
Leishmaniansis (cutaneous)		30	2	-	-	0	0	-	-	0	0	-	-	0	0
Leishmaniansis (Visceral)		0	0	-	-	0	0	-	-	1	1	-	-	0	0
Pertussis		1	0	-	-	0	0	-	-	0	0	-	-	0	0
Covid-19	Out of SARI	7	0	0	0	63	1	36	1	0	0	77	0	0	0
	Out of ILI	0	0	0	0	1	0	8	0	0	0	19	0	0	0
Influenza A	Out of SARI	7	0	0	0	63	3	36	0	0	0	77	0	0	0
	Out of ILI	0	0	0	0	1	0	8	0	0	0	19	0	0	0
Influenza B	Out of SARI	7	0	0	0	63	0	36	0	0	0	77	0	0	0
	Out of ILI	0	0	0	0	1	0	8	0	0	0	19	0	0	0
RSV	Out of SARI	7	0	0	0	63	0	36	0	0	0	77	0	0	0
	Out of ILI	0	0	0	0	1	0	8	0	0	0	19	0	0	0

Table 6: IDSR reporting districts Week 29, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
Khyber Pakhtunkhwa	Abbottabad	111	102	92%
	Bannu	238	127	53%
	Battagram	59	36	61%
	Buner	34	19	56%
	Bajaur	44	38	86%
	Charsadda	59	59	100%
	Chitral Upper	34	30	88%
	Chitral Lower	35	32	91%
	D.I. Khan	114	113	99%
	Dir Lower	74	63	85%
	Dir Upper	37	19	51%
	Hangu	22	14	64%
	Haripur	72	71	99%
	Karak	36	36	100%
	Khyber	53	44	83%
	Kohat	61	61	100%
	Kohistan Lower	11	9	82%
	Kohistan Upper	20	16	80%
	Kolai Palas	10	9	90%
	Lakki Marwat	70	69	99%
	Lower & Central Kurram	42	2	5%
	Upper Kurram	41	31	76%
	Malakand	42	20	48%
	Mansehra	133	89	67%
	Mardan	80	52	65%
	Nowshera	56	55	98%
	North Waziristan	13	9	69%
	Peshawar	156	134	86%
	Shangla	37	32	86%
	Swabi	64	63	98%
	Swat	77	76	99%
	South Waziristan (Upper)	93	37	40%
	South Waziristan (Lower)	42	22	52%
	Tank	34	32	94%
	Torghar	14	14	100%
	Mohmand	68	55	81%
	SD Peshawar	5	0	0%
	SD Tank	58	6	10%
	Orakzai	69	12	17%
Azad Jammu Kashmir	Mirpur	37	37	100%
	Bhimber	42	20	48%
	Kotli	60	60	100%
	Muzaffarabad	45	44	98%

	Poonch	46	46	100%
	Haveli	39	39	100%
	Bagh	40	40	100%
	Neelum	39	39	100%
	Jhelum Velley	29	29	100%
	Sudhnooti	27	27	100%
Islamabad Capital Territory	ICT	23	22	96%
	CDA	15	7	47%
Balochistan	Gwadar	26	23	88%
	Kech	44	30	68%
	Khuzdar	74	13	18%
	Killa Abdullah	26	23	88%
	Lasbella	55	55	100%
	Pishin	69	41	59%
	Quetta	55	31	56%
	Sibi	36	36	100%
	Zhob	39	27	69%
	Jaffarabad	16	16	100%
	Naserabad	32	32	100%
	Kharan	30	30	100%
	Sherani	15	4	27%
	Kohlu	75	38	51%
	Chagi	36	24	67%
	Kalat	41	40	98%
	Harnai	17	17	100%
	Kachhi (Bolan)	35	10	29%
	Jhal Magsi	28	14	50%
	Sohbat pur	25	25	100%
	Surab	32	5	16%
	Mastung	45	45	100%
	Loralai	33	28	85%
	Killa Saifullah	28	23	82%
	Ziarat	29	0	0%
	Duki	31	0	0%
	Nushki	32	0	0%
	Dera Bugti	45	23	51%
	Washuk	46	10	22%
	Panjgur	38	15	39%
	Awaran	23	14	61%
	Chaman	24	24	100%
	Barkhan	20	19	95%
	Hub	33	30	91%
	Musakhel	41	7	17%
	Usta Muhammad	34	33	97%
Gilgit Baltistan	Hunza	32	32	100%
	Nagar	25	13	52%
	Ghizer	38	38	100%
	Gilgit	42	39	93%
	Diamer	62	61	98%

	Astore	55	55	100%
	Shigar	27	25	93%
	Skardu	53	53	100%
	Ganche	29	29	100%
	Kharmang	46	25	54%
Sindh	Hyderabad	72	72	100%
	Ghotki	64	64	100%
	Umerkot	62	62	100%
	Naushahro Feroze	107	98	92%
	Tharparkar	276	226	82%
	Shikarpur	60	60	100%
	Thatta	52	50	96%
	Larkana	67	62	93%
	Kamber Shadadkot	71	71	100%
	Karachi-East	21	14	67%
	Karachi-West	20	20	100%
	Karachi-Malir	35	35	100%
	Karachi-Kemari	22	21	95%
	Karachi-Central	12	11	92%
	Karachi-Korangi	18	18	100%
	Karachi-South	6	5	83%
	Sujawal	55	54	98%
	Mirpur Khas	106	105	99%
	Badin	124	124	100%
	Sukkur	64	63	98%
	Dadu	90	89	99%
	Sanghar	100	99	99%
	Jacobabad	44	44	100%
	Khairpur	170	168	99%
	Kashmore	59	59	100%
	Matiari	42	42	100%
	Jamshoro	75	74	99%
	Tando Allahyar	54	54	100%
	Tando Muhammad Khan	41	41	100%
	Shaheed Benazirabad	122	122	100%

Table 7: IDSR reporting Tertiary care hospital Week 29, 2024

Provinces/Regions	Districts	Total Number of Reporting Sites	Number of Reported Sites for current week	Compliance Rate (%)
AJK	Mirpur	2	2	100%
	Bhimber	1	1	100%
	Kotli	1	1	100%
	Muzaffarabad	2	2	100%
	Poonch	2	2	100%
	Haveli	1	1	100%
	Bagh	1	1	100%
	Neelum	1	1	100%
	Jhelum Vellay	1	1	100%
	Sudhnooti	1	1	100%
Sindh	Karachi-South	1	1	100%
	Sukkur	1	0	0%
	Shaheed Benazirabad	1	0	0%
	Karachi-East	1	1	100%
	Karachi-Central	1	0	0%

Outbreak Investigation Report: Acute Diarrhea in UC Panam Dheri, District Peshawar, Khyber Pakhtunkhwa, 2025

Introduction

Acute diarrhea (AD) is a significant global public health challenge, with an estimated 1.7 billion cases annually and approximately 443,832 deaths among children under five years, primarily in low- and middle-income countries due to unsafe water, inadequate sanitation, and poor hygiene practices [1]. In Pakistan, diarrhea contributes to nearly 6.4 million cases annually, accounting for about 60% of childhood illnesses and remains the second leading cause of mortality among children under five years [2]. Within Peshawar, acute diarrhea disproportionately affects children, with 59% of pediatric outpatient visits attributable to diarrheal illnesses and nearly 88% of the burden concentrated in children under two years [3]. Limited data exist regarding diarrheal disease patterns in adults. In July 2025, a cluster of diarrhea cases was reported from Union Council (UC) Panam Dheri, District Peshawar, triggering an outbreak investigation. The outbreak investigation team included the IDSR surveillance officer from Khyber Pakhtunkhwa and NIH, a data focal person from the DHO office, laboratory personnel, and local health workers.

Objectives

The objectives of the investigation were:

- To assess the magnitude of the outbreak in terms of affected population, gender, and age groups.
- To identify the risk factors associated with AD in the affected area.
- To propose recommendations for prevention and control of future outbreaks.

Methods

A descriptive cross-sectional study was conducted to investigate this outbreak. The study population consisted of residents of Union Council (UC) Panam Dheri, District Peshawar, with a total population of 2,250 under the catchment of Type D Hospital Gari Tajik, which serves 77,000 people. The study was carried out from 2–4 July 2025. A suspected case was defined as "any resident of Panam Dheri presenting with three or more loose stools in 24 hours for less than 14 days since 15 May 2025, with or without nausea, vomiting, fever, or abdominal pain". Probable cases included "suspected cases with dehydration or an epidemiological link such as shared water sources", while confirmed cases were "those with laboratory evidence of positive stool culture for pathogens including *Escherichia coli*, *Klebsiella*, *Salmonella*, *Enterobacter*, Rotavirus, or Norovirus". All suspected, probable, and confirmed cases within the study period and area were included, while cases with symptoms lasting more than 14 days, non-infectious causes, or hospital-acquired diarrhea were excluded.

Data were collected using the standard IDSR case investigation form (DHIS2), which captured demographic details, clinical presentation, occupational and educational status, and hygiene practices. Information was gathered through review of district IDSR data, outpatient registers, hospital line lists, and active case finding in the community. Face-to-face interviews were conducted with patients after verbal consent. Laboratory testing of stool and household water samples was conducted at the Provincial Public Health Reference Laboratory (PHRL). Data were analyzed to calculate frequencies, percentages, mean or median values, and attack rates stratified by gender, age group, and area.

Results

A total of 284 cases of acute diarrhea were identified in UC Panam Dheri, The mean age of affected individuals was 21.3 years (±10.2), and the male-to-female ratio was 1.7:1, with males accounting for 52% of cases. The overall attack rate was 12.6%. Children under five years of age had the highest age-specific attack rate at 17.5%, followed closely by adults aged 46–55 years with an attack rate of 17.7%. In contrast, the lowest attack rate was observed among individuals aged 56–65 years (4.2%).

Clinically, all cases presented with acute watery diarrhea, while abdominal pain was reported in 72% of patients, fever in 65%, vomiting in 52%, and nausea in 43%. Dehydration was observed in approximately 28% of cases. Risk factor analysis revealed that 82% of affected individuals reported poor or only occasional handwashing practices, and 50% were illiterate. Socioeconomic assessment showed that 60% of households had a monthly income of less than or equal to PKR 20,000.

Laboratory investigations of 15 household water samples revealed contamination in the majority, with *Escherichia coli* detected in 10 samples, *Klebsiella* in one, *Enterobacter* in one, and *Citrobacter* in one. No *Vibrio cholerae* or *Salmonella* were detected. Environmental assessment confirmed that bore water, drawn at depths of 12–14 feet, was contaminated due to mixing with drainage water. In addition, unsafe practices such as the use of canal water for irrigation and washing fruits, swimming in contaminated canals, consumption of inadequately boiled cow milk, and unsterilized feeding equipment for children were identified as contributing factors.

Discussion

This outbreak of acute diarrhea in UC Panam Dheri demonstrated a substantial attack rate (12.6%), with the burden disproportionately affecting children under five and middle-aged adults. Gender distribution showed slightly higher rates among males, consistent with findings from similar outbreaks in South Asia [4]. Key risk factors identified included poor hand hygiene, low socioeconomic and educational status, and unsafe water and food handling practices. The contamination of bore water with fecal organisms (*E. coli*, *Klebsiella*, *Enterobacter*) provided strong epidemiological evidence for the waterborne source of the outbreak.

Comparable outbreaks linked to water contamination have been documented in Pakistan and other LMICs, emphasizing the role of water quality monitoring and community hygiene interventions [5,6]. Limitations of this investigation included incomplete private sector data, limited laboratory capacity, and short duration for follow-up.

Conclusion

The outbreak of acute diarrhea in UC Panam Dheri was primarily waterborne in origin, with fecal contamination of drinking water identified as the most likely source. Children under five years and middle-aged adults were most affected. Poor hand hygiene, unsafe food handling practices, and low education further contributed to the transmission.

Recommendations

- Water Safety: Implement routine water quality monitoring, install filters at household/community level, and distribute aqua tabs for emergency treatment.
- Hygiene Promotion: Launch awareness campaigns on handwashing, safe food handling, and sanitation practices; involve healthcare workers and local leaders.
- Agricultural Practices: Educate farmers on safe irrigation and vegetable handling; monitor irrigation water quality.
- Milk & Childcare Practices: Promote boiling of milk and sterilization of infant feeding equipment.

- Recreational Safety: Educate community on risks of swimming in contaminated canal water and identify safer alternatives.
- Strengthen Surveillance: Streamline IDSR reporting, strengthen laboratory capacity at PHRL, and unify health facility reporting to reduce duplication.

References

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Knowledge Hub

Understanding Acute Watery Diarhea: A Public Health Priority

Acute Watery Diarrhea (AWD) is a clinical term for diarrhea characterized by frequent, loose, or liquid stools without blood. It is a major public health concern, especially in areas with poor sanitation, because it can lead to severe and life-threatening dehydration.

What Causes Acute Watery Diarrhea?

AWD is most often caused by an infection from a virus, bacteria, or parasite. The most common causes include:

- **Bacteria:**
    - ***Vibrio cholerae*** (the cause of cholera): This is the most infamous cause of AWD, leading to profuse, "rice-water" stools that can cause severe dehydration in a matter of hours.
    - ***Escherichia coli*** (E. coli), particularly enterotoxigenic E. coli (ETEC).
    - ***Campylobacter***
    - ***Salmonella***
- **Viruses:**
    - **Rotavirus**
    - **Norovirus**
    - **Adenovirus**
- **Parasites:**
    - ***Cryptosporidium***
    - ***Giardia***

How It Spreads

AWD is spread primarily through the **fecal-oral route**. This means that a person gets sick by ingesting water or food that is contaminated with the feces of an infected person.

Transmission can occur through:

- **Contaminated Water:** Drinking unsafe water or using it for food preparation.
- **Contaminated Food:** Eating food that was washed with contaminated water, or food prepared by an infected person who didn't wash their hands.
- **Person-to-Person Contact:** Direct contact with an infected person, particularly in a household or group setting.

Signs & Symptoms

The main symptom of AWD is the frequent passage of large volumes of watery stools. This is a crucial distinction from other forms of diarrhea, such as dysentery, which is characterized by bloody stools.

Symptoms can include:

- Frequent, watery, non-bloody diarrhea.
- Nausea and vomiting.
- Abdominal cramps.
- Fever (in some cases).

The most dangerous symptom is **dehydration**, which can be very rapid and severe. Signs of dehydration include:

- Extreme thirst.
- Sunken eyes.
- Dry mouth and tongue.
- Reduced urination.
- Lack of tears (in children).
- Lethargy or irritability.

Complications

The most common and serious complication of AWD is **severe dehydration**. Losing large amounts of water and electrolytes (such as sodium and potassium) can lead to:

- **Hypovolemic shock:** A dangerous drop in blood volume and pressure.
- **Kidney failure.**
- **Electrolyte imbalance,** which can disrupt heart and nerve function.
- **Death,** especially in young children and infants, if fluids are not replaced quickly.

Prevention

Prevention of AWD focuses on good hygiene and ensuring access to safe food and water.

- **Safe Water:** Drink and use only boiled, bottled, or chemically treated water.
- **Hand Hygiene:** Wash hands with soap and water frequently, especially after using the toilet and before preparing or eating food.
- **Food Safety:** Eat food that is well-cooked and served hot. Avoid raw or uncooked foods from unhygienic sources.
- **Sanitation:** Proper disposal of human waste is essential to prevent the contamination of water sources and the environment.
- **Vaccination:** The rotavirus vaccine is a key tool in preventing a common cause of AWD in children. An oral cholera vaccine is also available for travelers and people living in high-risk areas.

Diagnosis and Treatment

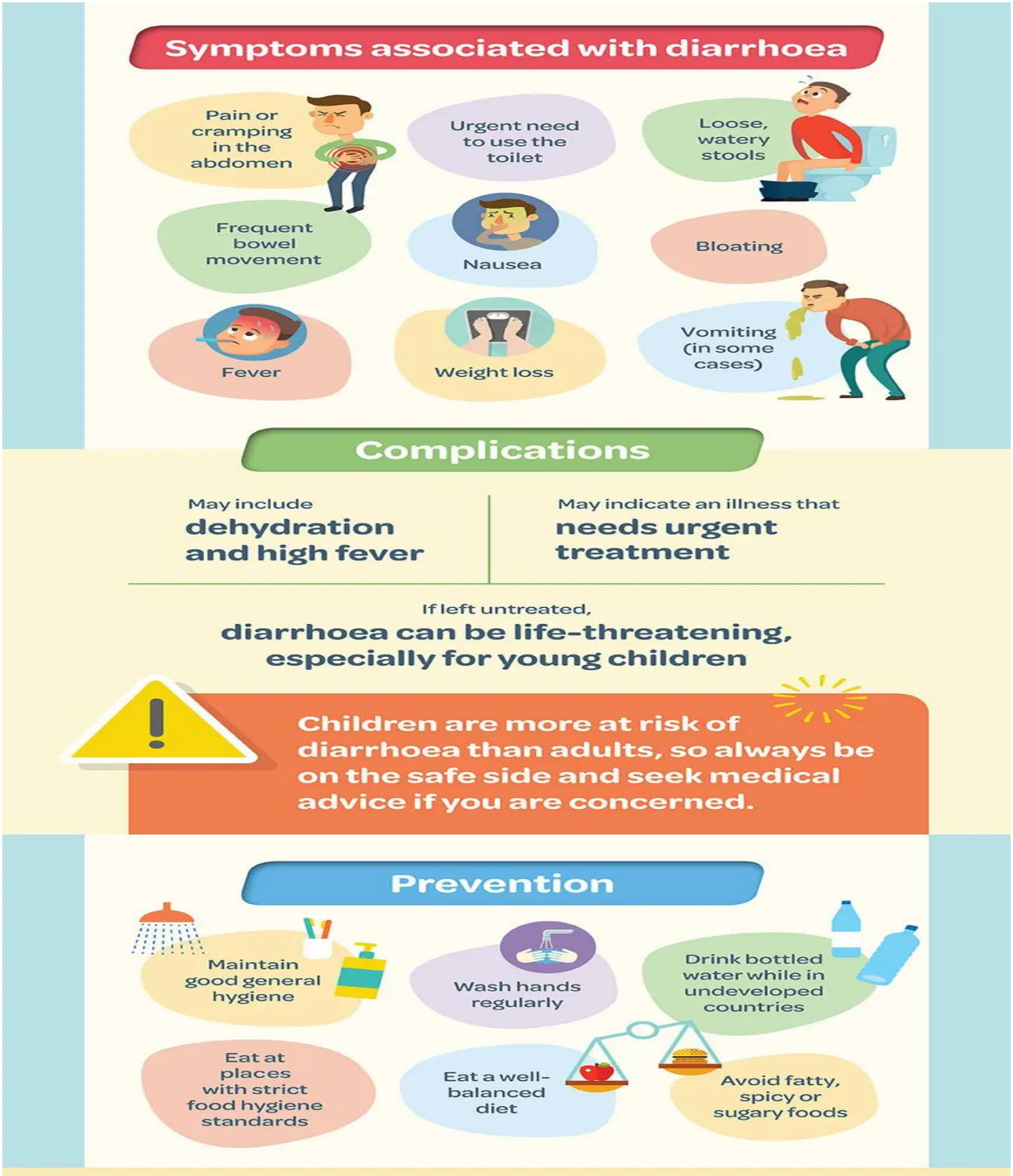
- **Diagnosis:** AWD is primarily diagnosed based on symptoms and a physical exam to assess for dehydration. Lab tests on stool samples can identify the specific cause.
- **Treatment:** The most important treatment for AWD is **rehydration**.
    - **Oral Rehydration Solution (ORS):** This is the cornerstone of treatment. ORS is a simple mixture of salts, sugar, and water that helps the body absorb fluids and electrolytes to replace what has been lost. It can be made with pre-packaged sachets or a simple recipe.
    - **Zinc Supplementation:** For children, zinc supplements are recommended as they can reduce the duration and severity of diarrhea.
    - **Antibiotics:** Antibiotics are **not** needed for most cases of AWD. They are only prescribed by a doctor if a bacterial cause (like cholera) is confirmed or highly suspected.

Immediate medical attention is crucial if a person with AWD shows signs of severe dehydration, especially in infants and young children.

More Information

For additional authoritative information on Acute Watery Diarrhea, please visit:

- **World Health Organization (WHO):** https://www.who.int/news-room/fact-sheets/detail/diarrhoeal-disease
- **Centers for Disease Control and Prevention (CDC):** https://www.cdc.gov/cholera/index.html
- **Public Health Agency of Canada (PHAC):** https://www.canada.ca/en/public-health/services/diseases/diarrhea.html
- **UK Health Security Agency (UKHSA) / National Health Service (NHS):** https://www.nhs.uk/conditions/diarrhoea-and-vomiting/



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