Vol. 5 | Week 11
9th MARCH– 15th MARCH
24th March, 2026

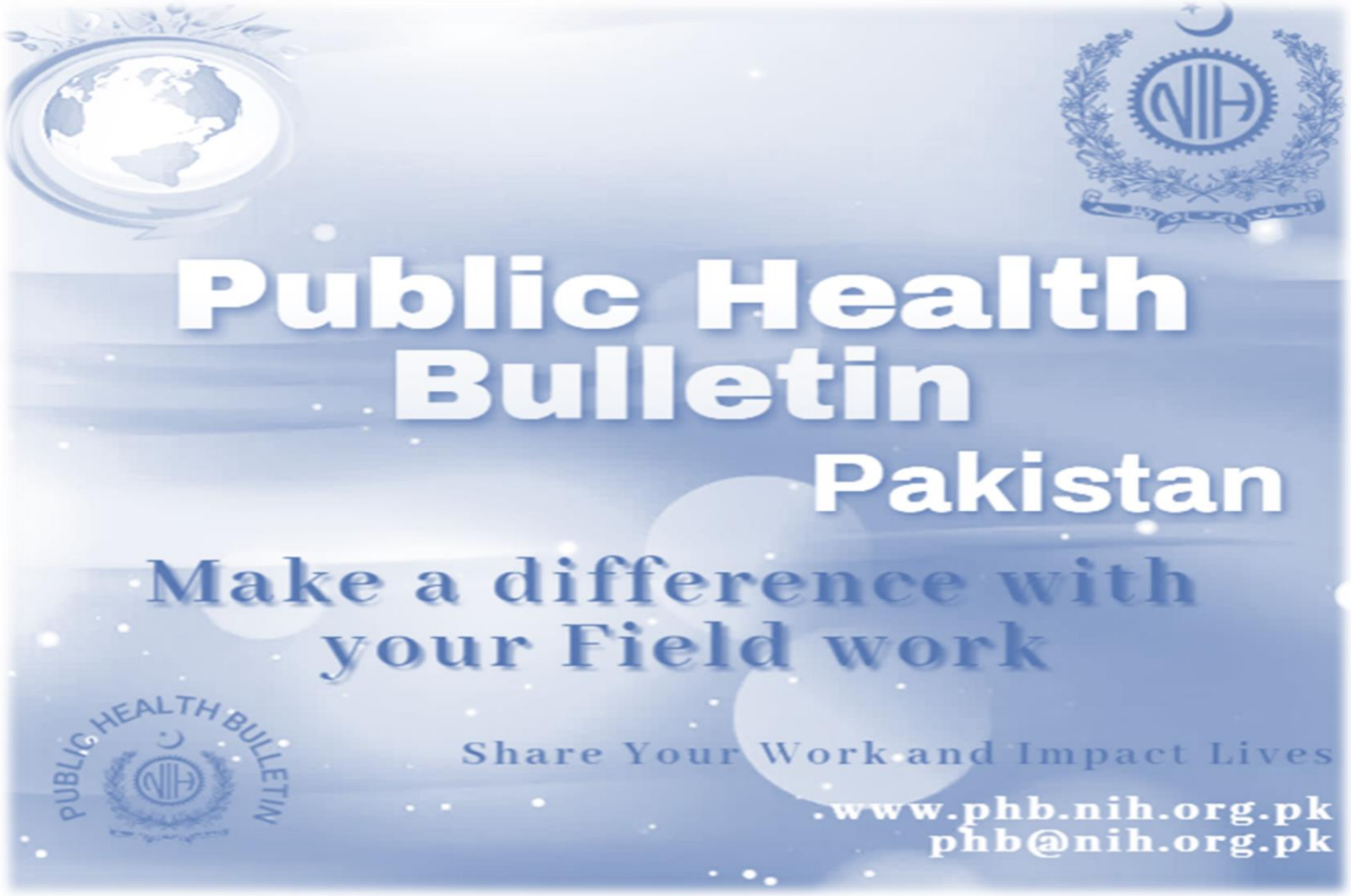
*PUBLIC HEALTH BULLETIN-PAKISTAN*

# 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.



**Public Health Bulletin - Pakistan, Week 11, 2026**

*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 Week's Highlights include;*

- *Letter to Editor: Addressing Gender Disparities in Disease Outcomes - A Neglected Priority in Public Health Programs*
- *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.*

***Subscribe to the Weekly Bulletin today!***

*Stay informed. Stay prepared. Stay healthy.*

*Sincerely,*
*The Chief Editor*

# Overview

*Note: All reported cases in this report are suspected cases*

- *During Week 11, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, ALRI <5 years, TB, Animal/ Dog Bite, B. Diarrhea, VH (B, C & D), Typhoid, SARI, and Measles.*
- *Fifteen cases of AFP were reported from KP, nine from Sindh, and two from AJK.*
- *Fourteen suspected cases of HIV/ AIDS were reported from Sindh and nine from KP.*
- *Sixty-one suspected cases of Brucellosis were reported from Balochistan.*
- *Among VPDs, there is an increase in the number of cases of Chickenpox, Mumps, AFP, and NT this week.*
- *Among Respiratory diseases, there is an increase in the number of cases of TB this week.*
- *Among Water/food-borne diseases, there is an increase in the number of cases of Acute Diarrhea (Non-Cholera), Typhoid, and AVH (A & E) this week.*
- *Among Vector-borne diseases, there is an increase in the number of cases of Dengue this week.*
- *Among STDs, there is a decline in the number of cases of Gonorrhea this week.*
- *Among Zoonotic/Other diseases, there is an increase in the number of cases of Animal/ Dog Bite 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 80%*
- *Sindh is the top reporting region with a compliance rate of 98%, followed by GB 88%, AJK 85%, KP 80%, and ICT 76%.*
- *In Week 11, the lowest compliance rate is observed in Balochistan, 43%.*

| Region | Expected Reports | Received Reports | Compliance (%) |
|---|---|---|---|
| Khyber Pakhtunkhwa | 2,234 | 1,791 | 80 |
| Azad Jammu Kashmir | 469 | 397 | 85 |
| Islamabad Capital Territory | 38 | 29 | 76 |
| Balochistan | 1,308 | 565 | 43 |
| Gilgit Baltistan | 417 | 369 | 88 |
| Sindh | 2,111 | 2,078 | 98 |
| National | 6,577 | 5,229 | 80 |

## Public Health Actions

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

## Typhoid

- **Enhance Case Detection and Reporting:** Strengthen typhoid surveillance within the Integrated Disease Surveillance and Response (IDSR) system by training healthcare providers on standard case definitions, timely notification, and outbreak detection, particularly in high-burden and underserved areas.
- **Improve Laboratory Diagnosis:** Expand laboratory diagnostic capacity for typhoid by supporting culture and sensitivity testing for MDR and XDR detection at district and provincial levels to confirm cases and guide antimicrobial stewardship.
- **Promote Water, Sanitation, and Hygiene (WASH):** Collaborate with relevant sectors to ensure access to safe drinking water, improve sanitation infrastructure, and promote hygiene practices, especially handwashing with soap.
- **Implement Vaccination Strategies:** Support the scale-up of Typhoid Conjugate Vaccine (TCV) through routine immunization and targeted campaigns in high-risk populations.
- **Raise Community Awareness:** Develop culturally appropriate health education campaigns to inform communities about transmission routes, preventive behaviors (e.g., safe food handling and hygiene), and the importance of early care-seeking.

## Acute Watery Diarrhea (AWD) - Non-Cholera

- **Strengthen Surveillance and Early Detection:** Integrate acute watery diarrhea surveillance into IDSR by training healthcare workers on syndromic case definitions, improving timely reporting, and monitoring seasonal trends and outbreak signals.
- **Improve Laboratory Diagnosis:** Enhance diagnostic capacity at district and provincial levels to identify common etiologies (e.g., rotavirus, E. coli, Shigella, norovirus) and detect antimicrobial resistance patterns in bacterial pathogens.
- **Ensure Access to Case Management and Rehydration:** Ensure availability of Oral Rehydration Salts (ORS), zinc supplementation, and IV fluids at all levels of care; train healthcare providers in Integrated Management of Childhood Illness (IMCI) protocols.
- **Promote Water, Sanitation, and Hygiene (WASH):** Collaborate with WASH sectors to ensure safe drinking water, improve sanitation facilities, and promote hygiene behaviors, especially handwashing with soap at critical times.
- **Conduct Health Education and Risk Communication:** Disseminate community-focused messages on safe food and water practices, early recognition of dehydration signs, use of ORS at home, and timely healthcare-seeking, especially for children under 5.

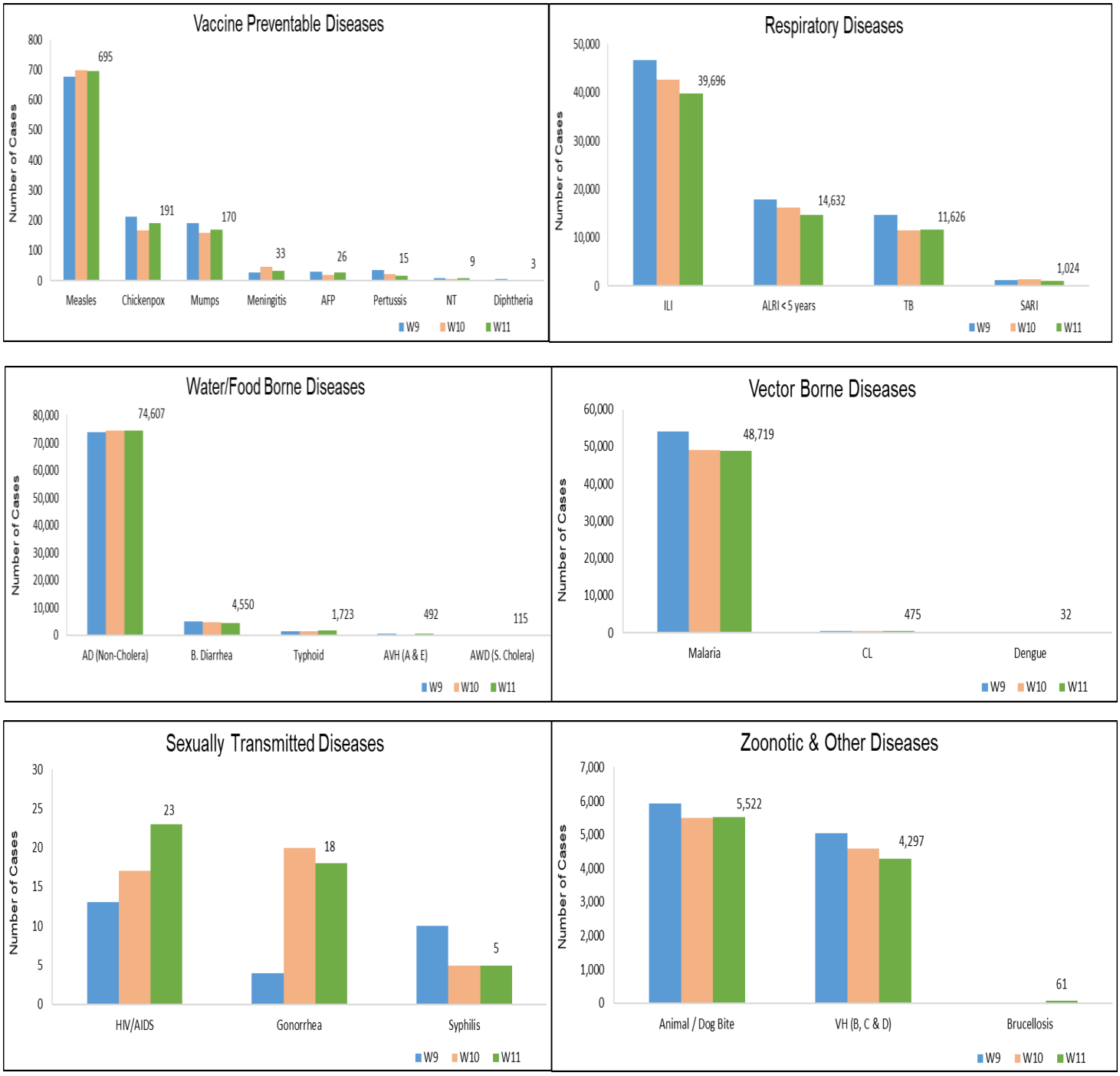


NIH
UK Health Security Agency
World Health Organization
CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

***Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 11, Pakistan.***

| Diseases | AJK | Balochistan | GB | ICT | KP | Punjab | Sindh | Total |
|---|---|---|---|---|---|---|---|---|
| AD (Non-Cholera) | 1,254 | 5,484 | 553 | 304 | 23,810 | NR | 43,202 | 74,607 |
| Malaria | 1 | 1,815 | 0 | 0 | 2,285 | NR | 44,618 | 48,719 |
| ILI | 2,114 | 4,974 | 271 | 1,387 | 3,060 | NR | 27,890 | 39,696 |
| ALRI < 5 years | 984 | 979 | 758 | 4 | 903 | NR | 11,004 | 14,632 |
| TB | 93 | 25 | 59 | 16 | 226 | NR | 11,207 | 11,626 |
| Animal / Dog Bite | 113 | 203 | 0 | 0 | 918 | NR | 4,288 | 5,522 |
| B. Diarrhea | 22 | 758 | 33 | 2 | 623 | NR | 3,112 | 4,550 |
| VH (B, C & D) | 36 | 43 | 2 | 1 | 91 | NR | 4,124 | 4,297 |
| Typhoid | 24 | 263 | 69 | 0 | 599 | NR | 768 | 1,723 |
| SARI | 77 | 359 | 79 | 0 | 264 | NR | 245 | 1,024 |
| Measles | 5 | 8 | 36 | 0 | 532 | NR | 114 | 695 |
| AVH (A & E) | 14 | 9 | 0 | 0 | 170 | NR | 299 | 492 |
| CL | 0 | 13 | 0 | 0 | 459 | NR | 3 | 475 |
| Chickenpox/ Varicella | 0 | 18 | 2 | 3 | 59 | NR | 109 | 191 |
| Mumps | 5 | 24 | 3 | 2 | 97 | NR | 39 | 170 |
| AWD (S. Cholera) | 3 | 106 | 1 | 0 | 5 | NR | 0 | 115 |
| Brucellosis | 0 | 61 | 0 | 0 | 0 | NR | 0 | 61 |
| Meningitis | 3 | 1 | 6 | 0 | 9 | NR | 14 | 33 |
| Dengue | 0 | 7 | 0 | 0 | 1 | NR | 24 | 32 |
| AFP | 2 | 0 | 0 | 0 | 15 | NR | 9 | 26 |
| HIV/AIDS | 0 | 0 | 0 | 0 | 9 | NR | 14 | 23 |
| Gonorrhea | 0 | 13 | 0 | 0 | 1 | NR | 4 | 18 |
| Pertussis | 0 | 15 | 0 | 0 | 0 | NR | 0 | 15 |
| NT | 0 | 1 | 0 | 0 | 8 | NR | 0 | 9 |
| Syphilis | 0 | 0 | 0 | 0 | 0 | NR | 5 | 5 |
| Diphtheria (Probable) | 0 | 1 | 0 | 0 | 2 | NR | 0 | 3 |

***Figure 1: Most frequently reported suspected cases during Week 11, Pakistan.***



## Sindh

- 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 are mostly from Khairpur, Sanghar and Kamber whereas AD (Non-Cholera) cases are from Khairpur, Mirpurkhas, and Tharparkar.
- Nine cases of AFP are reported from Sindh. They are suspected cases and need field verification.
- There is a decline in number of cases of Malaria, ILI, ALRI<5 Years, Animal/ Dog Bite, VH (B, C & D), B. Diarrhea, Typhoid, Measles, Meningitis,

***Table 2: District-wise distribution of most frequently reported suspected cases during Week 11, 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 | 2,174 | 2,439 | 2,711 | 674 | 438 | 139 | 173 | 271 | 53 | 0 |
| Dadu | 2,995 | 2,218 | 1,125 | 511 | 1,508 | 247 | 74 | 305 | 116 | 45 |
| Ghotki | 2,143 | 1,151 | 21 | 518 | 672 | 317 | 629 | 88 | 0 | 0 |
| Hyderabad | 601 | 2,106 | 1,711 | 318 | 152 | 53 | 96 | 59 | 6 | 2 |
| Jacobabad | 2,097 | 673 | 865 | 266 | 392 | 263 | 59 | 77 | 24 | 0 |
| Jamshoro | 1,751 | 1,806 | 87 | 507 | 454 | 112 | 105 | 74 | 26 | 2 |
| Kamber | 3,047 | 1,670 | 0 | 803 | 285 | 333 | 89 | 111 | 27 | 0 |
| Karachi Central | 13 | 1,037 | 1,205 | 214 | 57 | 117 | 11 | 0 | 59 | 0 |
| Karachi East | 21 | 353 | 15 | 21 | 29 | 16 | 2 | 3 | 0 | 0 |
| Karachi Keamari | 3 | 536 | 193 | 3 | 18 | 16 | 0 | 1 | 2 | 0 |
| Karachi Korangi | 53 | 243 | 17 | 37 | 12 | 6 | 2 | 12 | 1 | 2 |
| Karachi Malir | 57 | 1,266 | 2,019 | 82 | 266 | 48 | 7 | 25 | 12 | 2 |
| Karachi South | 8 | 65 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Karachi West | 358 | 784 | 1,403 | 70 | 346 | 82 | 17 | 15 | 27 | 0 |
| Kashmore | 1,568 | 324 | 294 | 119 | 87 | 181 | 4 | 23 | 0 | 0 |
| Khairpur | 3,946 | 3,093 | 6,105 | 1,129 | 1,289 | 353 | 257 | 313 | 194 | 8 |
| Larkana | 2,802 | 1,442 | 13 | 710 | 278 | 47 | 25 | 277 | 4 | 0 |
| Matiari | 2,091 | 1,813 | 17 | 605 | 379 | 147 | 381 | 77 | 1 | 17 |
| Mirpurkhas | 1,330 | 3,068 | 3,314 | 683 | 421 | 178 | 67 | 129 | 8 | 79 |
| Naushero Feroze | 1,503 | 1,507 | 804 | 213 | 449 | 263 | 71 | 258 | 39 | 0 |
| Sanghar | 3,261 | 2,306 | 81 | 1,035 | 483 | 268 | 1,205 | 74 | 19 | 3 |
| Shaheed Benazirabad | 2,026 | 1,629 | 3 | 323 | 193 | 177 | 123 | 100 | 69 | 0 |
| Shikarpur | 1,710 | 1,094 | 4 | 239 | 296 | 434 | 168 | 192 | 0 | 0 |
| Sujawal | 782 | 1,212 | 0 | 109 | 279 | 63 | 45 | 64 | 2 | 56 |
| Sukkur | 1,359 | 1,232 | 1,951 | 410 | 316 | 155 | 173 | 131 | 2 | 0 |
| Tando Allahyar | 1,196 | 1,495 | 1,165 | 454 | 207 | 58 | 115 | 98 | 9 | 1 |
| Tando Muhammad Khan | 512 | 1,173 | 65 | 534 | 177 | 118 | 63 | 107 | 0 | 0 |
| Tharparkar | 1,810 | 2,442 | 1,378 | 357 | 825 | 0 | 32 | 134 | 40 | 19 |
| Thatta | 1,152 | 1,154 | 1,324 | 15 | 329 | 97 | 100 | 8 | 7 | 62 |
| Umerkot | 2,249 | 1,871 | 0 | 248 | 367 | 0 | 31 | 86 | 21 | 1 |
| Total | 44,618 | 43,202 | 27,890 | 11,207 | 11,004 | 4,288 | 4,124 | 3,112 | 768 | 299 |

***Figure 2: Most frequently reported suspected cases during Week 11, Sindh.***

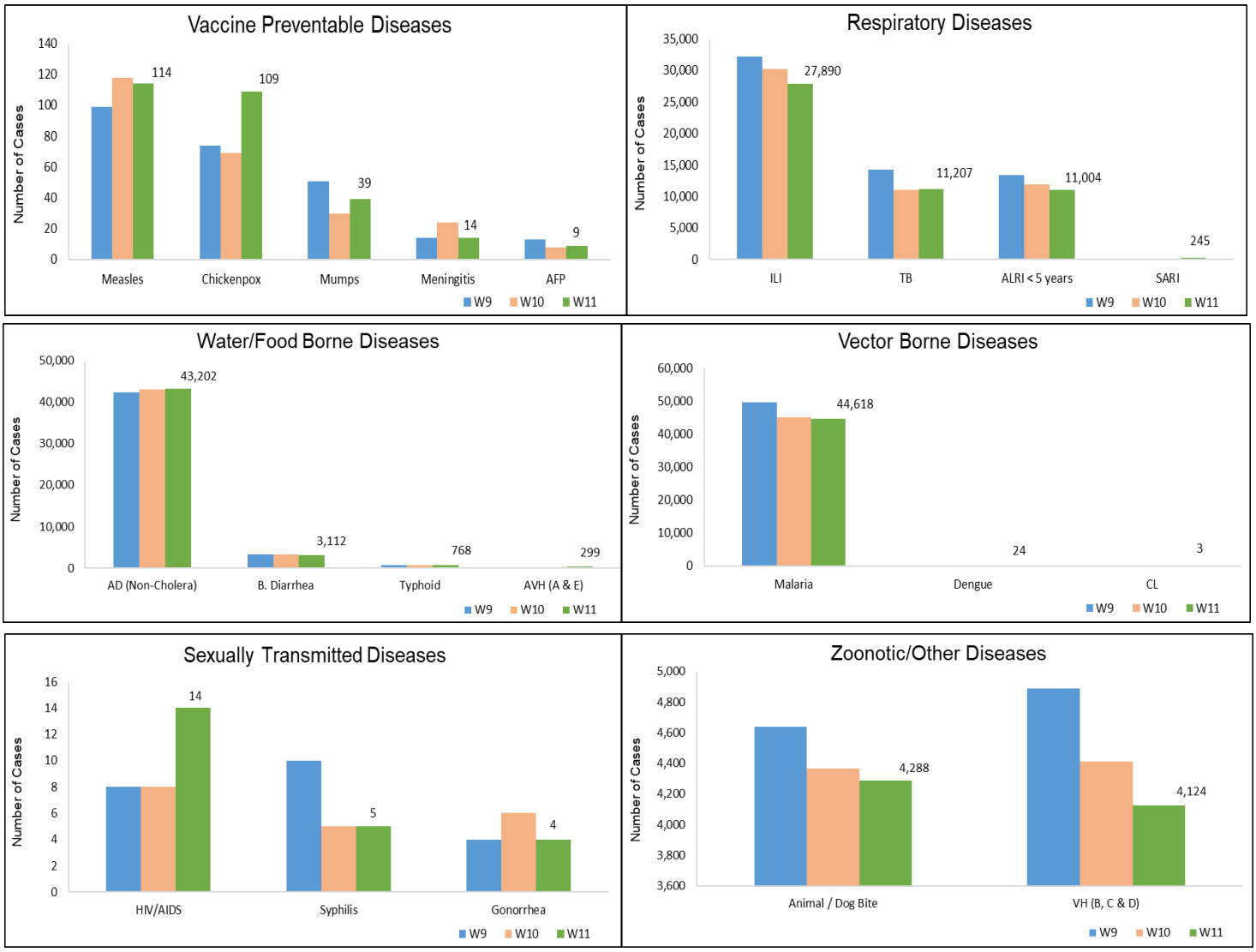
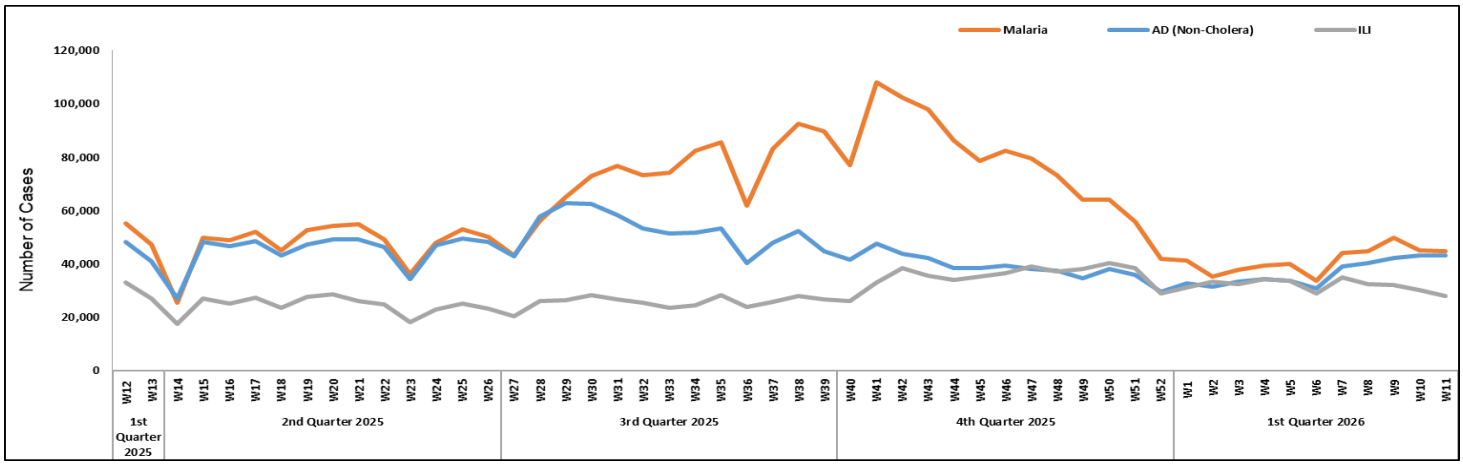



***Figure 3: Week-wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Sindh.***



## Balochistan

- AD (Non-Cholera), ILI, Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, Animal/ Dog Bite, AWD (S. Cholera) and Brucellosis cases were the most frequently reported diseases from Balochistan province.
- AD (non-cholera) cases are mostly reported from Sibi, Gwadar, and Kech (Turbat) while ILI cases are mostly reported from Gwadar, Kech (Turbat), and Sibi.
- Sixty-one cases of Brucellosis are reported from Balochistan. Field investigation is required to confirm the cases.
- AD (Non-Cholera), ILI, Malaria, B. Diarrhea, Typhoid, Animal/ Dog Bite, AWD (S. Cholera), Brucellosis, VH (B, C & D), TB, Mumps, Chickenpox, Pertussis, AVH (A & E), Dengue, Diphtheria, and Meningitis showed an increase in the number of cases. At the same time, a decline has been observed in the number of cases of ALRI <5 years, SARI, Measles, and CL.

***Table 3: District-wise distribution of most frequently reported suspected cases* during *Week 11, Balochistan*.**

| Districts | AD (Non-Cholera) | ILI | Malaria | ALRI < 5 years | B. Diarrhea | SARI | Typhoid | Animal / Dog Bite | AWD (S. Cholera) | Brucellosis |
|---|---|---|---|---|---|---|---|---|---|---|
| Awaran | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Barkhan | 82 | 76 | 49 | 15 | 13 | 4 | 24 | 11 | 1 | 0 |
| Chagai | 168 | 253 | 42 | 0 | 49 | 0 | 7 | 0 | 0 | 0 |
| Chaman | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Dera Bugti | 11 | 0 | 11 | 5 | 6 | 3 | 0 | 0 | 0 | 0 |
| Duki | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Gwadar | 720 | 1,042 | 39 | 53 | 89 | 0 | 50 | 3 | 3 | 59 |
| Harnai | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Hub | 162 | 39 | 40 | 16 | 8 | 0 | 2 | 1 | 0 | 0 |
| Jaffarabad | 171 | 5 | 193 | 3 | 23 | 12 | 2 | 0 | 0 | 0 |
| Jhal Magsi | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Kachhi (Bolan) | 249 | 313 | 329 | 85 | 29 | 15 | 0 | 11 | 19 | 0 |
| Kalat | 7 | 0 | 5 | 3 | 6 | 0 | 9 | 0 | 0 | 0 |
| Kech (Turbat) | 624 | 1,008 | 240 | 6 | 82 | 1 | 8 | NR | NR | NR |
| Kharan | 212 | 491 | 11 | 0 | 56 | 29 | 2 | 0 | 1 | 0 |
| Khuzdar | 74 | 57 | 31 | 0 | 19 | 9 | 26 | 0 | 0 | 0 |
| Killa Abdullah | 153 | 158 | 1 | 18 | 30 | 68 | 5 | 20 | 27 | 2 |
| Killa Saifullah | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Kohlu | 26 | 111 | 10 | 26 | 29 | 10 | 10 | 2 | 0 | 0 |
| Lasbella | 458 | 62 | 175 | 126 | 38 | 0 | 3 | 16 | 0 | 0 |
| Loralai | 133 | 223 | 6 | 32 | 19 | 61 | 9 | 0 | 1 | 0 |
| Mastung | 269 | 249 | 15 | 112 | 68 | 27 | 11 | 13 | 3 | 0 |
| MusaKhel | 144 | 52 | 91 | 32 | 21 | 10 | 13 | 1 | 11 | 0 |
| Naseerabad | 383 | 13 | 141 | 55 | 19 | 15 | 39 | 109 | 1 | 0 |
| Nushki | 95 | 3 | 0 | 7 | 45 | 0 | 0 | 0 | 0 | 0 |
| Panjgur | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Pishin | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Quetta | 39 | 57 | 0 | 66 | 5 | 8 | 2 | 0 | 1 | 0 |
| Sherani | NR | NR | NR | NR | NR | NR | NR | NR | NR | NR |
| Sibi | 766 | 509 | 268 | 95 | 49 | 69 | 39 | 12 | 38 | 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 | 538 | 253 | 118 | 224 | 55 | 18 | 2 | 4 | 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 | 5,484 | 4,974 | 1,815 | 979 | 758 | 359 | 263 | 203 | 106 | 61 |

***Figure 4: Most frequently reported suspected cases during Week 11, Balochistan.***

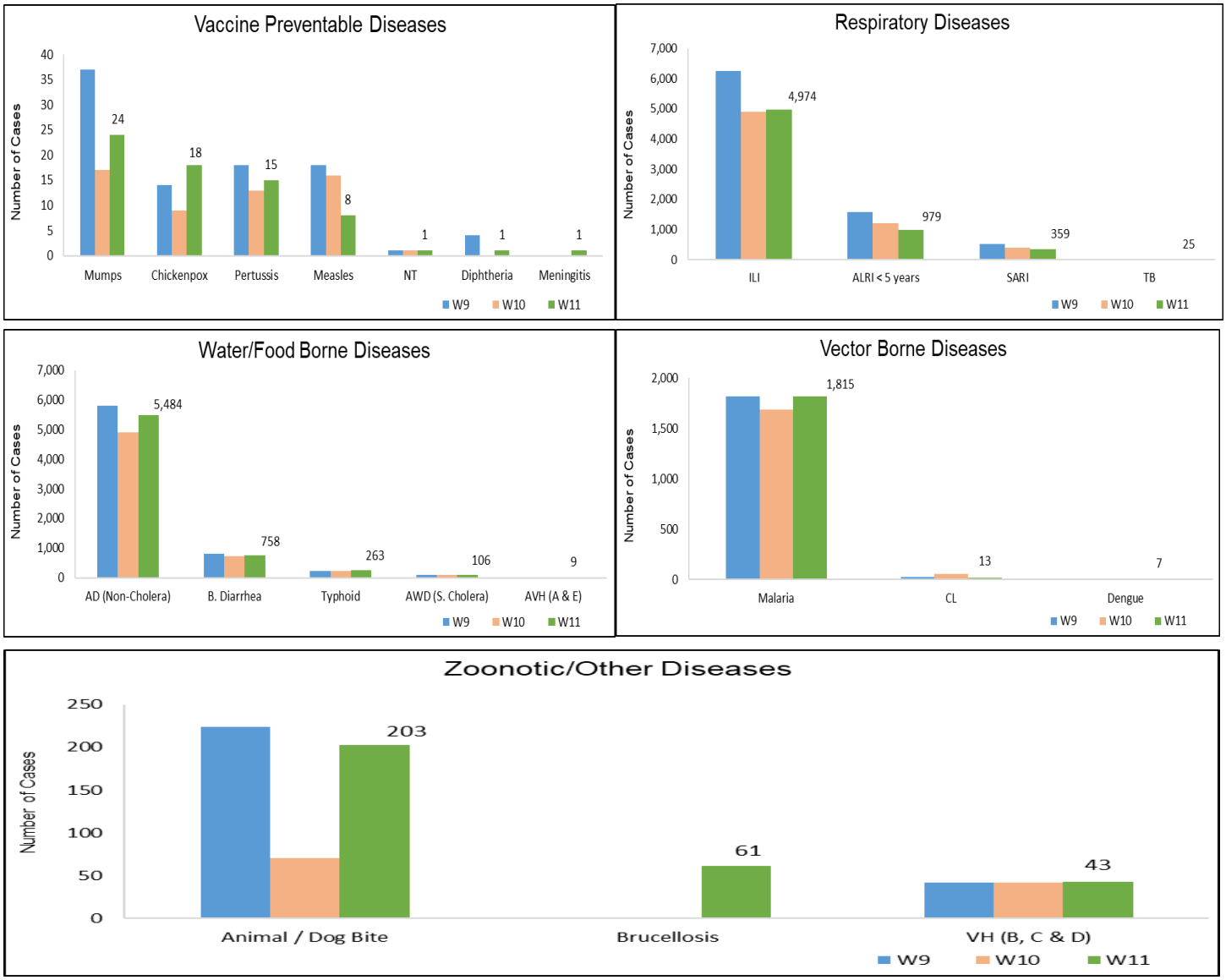



***Figure 5: Week-wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Balochistan.***

## Khyber Pakhtunkhwa

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

***Table 4: District-wise distribution of most frequently reported suspected cases during Week 11, KP.***

| Districts | AD (Non-Cholera) | ILI | Malaria | Animal / Dog Bite | ALRI < 5 years | B. Diarrhea | Typhoid | Measles | CL | SARI |
|---|---|---|---|---|---|---|---|---|---|---|
| Abbottabad | 620 | 56 | 0 | 68 | 11 | 2 | 10 | 1 | 0 | 7 |
| Bajaur | 526 | 3 | 115 | 50 | 8 | 24 | 1 | 17 | 13 | 26 |
| Bannu | 789 | 4 | 810 | 2 | 9 | 13 | 103 | 70 | 15 | 1 |
| Battagram | 209 | 348 | 7 | 17 | 6 | 4 | 5 | 10 | 0 | 0 |
| Buner | 190 | NR | 68 | NR | NR | NR | 6 | NR | NR | NR |
| Charsadda | 1,798 | 1,106 | 229 | 22 | 301 | 106 | 188 | 49 | 0 | 0 |
| Chitral Lower | 318 | 19 | 3 | 16 | 18 | 9 | 5 | 1 | 2 | 10 |
| Chitral Upper | 106 | 17 | 2 | 1 | 2 | 5 | 12 | 0 | 1 | 3 |
| D.I. Khan | 2,461 | 0 | 115 | 6 | 27 | 43 | 0 | 61 | 4 | 0 |
| Dir Lower | 1,094 | 0 | 54 | 46 | 8 | 52 | 16 | 30 | 3 | 0 |
| Dir Upper | 787 | 51 | 7 | 5 | 8 | 13 | 6 | 0 | 0 | 0 |
| Hangu | 329 | 12 | 69 | 23 | 0 | 28 | 2 | 9 | 51 | 0 |
| Haripur | 907 | 46 | 0 | 34 | 25 | 0 | 0 | 0 | 0 | 0 |
| Karak | 366 | 6 | 30 | 28 | 50 | 13 | 5 | 42 | 171 | 0 |
| Khyber | 313 | 4 | 54 | 36 | 8 | 67 | 30 | 1 | 5 | 4 |
| Kohat | 370 | 3 | 29 | 34 | 7 | 18 | 11 | 1 | 79 | 0 |
| Kohistan Lower | 106 | 0 | 2 | 0 | 6 | 8 | 3 | 4 | 0 | 0 |
| Kohistan Upper | 252 | 0 | 0 | 0 | 8 | 9 | 1 | 0 | 0 | 0 |
| Kolai Palas | 60 | 8 | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 |
| L & C Kurram | 48 | 5 | 9 | 1 | 4 | 4 | 2 | 1 | 0 | 0 |
| Lakki Marwat | 542 | 5 | 152 | 58 | 0 | 1 | 14 | 3 | 0 | 0 |
| Malakand | 497 | 234 | 3 | 0 | 23 | 0 | 0 | 9 | 1 | 18 |
| Mansehra | 235 | 62 | 0 | 0 | 7 | 0 | 9 | 0 | 0 | 0 |
| Mardan | 1,436 | 60 | 33 | 20 | 113 | 42 | 18 | 17 | 2 | 2 |
| Mohmand | 113 | 62 | 75 | 14 | 1 | 17 | 1 | 1 | 54 | 77 |
| North Waziristan | 90 | 7 | 48 | 1 | 34 | 3 | 18 | 33 | 0 | 28 |
| Nowshera | 1,381 | 26 | 83 | 18 | 20 | 25 | 34 | 28 | 27 | 12 |
| Orakzai | 56 | 4 | 0 | 0 | 0 | 2 | 0 | 2 | 0 | 0 |
| Peshawar | 3,371 | 188 | 12 | 7 | 39 | 34 | 18 | 78 | 0 | 0 |
| Shangla | 594 | 0 | 147 | 118 | 12 | 2 | 9 | 3 | 0 | 0 |
| South Waziristan (Lower) | 13 | 55 | 11 | 21 | 29 | 1 | 7 | 6 | 23 | 7 |
| SWU | 28 | 4 | 2 | 0 | 2 | 0 | 0 | 0 | 0 | 1 |
| Swabi | 1,438 | 502 | 36 | 171 | 38 | 8 | 48 | 43 | 0 | 58 |
| Swat | 1,791 | 44 | 1 | 80 | 62 | 26 | 9 | 7 | 0 | 0 |
| Tank | 374 | 25 | 68 | 0 | 5 | 6 | 0 | 3 | 0 | 0 |
| Tor Ghar | 68 | 0 | 3 | 16 | 9 | 17 | 3 | 2 | 8 | 0 |
| Upper Kurram | 134 | 94 | 8 | 5 | 2 | 19 | 5 | 0 | 0 | 10 |
| Total | 23,810 | 3,060 | 2,285 | 918 | 903 | 623 | 599 | 532 | 459 | 264 |

***Figure 6: Most frequently reported suspected cases during Week 11, KP.***

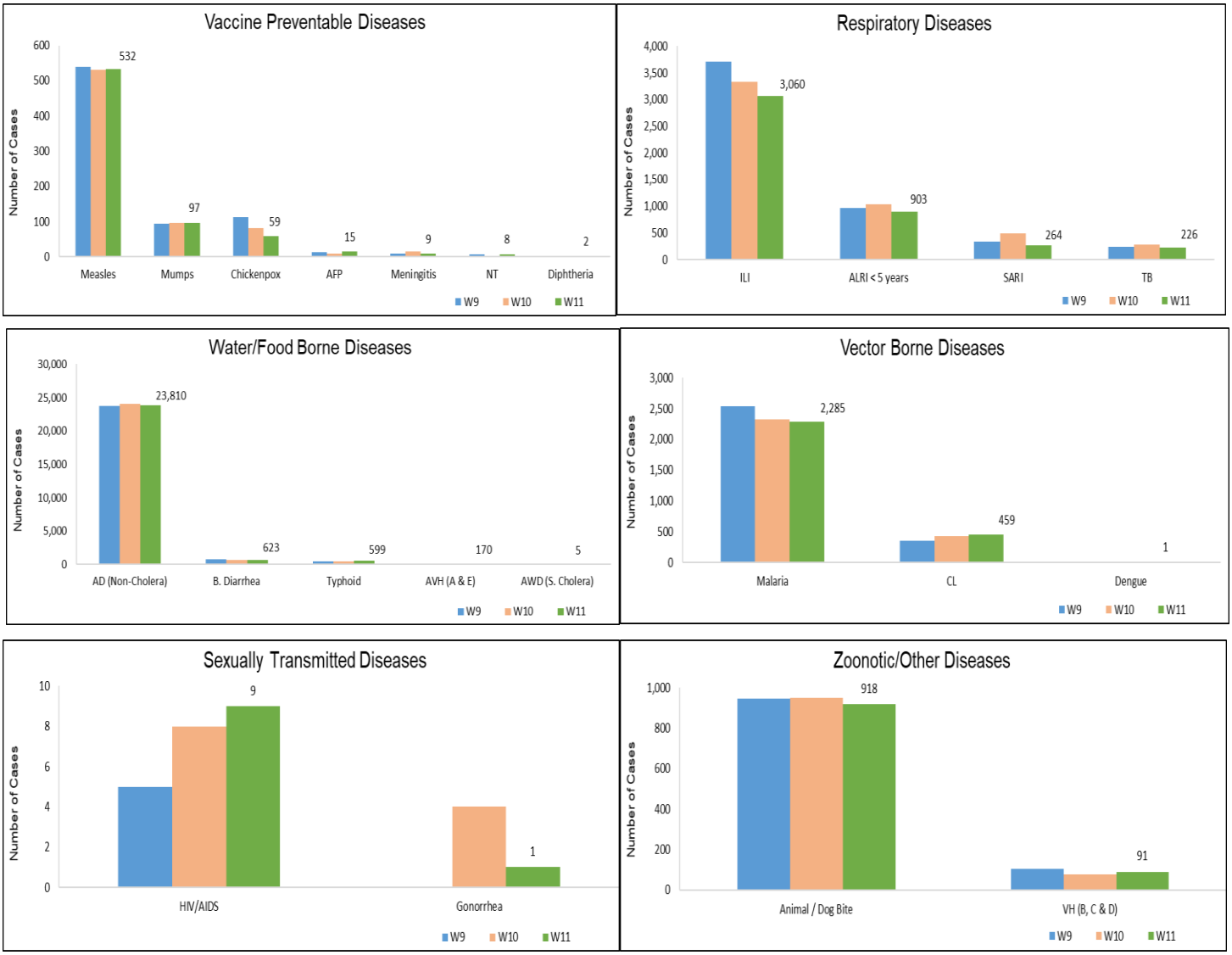
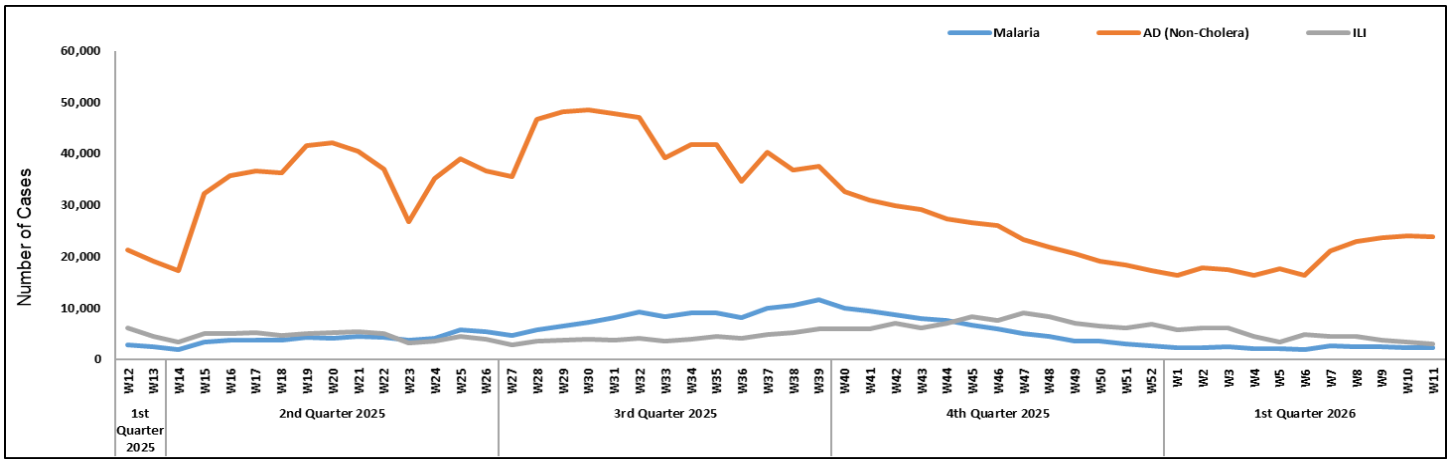



***Figure 7: Week-wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, KP.***



## ICT, AJK & GB

*ICT*: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera), TB, ALRI < 5years, Chickenpox, B. Diarrhea, Mumps, and VH (B, C & D). ILI, AD (Non-Cholera), B. Diarrhea, and VH (B, C & D) cases showed a decline in number while an increase in number was observed in TB, ALRI < 5years, Chickenpox, and Mumps cases this week.

*AJK:* ILI cases were maximum followed by AD (Non-Cholera), ALRI < 5years, Animal/ Dog Bite, TB, SARI, VH (B, C & D), Typhoid, B. Diarrhea, and AVH (A & E) cases. An increase in number of suspected cases was observed for TB and AFP while a decline in cases observed for ILI, AD (Non-Cholera), ALRI < 5years, Animal/ Dog Bite, SARI, VH (B, C & D), Typhoid, B. Diarrhea, AVH (A & E), Mumps, and AWD (S. Cholera) this week.

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

***Figure 8: Most frequently reported suspected cases during Week 11, AJK.***

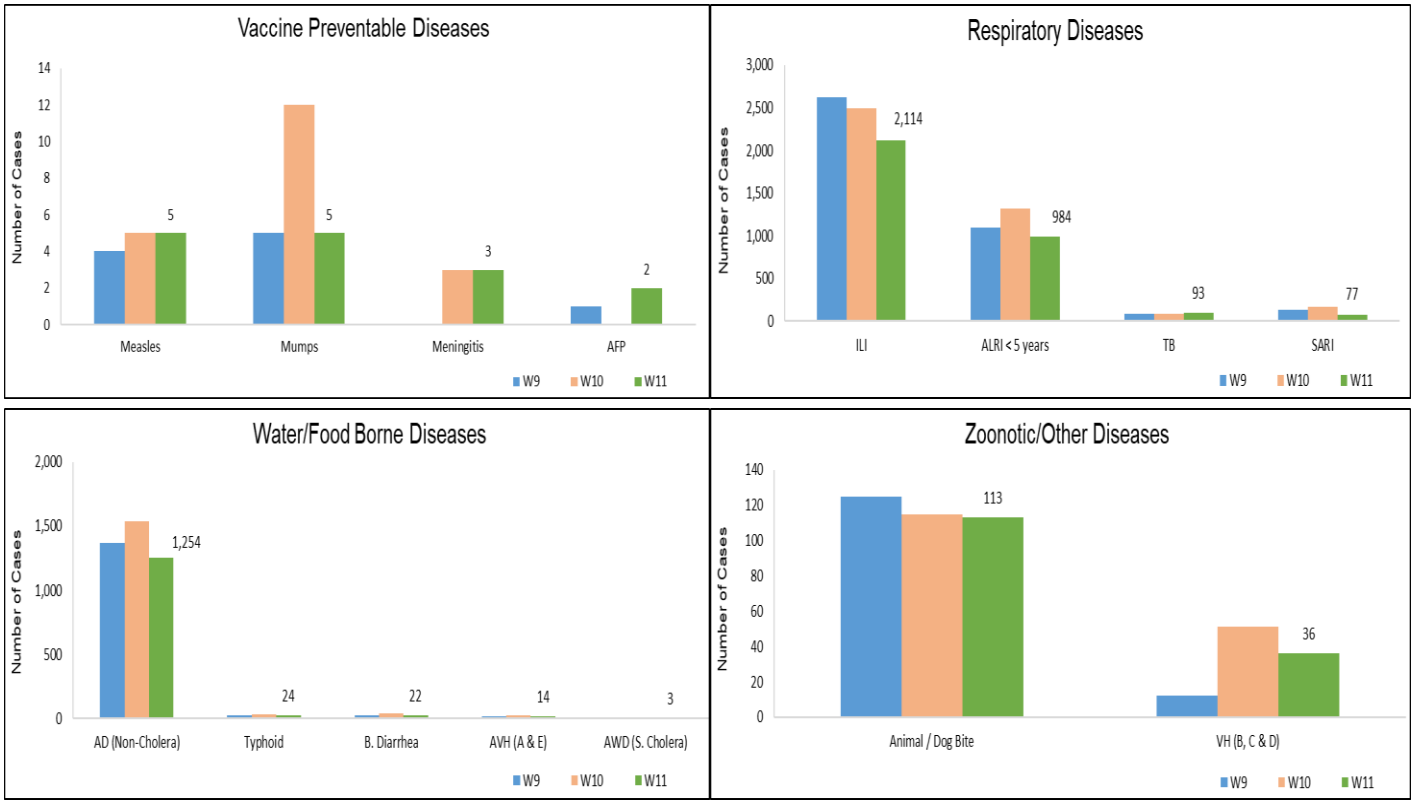



***Figure 9: Week-wise reported suspected cases of ILI and AD (Non-Cholera), AJK.***

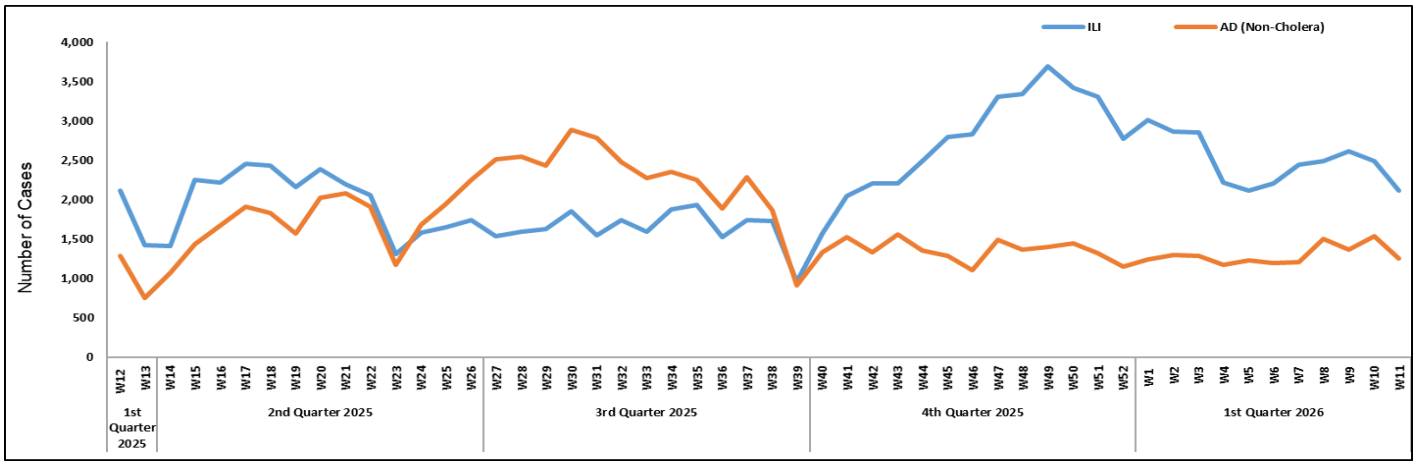


***Figure 10: Most frequently reported suspected cases during Week 11, ICT.***

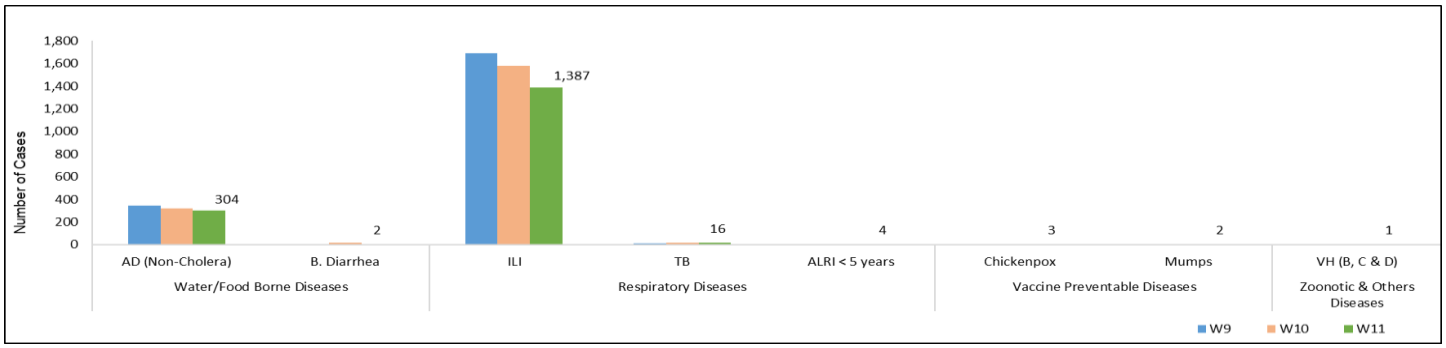



***Figure 11: Week-wise reported suspected cases of ILI, ICT.***

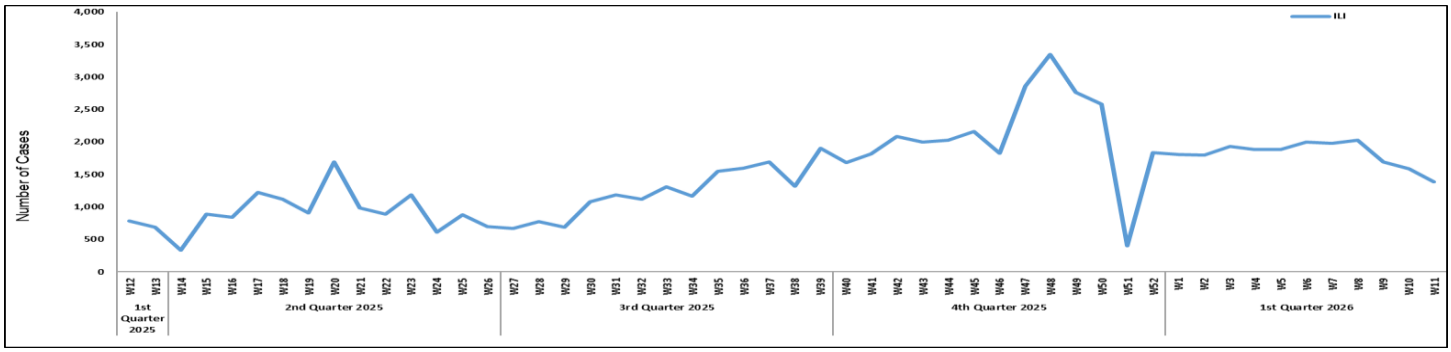



***Figure 12: Most frequently reported suspected cases during Week 11, GB.***

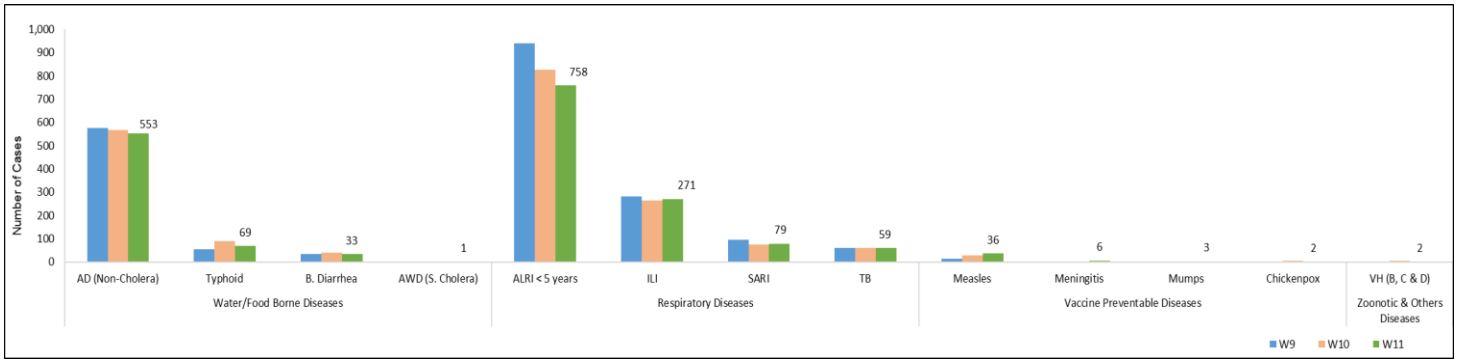



***Figure 13: Week-wise reported suspected cases of ALRI < 5 years, GB.***

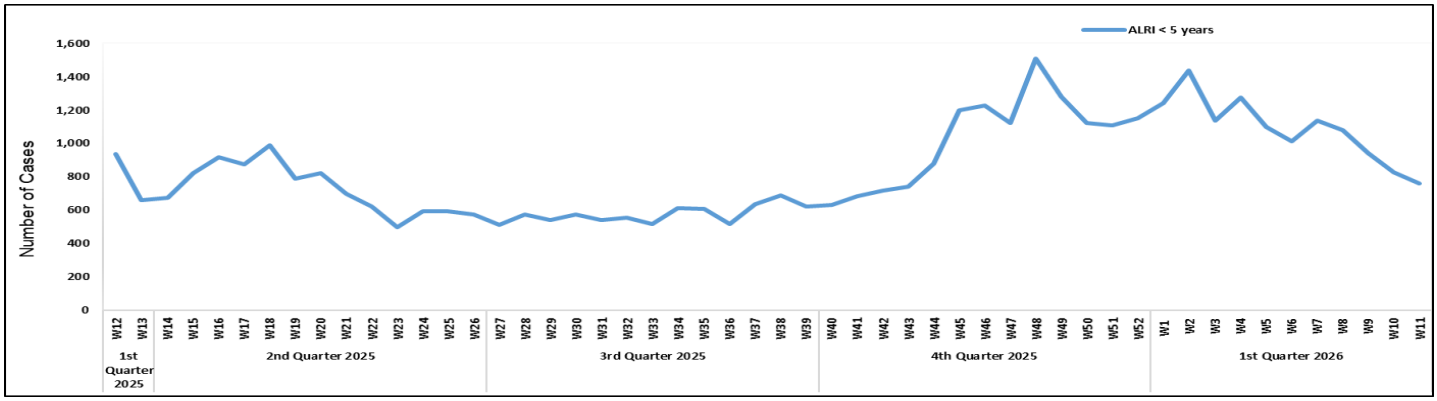


***Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epi Week 11, Pakistan.***

| 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) | | 68 | 1 | - | - | - | - | - | - | - | - | - | - | - | - |
| Stool culture & Sensitivity | | 125 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| Malaria | | 6,077 | 205 | 1,446 | 93 | - | - | - | - | 112 | 0 | - | - | 8 | 0 |
| CCHF | | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Dengue | | 1,086 | 21 | 23 | 0 | - | - | - | - | - | - | - | - | 3 | 0 |
| VH (B) | | 10,250 | 229 | 1,028 | 86 | 9 | 4 | - | - | 879 | 12 | - | - | 409 | 3 |
| VH (C) | | 10,839 | 1,009 | 1,051 | 89 | 6 | 4 | - | - | 966 | 0 | - | - | 409 | 22 |
| VH (D) | | 91 | 26 | - | - | - | - | - | - | - | - | - | - | - | - |
| VH (A) | | 93 | 33 | - | - | 11 | 3 | - | - | - | - | - | - | - | - |
| VH (E) | | 8 | 4 | - | - | 1 | 1 | - | - | - | - | - | - | - | - |
| Covid-19 | | - | - | - | - | - | - | - | - | - | - | - | - | 10 | 0 |
| TB | | 760 | 89 | 206 | 36 | 4 | 3 | - | - | 73 | 0 | - | - | - | - |
| HIV/ AIDS | | 3,807 | 29 | 634 | 0 | 3 | 2 | - | - | 149 | 0 | - | - | 376 | 0 |
| Syphilis | | 1,019 | 18 | 142 | 0 | 1 | 1 | - | - | 99 | 0 | - | - | - | - |
| Typhoid | | 591 | 3 | 133 | 13 | 29 | 8 | - | - | 117 | 7 | - | - | - | - |
| Diphtheria | | 6 | 0 | - | - | - | - | - | - | - | - | - | - | - | - |
| ILI | | 12 | 3 | - | - | - | - | - | - | - | - | - | - | - | - |
| Pneumonia (ALRI) | | 19 | 19 | - | - | - | - | - | - | - | - | - | - | - | - |
| Measles | | 353 | 165 | 76 | 45 | 411 | 148 | 30 | 16 | 8 | 4 | 535 | 129 | 41 | 24 |
| Leishmaniosis (cutaneous) | | - | - | 86 | 43 | - | - | - | - | - | - | - | - | - | - |
| SARI | | 18 | 6 | - | - | - | - | - | - | - | - | - | - | - | - |
| Covid-19 | ILI | - | - | - | - | - | - | - | - | - | - | 8 | 0 | 2 | 0 |
| | SARI | - | - | - | - | 5 | 0 | 6 | 0 | - | - | 48 | 0 | 8 | 0 |
| Influenza A | ILI | - | - | - | - | - | - | - | - | - | - | 8 | 0 | 2 | 0 |
| | SARI | - | - | - | - | 5 | 0 | 6 | 0 | - | - | 48 | 0 | 8 | 0 |
| Influenza B | ILI | - | - | - | - | - | - | - | - | - | - | 8 | 0 | 2 | 0 |
| | SARI | - | - | - | - | 5 | 0 | 6 | 0 | - | - | 48 | 0 | 8 | 0 |
| RSV | ILI | - | - | - | - | - | - | - | - | - | - | 8 | 0 | 2 | 0 |
| | SARI | - | - | - | - | 5 | 1 | 6 | 0 | - | - | 48 | 0 | 8 | 0 |

- 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

***Figure 14: District-wise influenza sentinel sites, Pakistan.***

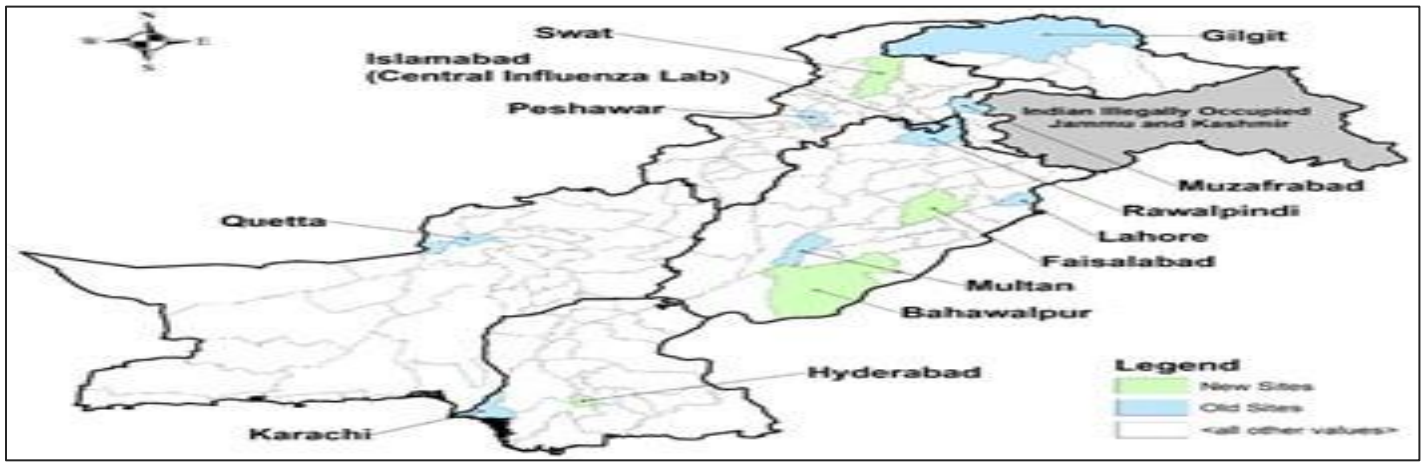



***Figure 15: Distribution of suspected samples of ILI and positive cases of Influenza A, Influenza B, COVID-19, and RSV, Week 11, Pakistan.***

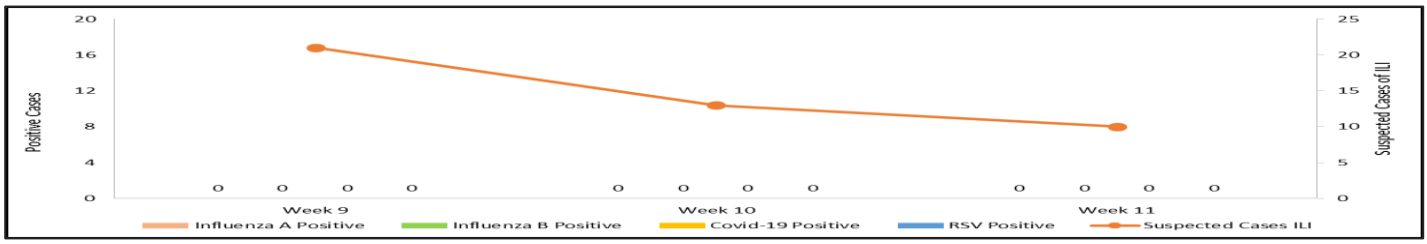



***Figure 16: Distribution of suspected samples of SARI and positive cases of Influenza A, Influenza B, COVID-19, and RSV, Week 11, Pakistan.***

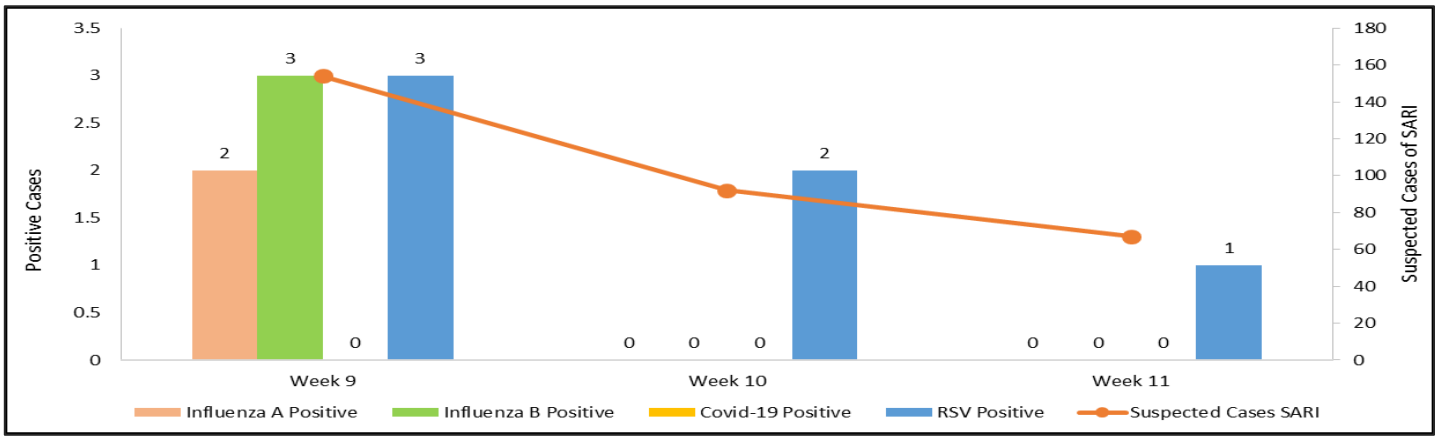


**Table 6: Compliance of IDSR reporting districts, Week 11, Pakistan.**

| Provinces/Regions | Districts | Total Number of Reporting Sites | Number of Reported Sites for the current week | Compliance Rate (%) |
|---|---|---|---|---|
| Khyber Pakhtunkhwa | Abbottabad | 111 | 104 | 94% |
| | Bannu | 238 | 126 | 53% |
| | Battagram | 59 | 43 | 73% |
| | Buner | 34 | 17 | 50% |
| | Bajaur | 44 | 43 | 98% |
| | Charsadda | 59 | 59 | 100% |
| | Chitral Upper | 34 | 30 | 88% |
| | Chitral Lower | 35 | 35 | 100% |
| | D.I. Khan | 114 | 114 | 100% |
| | Dir Lower | 74 | 61 | 82% |
| | Dir Upper | 37 | 35 | 95% |
| | Hangu | 22 | 20 | 91% |
| | Haripur | 72 | 71 | 99% |
| | Karak | 36 | 36 | 100% |
| | Khyber | 53 | 41 | 77% |
| | Kohat | 61 | 61 | 100% |
| | Kohistan Lower | 12 | 12 | 100% |
| | Kohistan Upper | 20 | 15 | 75% |
| | Kolai Palas | 10 | 10 | 100% |
| | Lakki Marwat | 70 | 68 | 97% |
| | Lower & Central Kurram | 42 | 17 | 40% |
| | Upper Kurram | 41 | 35 | 85% |
| | Malakand | 42 | 29 | 69% |
| | Mansehra | 133 | 128 | 96% |
| | Mardan | 80 | 72 | 90% |
| | Nowshera | 56 | 53 | 95% |
| | North Waziristan | 13 | 11 | 85% |
| | Peshawar | 156 | 133 | 85% |
| | Shangla | 37 | 33 | 89% |
| | Swabi | 66 | 64 | 97% |
| | Swat | 77 | 75 | 97% |
| | South Waziristan (Upper) | 93 | 37 | 40% |
| | South Waziristan (Lower) | 42 | 26 | 62% |
| | Tank | 34 | 33 | 97% |
| | Torghar | 14 | 13 | 93% |
| | Mohmand | 68 | 24 | 35% |
| | Orakzai | 69 | 7 | 10% |
| Azad Jammu Kashmir | Mirpur | 39 | 39 | 100% |
| | Bhimber | 92 | 55 | 60% |
| | Kotli | 60 | 60 | 100% |
| | Muzaffarabad | 45 | 45 | 100% |

| | | | | |
|---|---|---|---|---|
| | Poonch | 46 | 46 | 100% |
| | Haveli | 39 | 39 | 100% |
| | Bagh | 54 | 29 | 54% |
| | Neelum | 39 | 28 | 72% |
| | Jhelum Velley | 29 | 29 | 100% |
| | Sudhnooti | 27 | 27 | 100% |
| **Islamabad Capital Territory** | ICT | 24 | 24 | 100% |
| | CDA | 15 | 5 | 33% |
| **Balochistan** | Gwadar | 26 | 26 | 100% |
| | Kech | 44 | 36 | 82% |
| | Khuzdar | 74 | 12 | 16% |
| | Killa Abdullah | 26 | 23 | 88% |
| | Lasbella | 55 | 55 | 100% |
| | Pishin | 69 | 0 | 0% |
| | Quetta | 55 | 8 | 15% |
| | Sibi | 36 | 35 | 97% |
| | Zhob | 39 | 0 | 0% |
| | Jaffarabad | 16 | 16 | 100% |
| | Naserabad | 32 | 32 | 100% |
| | Kharan | 30 | 30 | 100% |
| | Sherani | 15 | 0 | 0% |
| | Kohlu | 75 | 10 | 13% |
| | Chagi | 36 | 22 | 61% |
| | Kalat | 41 | 40 | 98% |
| | Harnai | 17 | 0 | 0% |
| | Kachhi (Bolan) | 35 | 18 | 51% |
| | Jhal Magsi | 28 | 0 | 0% |
| | Sohbat pur | 25 | 0 | 0% |
| | Surab | 32 | 0 | 0% |
| | Mastung | 46 | 46 | 100% |
| | Loralai | 33 | 19 | 58% |
| | Killa Saifullah | 28 | 0 | 0% |
| | Ziarat | 29 | 0 | 0% |
| | Duki | 31 | 0 | 0% |
| | Nushki | 32 | 29 | 91% |
| | Dera Bugti | 45 | 6 | 13% |
| | Washuk | 46 | 0 | 0% |
| | Panjgur | 38 | 0 | 0% |
| | Awaran | 23 | 0 | 0% |
| | Chaman | 24 | 0 | 0% |
| | Barkhan | 20 | 19 | 95% |
| | Hub | 33 | 29 | 88% |
| | Musakhel | 41 | 20 | 49% |
| | Usta Muhammad | 34 | 34 | 100% |
| **Gilgit Baltistan** | Hunza | 32 | 32 | 100% |
| | Nagar | 25 | 20 | 80% |
| | Ghizer | 38 | 37 | 97% |
| | Gilgit | 44 | 44 | 100% |
| | Diamer | 62 | 57 | 92% |
| | Astore | 55 | 55 | 100% |



UK Health Security Agency
World Health Organization
CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION

| | | | | |
|---|---|---|---|---|
| | Shigar | 27 | 19 | 70% |
| | Skardu | 53 | 52 | 98% |
| | Ganche | 29 | 29 | 100% |
| | Kharmang | 46 | 24 | 52% |
| **Sindh** | Hyderabad | 72 | 72 | 100% |
| | Ghotki | 64 | 64 | 100% |
| | Umerkot | 62 | 62 | 100% |
| | Naushahro Feroze | 107 | 102 | 95% |
| | Tharparkar | 276 | 272 | 99% |
| | Shikarpur | 60 | 59 | 98% |
| | Thatta | 52 | 49 | 94% |
| | Larkana | 67 | 67 | 100% |
| | Kamber Shadadkot | 71 | 71 | 100% |
| | Karachi-East | 21 | 17 | 81% |
| | Karachi-West | 20 | 20 | 100% |
| | Karachi-Malir | 35 | 31 | 89% |
| | 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 | 124 | 123 | 99% |
| | Sukkur | 64 | 63 | 98% |
| | Dadu | 90 | 90 | 100% |
| | Sanghar | 100 | 98 | 98% |
| | 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: Compliance of IDSR reporting Tertiary care hospitals Week 11, Pakistan.**

| Provinces/Regions | Districts | Total Number of Reporting Sites | Number of Reported Sites for the 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 | 0 | 0% |
| | Jhelum Vellay | 1 | 1 | 100% |
| | Sudhnooti | 1 | 1 | 100% |
| 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% |

## Letter to Editor

# Addressing Gender Disparities in Disease Outcomes: A Neglected Priority in Public Health Programs

**Dear Editor,**

Gender disparities in health outcomes remain an underrecognized yet critical challenge in public health, particularly in low- and middle-income countries. While progress has been made in improving overall health indicators, differences in disease burden, access to care, and outcomes between males and females persist and continue to undermine equitable health gains.

Evidence suggests that women often face delayed diagnosis, reduced access to quality healthcare, and poorer health outcomes due to socio-cultural barriers, financial dependency, and limited decision-making autonomy [1,4]. In many settings, systemic inequities restrict women's access to timely and appropriate care, contributing to preventable morbidity and mortality. For example, maternal health conditions such as postpartum hemorrhage continue to disproportionately affect women in resource-limited settings, largely due to gaps in healthcare access and quality [3].

At the same time, gender differences in health are complex and not limited to women alone. Men experience higher rates of premature mortality from conditions such as cardiovascular diseases and injuries, while women tend to live longer but experience more years in poor health and disability [5,8]. These differences highlight the need for a balanced, gender-responsive approach to public health programming.

Despite growing recognition of gender as a key social determinant of health, it is often inadequately addressed in surveillance systems and program design. A major limitation is the lack of comprehensive sex and gender disaggregated data, which obscures the true extent of disparities and hinders the development of targeted interventions [2]. Reliance solely on sex-disaggregated data fails to capture the broader social and cultural dimensions of gender that influence health outcomes.

Furthermore, structural inequities within health systems, including the undervaluation of women's health and care work, continue to reinforce disparities. Women constitute a significant proportion of the global health workforce and perform the majority of unpaid care work. Yet, these contributions are often underrecognized and under-resourced, ultimately affecting both service delivery and health outcomes [1,6].

Addressing gender disparities requires a systematic and sustained response. First, routine collection and utilization of sex and gender disaggregated data should be strengthened across all levels of the health system. Second, public health programs must be designed and implemented using a gender-sensitive lens to ensure equitable access to prevention, diagnosis, and treatment services. Third, community engagement strategies should address socio-cultural barriers that limit healthcare access, particularly for women. Finally, capacity building of healthcare providers on gender-responsive approaches is essential to improve service delivery and health equity.

In conclusion, integrating gender considerations into public health practice is not merely an issue of equity but a prerequisite for effective disease prevention and control. Policymakers and program planners must prioritize gender-responsive strategies to ensure inclusive, efficient, and sustainable health systems.

Dr Nimra Gillani

Medical Epidemiologist - IDSRS, NIH

**References**

1. World Health Organization. Fair share for health and care: gender and the undervaluation of health and care work. Geneva: WHO; 2024.
2. Shirzad M, Kaufman MR, et al. The imperative of gender-disaggregated data in health inequity. BMJ Glob Health. 2023;10(7):e018266.
3. Kihara AB, et al. Gender inequity in postpartum hemorrhage: a public health issue. Int J Gynecol Obstet. 2025.
4. Bates LM, Hankivsky O, Springer KW. Gender and health inequities: a social determinants perspective. Soc Sci Med. 2009;69(3):314–22.
5. Thakral M, et al. Sex/gender disparities in health outcomes in disabling conditions. Rehabil Psychol. 2019;64(2):123–30.
6. World Health Organization. Gender equity in the health workforce: analysis of 104 countries. Geneva: WHO; 2019.
7. Journal of Global Health Reports. Gender inequities and global health outcomes. J Glob Health Rep. 2019;3: e2019010.
8. The Lancet Public Health. Global gender health gap analysis. Lancet Public Health. 2024.

# Knowledge Hub

## Acute Watery Diarrhea (AWD)

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)?

AWD 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

AWD 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.

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.

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 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. Continued breastfeeding is essential for infants.

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

In cases of severe dehydration, intravenous fluids (e.g., Ringer's Lactate) should be administered.

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.

Probiotic strains may help restore gut balance and potentially shorten duration in some cases (2)

### More information:

For official guidelines and current outbreak data, visit:


1. World Health Organization. Diarrhoeal disease [Internet]. Geneva: WHO; 2023 [cited 2026 Apr 6]. Available from: https://www.who.int/news-room/fact-sheets/detail/diarrhoeal-disease

2. Centers for Disease Control and Prevention. Diarrhea: Common Illness, Global Killer [Internet]. Atlanta: CDC; 2022 [cited 2026 Apr 6]. Available from: https://www.cdc.gov/healthywater/global/diarrhea-burden

3. World Health Organization. Rotavirus vaccines: WHO position paper [Internet]. Geneva: WHO; 2021 [cited 2026 Apr 6]. Available from: https://www.who.int/publications/i/item/WHO-WER9628

4. Centers for Disease Control and Prevention. Norovirus: Clinical Overview [Internet]. Atlanta: CDC; 2024 [cited 2026 Apr 6]. Available from: https://www.cdc.gov/norovirus/hcp/clinical-overview

5. World Health Organization. Cholera [Internet]. Geneva: WHO; 2023 [cited 2026 Apr 6]. Available from: https://www.who.int/news-room/fact-sheets/detail/cholera

6. Centers for Disease Control and Prevention. Travelers' diarrhea [Internet]. Atlanta: CDC; 2024 [cited 2026 Apr 6]. Available from: https://wwwnc.cdc.gov/travel/page/travelers-diarrhea

7. United Nations Children's Fund; World Health Organization. Diarrhoea: Why children are still dying and what can be done [Internet]. New York: UNICEF; 2009 [cited 2026 Apr 6]. Available from: https://www.who.int/publications/i/item/9789241598415

8. World Health Organization. Oral rehydration salts: Production of the new ORS [Internet]. Geneva: WHO; 2006 [cited 2026 Apr 6]. Available from: https://www.who.int/publications/i/item/WHO-FCH-CAH-06.1

9. Centers for Disease Control and Prevention. Cryptosporidium (Crypto) [Internet]. Atlanta: CDC; 2024 [cited 2026 Apr 6]. Available from: https://www.cdc.gov/parasites/crypto

10. World Health Organization. Zinc supplementation in the management of diarrhoea [Internet]. Geneva: WHO; 2011 [cited 2026 Apr 6]. Available from: https://www.who.int/elena/titles/zinc_diarrhoea

11. Centers for Disease Control and Prevention. Giardia: General Information [Internet]. Atlanta: CDC; 2023 [cited 2026 Apr 6]. Available from: https://www.cdc.gov/parasites/giardia

12. World Health Organization. Guidelines for the control of shigellosis [Internet]. Geneva: WHO; 2005 [cited 2026 Apr 6]. Available from: https://www.who.int/publications/i/item/924159330X

# Five keys to safer food

## Keep clean

- Wash your hands before handling food and often during food preparation
- Wash your hands after going to the toilet
- Wash and sanitize all surfaces and equipment used for food preparation
- Protect kitchen areas and food from insects, pests and other animals

**Why?**

While most microorganisms do not cause disease, dangerous microorganisms are widely found in soil, water, animals and people. These microorganisms are carried on hands, wiping cloths and utensils, especially cutting boards and the slightest contact can transfer them to food and cause foodborne diseases.

## Separate raw and cooked

- Separate raw meat, poultry and seafood from other foods
- Use separate equipment and utensils such as knives and cutting boards for handling raw foods
- Store food in containers to avoid contact between raw and prepared foods

**Why?**

Raw food, expecially meat, poultry and seafood, and their juices, can contain dangerous microorganisms which may be transferred onto other foods during food preparation and storage.


## Cook thoroughly

- Cook food thoroughly, especially meat, poultry, eggs and seafood
- Bring foods like soups and stews to boiling to make sure that they have reached 70°C. For meat and poultry, make sure that juices are clear, not pink. Ideally, use a thermometer
- Reheat cooked food thoroughly

**Why?**

Proper cooking kills almost all dangerous microorganisms. Studies have shown that cooking food to a temperature of 70°C can help ensure it is safe for consumption. Foods that require special attention include minced meats, rolled roasts, large joints of meat and whole poultry.


## Keep food at safe temperatures

- Do not leave cooked food at room temperature for more than 2 hours
- Refrigerate promptly all cooked and perishable food (preferably below 5°C)
- Keep cooked food piping hot (more than 60°C) prior to serving
- Do not store food too long even in the refrigerator
- Do not thaw frozen food at room temperature

**Why?**

Microorganisms can multiply very quickly if food is stored at room temperature. By holding at temperatures below 5°C or above 60°C, the growth of microorganisms is slowed down or stopped. Some dangerous microorganisms still grow below 5°C.

## Use safe water and raw materials

- Use safe water or treat it to make it safe
- Select fresh and wholesome foods
- Choose foods processed for safety, such as pasteurized milk
- Wash fruits and vegetables, especially if eaten raw
- Do not use food beyond its expiry date

**Why?**

Raw materials, including water and ice, may be contaminated with dangerous microorganisms and chemicals. Toxic chemicals may be formed in damaged and mouldy foods. Care in selection of raw materials and simple measures such as washing and peeling may reduce the risk.

Food Safety
World Health Organization

**Knowledge = Prevention**

WHO/SDE/PHE/FOS/01.1
Distribution: General
Original: English

| | | | |
|---|---|---|---|
| | https://phb.nih.org.pk/ | | https://twitter.com/NIH_Pakistan |
| | idsr-pak@nih.org.pk | | https://www.facebook.com/NIH.PK/ |



UK Health Security Agency

World Health Organization

CDC
U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION