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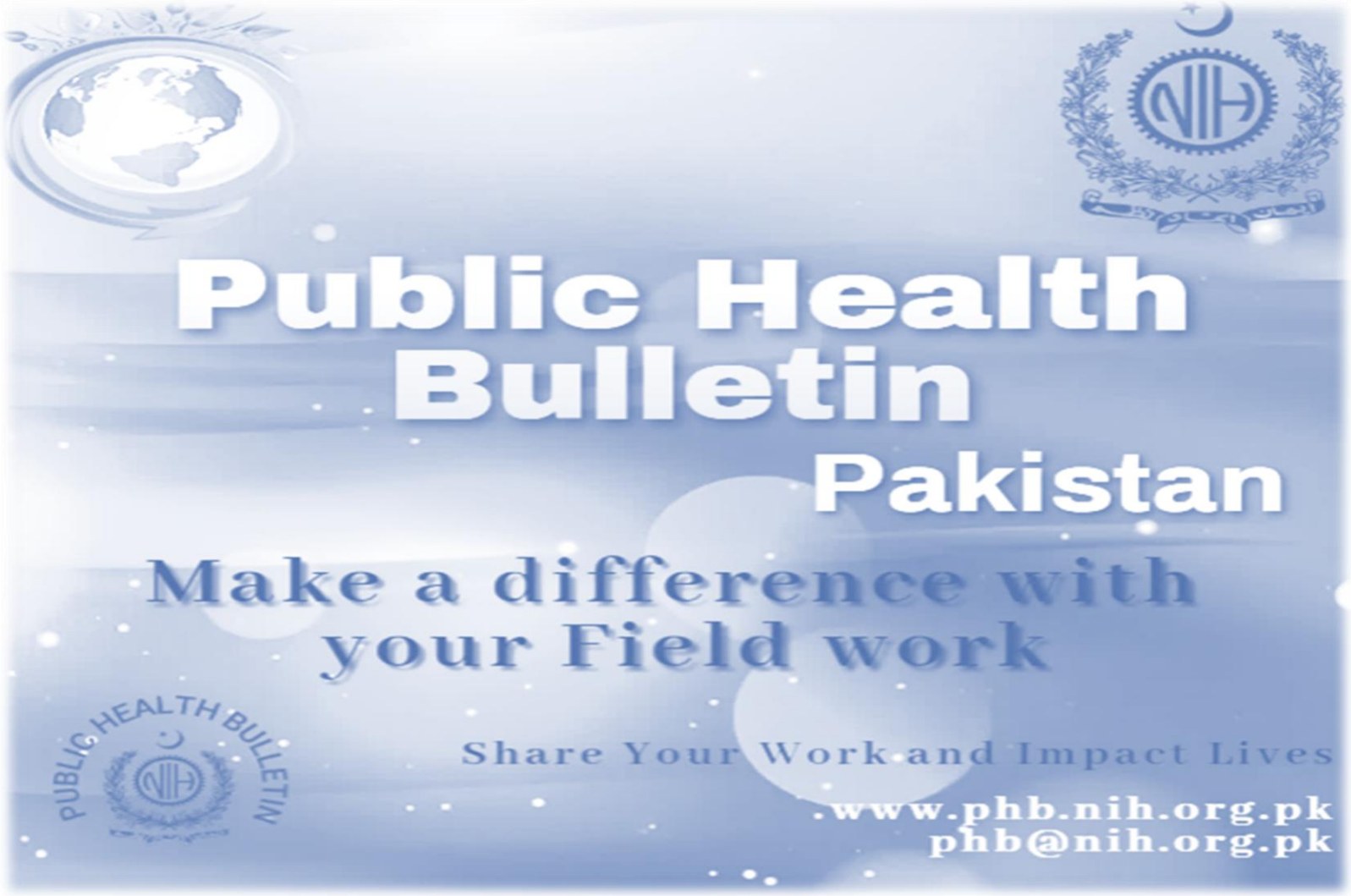
24th JUNE, 2025

# 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 24, 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: Measles Outbreak in Sirri and Gaddai, Dera Ghazi Khan, June-July 2025*
- *Knowledge hub on Understanding Measles: What you need to know*

*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*

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

- *During Week 24, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, ALRI <5 years, TB, B. Diarrhea, VH (B, C & D), dog bite and Typhoid.*
- *Forty-six cases of AFP reported from KP, sixteen from Punjab.*
- *Twelve suspected cases of HIV/ AIDS reported from Sindh and nine from KP.*
- *Ten suspected cases of Brucellosis reported from KP.*
- *Among VPDs, there is an increase in number of cases of Measles, Mumps, Chickenpox, AFP, Pertussis, Meningitis, and Rubella this week.*
- *Among Respiratory diseases, there is an increase in number of cases of ILI, ALRI <5 years, TB 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 an increase in number of cases of HIV/AIDs this week.*

## IDSR compliance attributes

- *The national compliance rate for IDSR reporting in 158 implemented districts is 73%*
- *Sindh is the top reporting region with a compliance rate of 97%, followed by GB 92%, AJK 85% and ICT 74%.*
- *The lowest compliance rate was observed at KP 64% and Balochistan 47%.*

| Region | Expected Reports | Received Reports | Compliance (%) |
|---|---|---|---|
| Khyber Pakhtunkhwa | 2704 | 1726 | 64 |
| Azad Jammu Kashmir | 404 | 342 | 85 |
| Islamabad Capital Territory | 38 | 28 | 74 |
| Balochistan | 1308 | 611 | 47 |
| Gilgit Baltistan | 410 | 378 | 92 |
| Sindh | 2111 | 2039 | 97 |
| National | 6975 | 5124 | 73 |

# Public Health Actions

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

## Measles

- **Enhance Surveillance and Case Notification:** Strengthen measles surveillance under the IDSR system by training healthcare providers to recognize symptoms (fever with maculopapular rash and cough, coryza, or conjunctivitis), promptly report suspected cases, and support outbreak investigation.
- **Expand Laboratory Confirmation:** Ensure timely collection and transport of blood and throat swab samples for serological testing (measles IgM) and PCR confirmation, particularly during outbreaks.
- **Improve Routine Immunization Coverage:** Ensure high and equitable coverage of the MR vaccine through routine immunization services and outreach in underserved communities.
- **Strengthen Outbreak Preparedness and Response:** Maintain readiness for rapid response to measles outbreaks, including case isolation, contact tracing, ring vaccination, and community mobilization.
- **Conduct Supplemental Immunization Activities (SIAs):** Implement periodic nationwide or targeted measles vaccination campaigns in high-risk or low-coverage areas to close immunity gaps and prevent outbreaks.
- **Raise Public Awareness and Community Engagement:** Conduct culturally appropriate health education to promote vaccine acceptance, early care-seeking, and knowledge of measles symptoms and transmission.

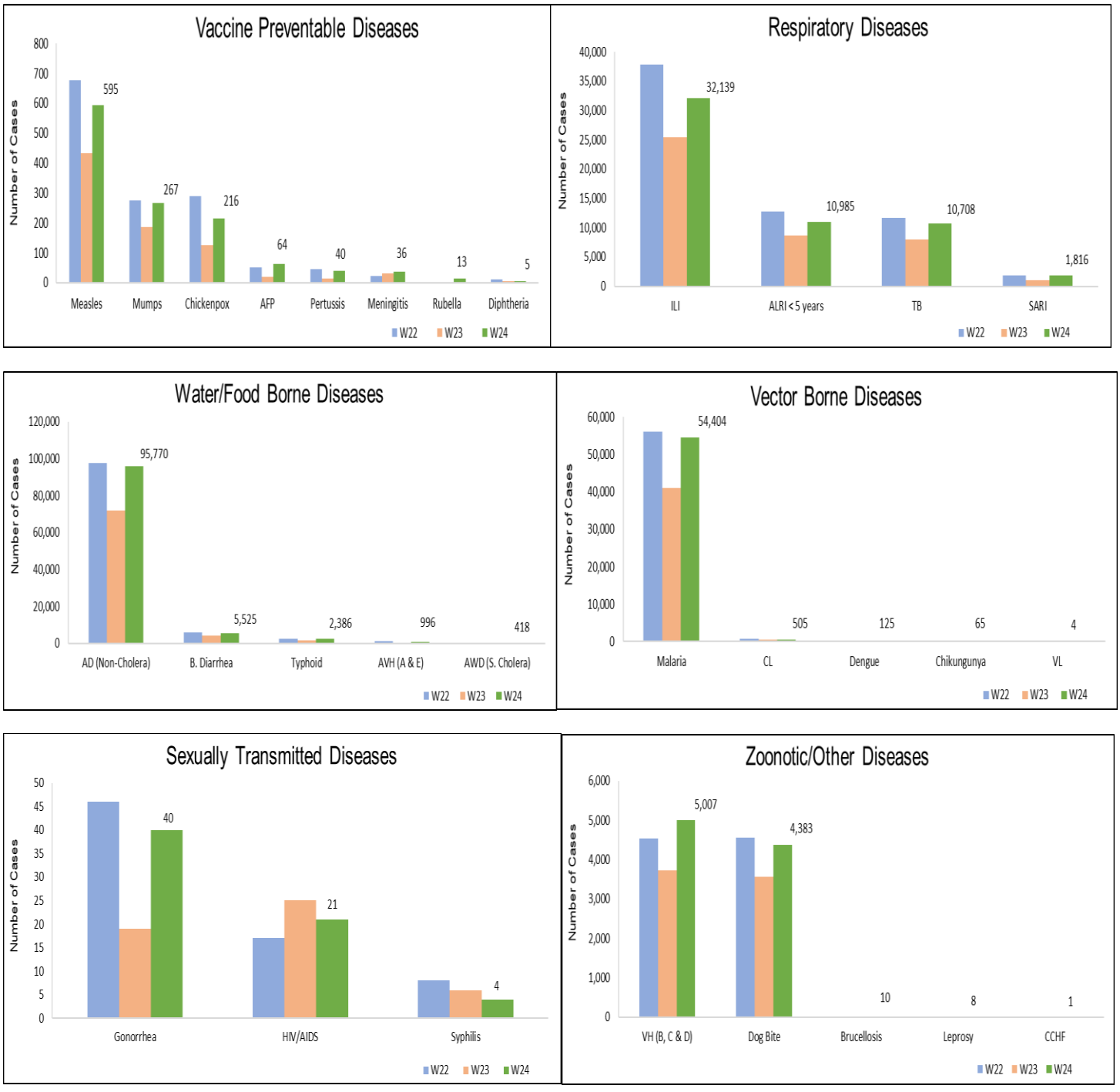
## Mumps

- **Enhance Surveillance and Case Notification:** Strengthen mumps reporting within the IDSR system by training healthcare providers on the standard case definition, outbreak detection, and timely notification particularly in schools and crowded settings.
- **Promote Immunization Coverage:** Ensure high coverage of the Measles-Rubella (MR) vaccine through routine immunization and targeted campaigns in areas with low vaccination rates or recent outbreaks.
- **Strengthen Laboratory Confirmation:** Enhance laboratory capacity for mumps confirmation through serological and PCR testing, especially during outbreaks or in atypical cases.
- **Implement Outbreak Control Measures:** Isolate suspected cases during the infectious period and conduct contact tracing in school and institutional settings to limit further transmission.
- **Raise Community Awareness:** Disseminate culturally appropriate information on mumps symptoms, transmission through respiratory droplets, importance of vaccination, and timely care-seeking behavior.

***Table 1: Province/Area wise distribution of most frequently reported suspected cases during Week 24, Pakistan.***

| Diseases | AJK | Balochistan | GB | ICT | KP | Punjab | Sindh | Total |
|---|---|---|---|---|---|---|---|---|
| AD (non-cholera) | 1,686 | 4,367 | 1,362 | 303 | 35,124 | NR | 52,928 | 95,770 |
| Malaria | 9 | 1,914 | 0 | 0 | 4,171 | NR | 48,310 | 54,404 |
| ILI | 1,581 | 3,119 | 408 | 613 | 3,625 | NR | 22,793 | 32,139 |
| ALRI < 5 years | 675 | 1,083 | 604 | 6 | 802 | NR | 7,815 | 10,985 |
| TB | 78 | 51 | 107 | 4 | 373 | NR | 10,095 | 10,708 |
| B. Diarrhea | 47 | 956 | 87 | 2 | 1,030 | NR | 3,403 | 5,525 |
| VH (B, C & D) | 11 | 51 | 0 | 0 | 81 | NR | 4,864 | 5,007 |
| Dog Bite | 97 | 74 | 1 | 1 | 1,095 | NR | 3,115 | 4,383 |
| Typhoid | 12 | 279 | 111 | 0 | 809 | NR | 1,175 | 2,386 |
| SARI | 255 | 524 | 234 | 0 | 500 | NR | 303 | 1,816 |
| AVH (A & E) | 20 | 25 | 4 | 0 | 226 | NR | 721 | 996 |
| Measles | 19 | 18 | 32 | 1 | 386 | NR | 139 | 595 |
| CL | 0 | 58 | 0 | 0 | 436 | NR | 11 | 505 |
| AWD (S. Cholera) | 29 | 194 | 20 | 0 | 36 | NR | 139 | 418 |
| Mumps | 3 | 15 | 7 | 0 | 174 | NR | 68 | 267 |
| Chickenpox/ Varicella | 9 | 1 | 12 | 2 | 139 | NR | 53 | 216 |
| Dengue | 0 | 14 | 0 | 0 | 33 | NR | 78 | 125 |
| Chikungunya | 0 | 0 | 0 | 0 | 0 | NR | 65 | 65 |
| AFP | 1 | 0 | 1 | 0 | 46 | NR | 16 | 64 |
| Gonorrhea | 0 | 22 | 0 | 0 | 14 | NR | 4 | 40 |
| Pertussis | 0 | 14 | 9 | 0 | 9 | NR | 8 | 40 |
| Meningitis | 5 | 0 | 2 | 0 | 8 | NR | 21 | 36 |
| HIV/AIDS | 0 | 0 | 0 | 0 | 9 | NR | 12 | 21 |
| Rubella (CRS) | 0 | 4 | 0 | 0 | 0 | NR | 9 | 13 |
| Brucellosis | 0 | 0 | 0 | 0 | 10 | NR | 0 | 10 |
| Leprosy | 0 | 0 | 0 | 0 | 8 | NR | 0 | 8 |
| Diphtheria (Probable) | 0 | 0 | 0 | 0 | 0 | NR | 5 | 5 |
| VL | 0 | 0 | 0 | 0 | 0 | NR | 4 | 4 |
| Syphilis | 1 | 0 | 0 | 0 | 0 | NR | 3 | 4 |
| CCHF | 0 | 0 | 0 | 0 | 1 | NR | 0 | 1 |

***Figure 1: Most frequently reported suspected cases during Week 24, Pakistan.***



## Sindh

- AD (Non-Cholera) cases were maximum followed by Malaria, ILI, TB, ALRI<5 Years, VH (B, C, D), B. Diarrhea, Dog bite, Typhoid and AVH (A & E).
- AD (Non-Cholera) cases are mostly from Karachi South, Badin and Khairpur whereas Malaria cases are from Khairpur, Sanghar and Larkana.
- Sixteen cases of AFP reported from Sindh. They are suspected cases and need field verification.
- There is an increase in number of cases of Acute Diarrhea (Non-Cholera), Malaria, ILI, TB, ALRI < 5 years, Measles, Mumps, and Meningitis this week.

***Table 2: District wise distribution of most frequently reported suspected cases during Week 24, Sindh***

| Districts | AD (non-cholera) | Malaria | ILI | TB | ALRI < 5 years | VH (B, C & D) | B. Diarrhea | Dog Bite | Typhoid | AVH (A & E) |
|---|---|---|---|---|---|---|---|---|---|---|
| Badin | 3,314 | 3,173 | 2,955 | 661 | 348 | 158 | 154 | 208 | 71 | 3 |
| Dadu | 2,808 | 2,778 | 489 | 400 | 734 | 53 | 510 | 387 | 104 | 50 |
| Ghotki | 1,427 | 2,828 | 43 | 389 | 371 | 343 | 90 | 211 | 8 | 8 |
| Hyderabad | 2,353 | 861 | 1,147 | 228 | 86 | 98 | 49 | 52 | 10 | 13 |
| Jacobabad | 697 | 499 | 329 | 130 | 482 | 142 | 98 | 161 | 11 | 0 |
| Jamshoro | 1,701 | 1,450 | 45 | 441 | 271 | 177 | 112 | 95 | 25 | 6 |
| Kamber | 2,047 | 3,087 | 0 | 640 | 210 | 103 | 104 | 181 | 21 | 0 |
| Karachi Central | 1,070 | 21 | 666 | 26 | 37 | 8 | 24 | 3 | 104 | 15 |
| Karachi East | 222 | 46 | 122 | 10 | 1 | 1 | 3 | 14 | 10 | 1 |
| Karachi Keamari | 549 | 8 | 335 | 11 | 20 | 1 | 5 | 0 | 3 | 3 |
| Karachi Korangi | 326 | 59 | 1 | 6 | 1 | 0 | 2 | 0 | 2 | 3 |
| Karachi Malir | 1,556 | 190 | 1,946 | 145 | 242 | 39 | 74 | 56 | 29 | 4 |
| Karachi South | 5,810 | 134 | 15 | 324 | 118 | 277 | 160 | 246 | 246 | 213 |
| Karachi West | 730 | 278 | 943 | 84 | 157 | 33 | 20 | 85 | 21 | 4 |
| Kashmore | 515 | 1,910 | 470 | 249 | 139 | 36 | 101 | 94 | 4 | 0 |
| Khairpur | 3,091 | 4,312 | 4,711 | 941 | 937 | 126 | 288 | 227 | 188 | 14 |
| Larkana | 1,898 | 3,761 | 0 | 768 | 229 | 58 | 304 | 43 | 10 | 12 |
| Matiari | 1,671 | 2,159 | 0 | 465 | 155 | 415 | 57 | 51 | 1 | 5 |
| Mirpurkhas | 2,986 | 2,360 | 1,857 | 652 | 289 | 231 | 79 | 90 | 11 | 13 |
| Naushero Feroze | 1,127 | 1,270 | 634 | 297 | 225 | 25 | 144 | 188 | 77 | 1 |
| Sanghar | 1,919 | 3,814 | 78 | 1,016 | 419 | 1,175 | 114 | 175 | 73 | 4 |
| Shaheed Benazirabad | 1,844 | 1,784 | 2 | 294 | 156 | 83 | 86 | 121 | 94 | 0 |
| Shikarpur | 1,211 | 1,535 | 5 | 178 | 159 | 583 | 160 | 116 | 6 | 0 |
| Sindh Labs | 203 | 21 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0 |
| Sujawal | 2,548 | 1,111 | 0 | 76 | 127 | 0 | 171 | 21 | 0 | 12 |
| Sukkur | 1,347 | 1,468 | 1,818 | 345 | 423 | 65 | 99 | 124 | 4 | 0 |
| Tando Allahyar | 1,586 | 1,528 | 623 | 359 | 118 | 192 | 87 | 55 | 6 | 2 |
| Tando Muhammad Khan | 1,228 | 950 | 28 | 348 | 100 | 73 | 42 | 8 | 0 | 0 |
| Tharparkar | 1,749 | 2,389 | 1,175 | 350 | 447 | 74 | 113 | 0 | 27 | 14 |
| Thatta | 1,659 | 1,160 | 2,356 | 33 | 500 | 239 | 33 | 100 | 3 | 321 |
| Umerkot | 1,736 | 1,366 | 0 | 229 | 314 | 56 | 120 | 0 | 6 | 0 |
| Total | 52,928 | 48,310 | 22,793 | 10,095 | 7,815 | 4,864 | 3,403 | 3,115 | 1,175 | 721 |

***Figure 2: Most frequently reported suspected cases during Week 24 Sindh***

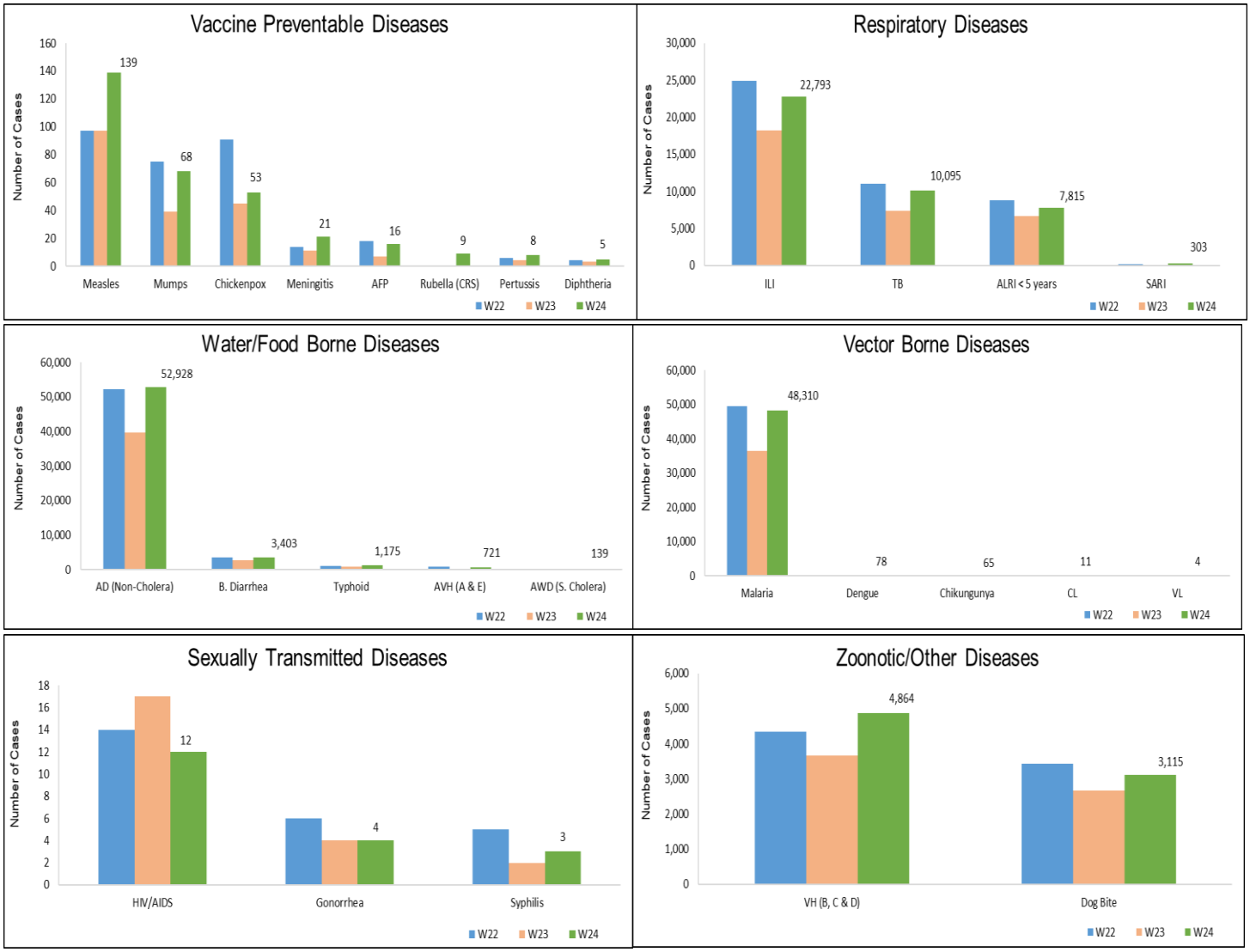
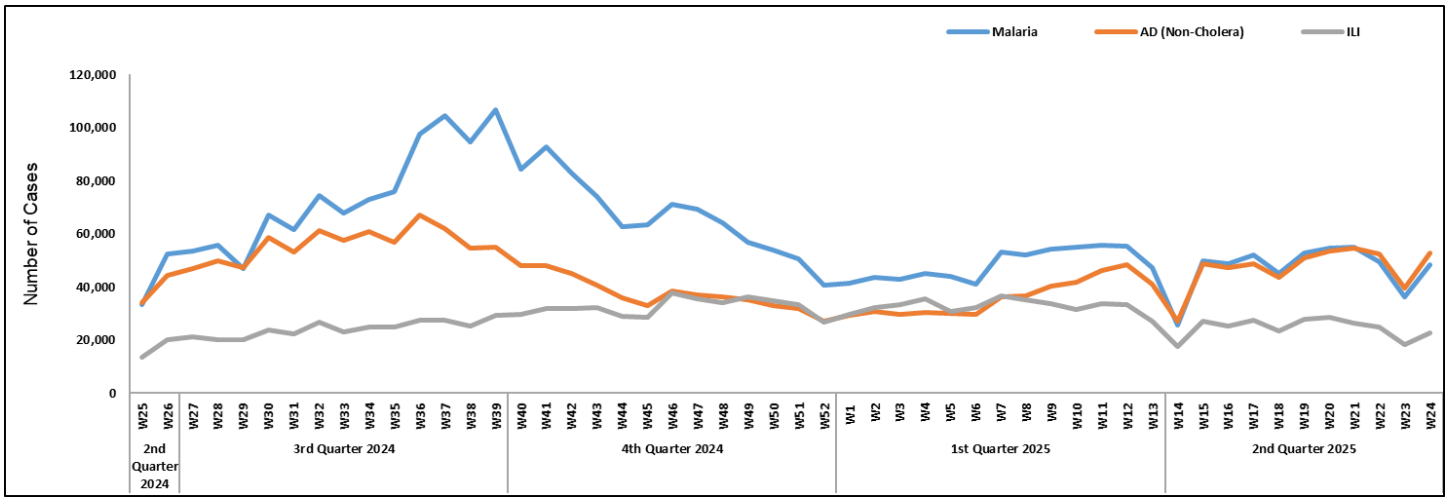



***Figure 3: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Sindh***



# Balochistan

- AD (Non-Cholera), ILI, Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, AWD (S. Cholera) and Dog Bite cases were the most frequently reported diseases from Balochistan province.
- AD (Non-Cholera) cases are mostly reported from Pishin, Gawadar and Lasbella while ILI cases are mostly reported from Gwadar, Pishin and Kharan.
- AD (Non-Cholera), ILI, Malaria, ALRI <5 years, B. Diarrhea, SARI, Typhoid, Dog Bite, TB, Measles, Mumps, Pertussis, Rubella and Chickenpox showed an increase in number of cases this week.

***Table 3: District wise distribution of most frequently reported suspected cases during Week 24, Balochistan***

| Districts | AD (non-cholera) | ILI | Malaria | ALRI < 5 years | B. Diarrhea | SARI | Typhoid | AWD (S. Cholera) | Dog Bite | CL |
|---|---|---|---|---|---|---|---|---|---|---|
| **Barkhan** | 100 | 71 | 50 | 23 | 10 | 2 | 28 | 9 | 15 | 0 |
| **Chagai** | 105 | 124 | 37 | 0 | 43 | 0 | 2 | 0 | 0 | 0 |
| **Dera Bugti** | 38 | 0 | 16 | 0 | 0 | 0 | 4 | 0 | 0 | 0 |
| **Gwadar** | 430 | 658 | 98 | 20 | 108 | 0 | 19 | 5 | 0 | 0 |
| **Hub** | 109 | 12 | 32 | 11 | 4 | 0 | 2 | 0 | 3 | 0 |
| **Jhal Magsi** | 143 | 268 | 161 | 8 | 0 | 0 | 1 | 1 | 1 | 0 |
| **Kachhi (Bolan)** | 110 | 29 | 57 | 2 | 38 | 117 | 10 | 7 | 0 | 1 |
| **Kalat** | 57 | 0 | 66 | 4 | 30 | 0 | 11 | 0 | 0 | 15 |
| **Kharan** | 179 | 458 | 50 | 10 | 89 | 0 | 6 | 0 | 0 | 0 |
| **Killa Abdullah** | 149 | 62 | 18 | 18 | 48 | 44 | 5 | 45 | 2 | 25 |
| **Killa Saifullah** | 221 | 2 | 202 | 94 | 83 | 17 | 16 | 0 | 2 | 0 |
| **Kohlu** | 39 | 71 | 29 | 8 | 26 | 12 | 8 | NR | NR | 2 |
| **Lasbella** | 424 | 47 | 215 | 157 | 24 | 5 | 15 | 0 | 9 | 0 |
| **Loralai** | 235 | 299 | 49 | 18 | 32 | 84 | 21 | 2 | 4 | 0 |
| **Mastung** | 129 | 112 | 81 | 6 | 26 | 48 | 6 | 0 | 1 | 0 |
| **MusaKhel** | 31 | 18 | 76 | 12 | 6 | 0 | 2 | 8 | 0 | 0 |
| **Naseerabad** | 294 | 25 | 145 | 11 | 9 | 9 | 40 | 0 | 9 | 1 |
| **Pishin** | 595 | 470 | 57 | 115 | 212 | 35 | 37 | 112 | 6 | 8 |
| **Quetta** | 81 | 26 | 12 | 83 | 13 | 13 | 6 | 2 | 2 | 0 |
| **Sibi** | 18 | 60 | 8 | 2 | 0 | 2 | 0 | 0 | 0 | 1 |
| **Sohbat pur** | 245 | 7 | 152 | 119 | 54 | 8 | 20 | 2 | 9 | 5 |
| **Surab** | 20 | 76 | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| **Usta Muhammad** | 398 | 91 | 250 | 153 | 60 | 0 | 7 | 0 | 11 | 0 |
| **Zhob** | 217 | 133 | 51 | 209 | 41 | 128 | 13 | 1 | 0 | 0 |
| **Total** | 4,367 | 3,119 | 1,914 | 1,083 | 956 | 524 | 279 | 194 | 74 | 58 |

***Figure 4: Most frequently reported suspected cases during Week 24, Balochistan***

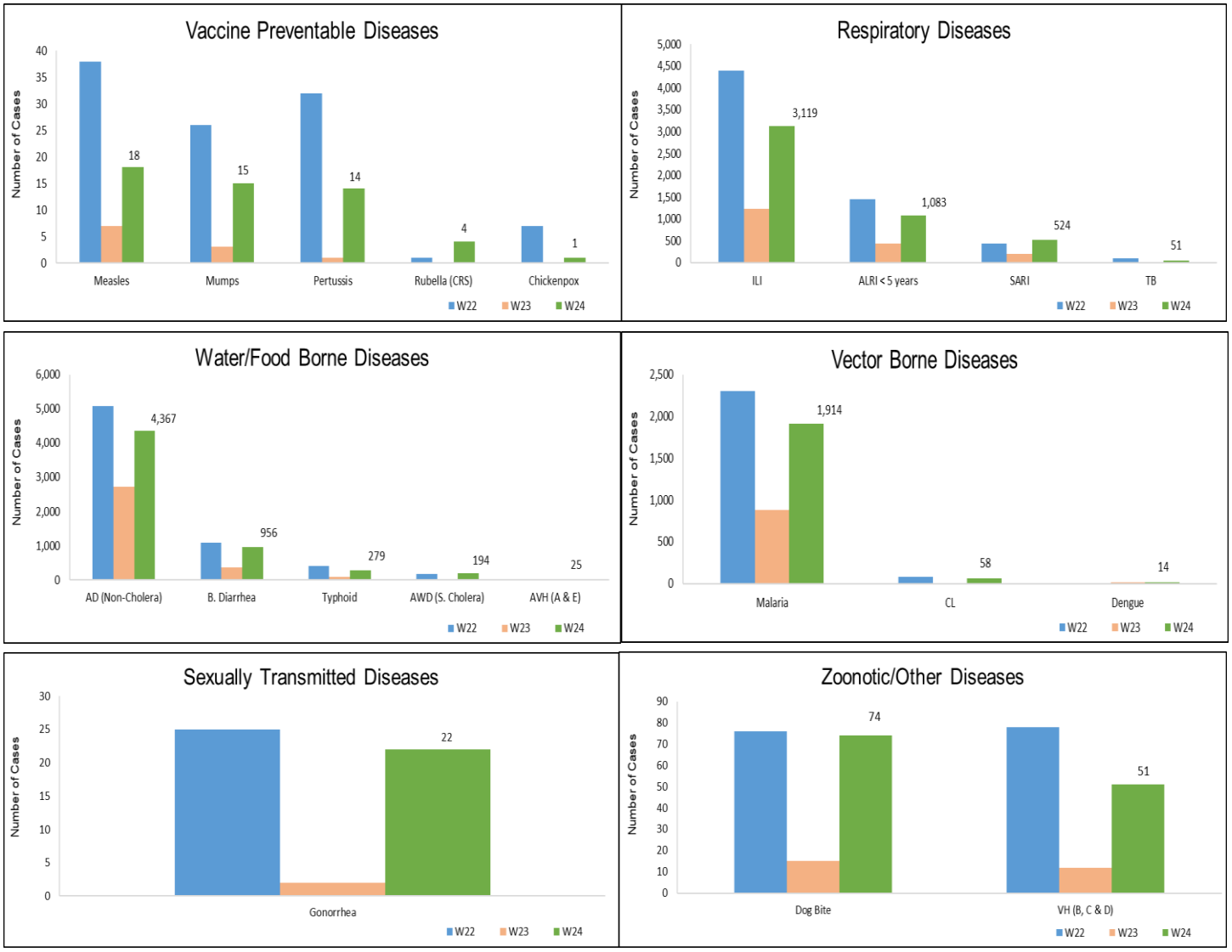
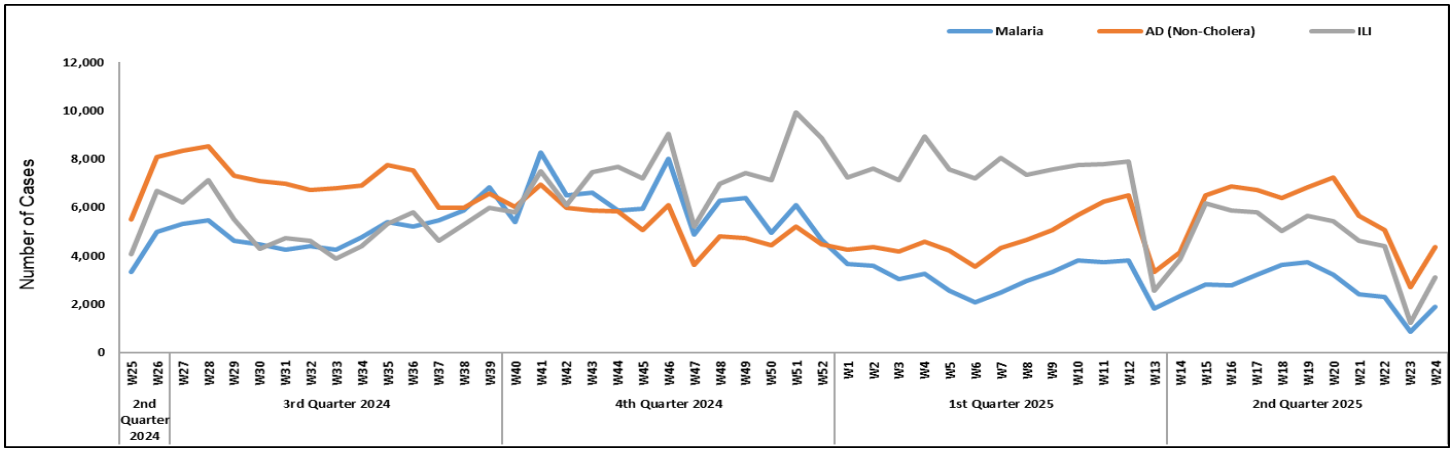



***Figure 5: Week wise reported suspected cases of Malaria, AD (Non-Cholera) & ILI, Balochistan***



## Khyber Pakhtunkhwa

- Cases of AD (Non-Cholera) were maximum followed by Malaria, ILI, Dog bite, B. Diarrhea, Typhoid, ALRI<5 Years, SARI, CL, and Measles.
- Meningitis, SARI and CL cases showed a decline in number while Acute Diarrhea (Non-Cholera), ILI, Malaria, dog bite, VH (B, C & D) and HIV/AIDs showed an increase in number this week.
- Forty-six cases of AFP reported from KP. All are suspected cases and need field verification.
- Nine cases of HIV/AIDs reported from KP. Field investigation is required.
- Ten suspected cases of Brucellosis reported from KP. They require field verification.

***Table 4: District wise distribution of most frequently reported suspected cases during Week 24, KP***

| Districts | AD (non-cholera) | Malaria | ILI | Dog Bite | B. Diarrhea | Typhoid | ALRI < 5 years | SARI | CL | Measles |
|---|---|---|---|---|---|---|---|---|---|---|
| Abbottabad | 1,305 | 1 | 49 | 17 | 8 | 12 | 8 | 2 | 0 | 3 |
| Bajaur | 674 | 210 | 55 | 89 | 61 | 10 | 11 | 59 | 19 | 23 |
| Bannu | 789 | 1,154 | 19 | 4 | 16 | 81 | 20 | 7 | 0 | 56 |
| Battagram | 357 | 32 | 406 | 6 | 5 | NR | NR | NR | 2 | NR |
| Buner | 400 | 232 | 0 | 9 | 0 | 8 | 0 | 0 | 0 | 0 |
| Charsadda | 2,138 | 262 | 739 | 1 | 81 | 51 | 224 | 5 | 0 | 40 |
| Chitral Lower | 1,204 | 17 | 111 | 11 | 37 | 5 | 12 | 16 | 6 | 2 |
| Chitral Upper | 228 | 2 | 40 | 1 | 10 | 11 | 8 | 27 | 0 | 2 |
| D.I. Khan | 1,537 | 256 | 0 | 42 | 26 | 11 | 0 | 0 | 0 | 54 |
| Dir Lower | 1,592 | 129 | 0 | 40 | 53 | 25 | 10 | 0 | 21 | 16 |
| Dir Upper | 2,014 | 25 | 38 | 26 | 17 | 21 | 36 | 0 | 7 | 8 |
| Hangu | 200 | 69 | 139 | 6 | 0 | 5 | 3 | 0 | 36 | 0 |
| Haripur | 1,376 | 19 | 198 | 7 | 0 | 10 | 10 | 0 | 0 | 7 |
| Karak | 508 | 137 | 31 | 82 | 26 | 6 | 21 | 0 | 252 | 29 |
| Khyber | 540 | 210 | 39 | 31 | 120 | 34 | 57 | 5 | 26 | 0 |
| Kohat | 796 | 67 | 4 | 27 | 45 | 22 | 0 | 0 | 6 | 2 |
| Kohistan Lower | 124 | 0 | 2 | 0 | 7 | 0 | 0 | 0 | 0 | 2 |
| Kohistan Upper | 383 | 7 | 0 | 0 | 22 | 0 | 0 | 0 | 0 | 1 |
| Kolai Palas | 90 | 3 | 10 | 0 | 10 | 0 | 1 | 0 | 0 | 0 |
| L & C Kurram | 1 | 0 | 0 | 0 | 17 | 0 | 0 | 0 | 0 | 0 |
| Lakki Marwat | 745 | 252 | 0 | 63 | 10 | 15 | 0 | 0 | 0 | 3 |
| Malakand | 956 | 23 | 42 | 0 | 0 | 92 | 0 | 0 | 1 | 17 |
| Mansehra | 1,095 | 0 | 172 | 0 | 2 | 9 | 0 | 0 | 0 | 0 |
| Mardan | 911 | 93 | 220 | 66 | 17 | 15 | 150 | 0 | 0 | 13 |
| Mohmand | 210 | 139 | 60 | 19 | 27 | 5 | 0 | 92 | 33 | 3 |
| North Waziristan | 83 | 103 | 0 | 5 | 11 | 9 | 26 | 7 | 5 | 21 |
| Nowshera | 2,558 | 152 | 20 | 100 | 31 | 10 | 6 | 5 | 3 | 6 |
| Orakzai | 105 | 19 | 9 | 4 | 22 | 0 | 0 | 0 | 0 | 0 |
| Peshawar | 3,555 | 24 | 329 | 15 | 103 | 114 | 24 | 13 | 0 | 41 |
| SD Tank | 17 | 8 | 2 | 0 | 5 | 0 | 2 | 0 | 0 | 0 |
| Shangla | 1,617 | 169 | 0 | 80 | 5 | 16 | 7 | 0 | 0 | 6 |
| South Waziristan (Lower) | 44 | 159 | 88 | 8 | 8 | 10 | 6 | 20 | 13 | 1 |
| SWU | 21 | 4 | 23 | 0 | 0 | 0 | 0 | 12 | 0 | 0 |
| Swabi | 1,617 | 45 | 391 | 236 | 29 | 84 | 38 | 27 | 0 | 19 |
| Swat | 4,587 | 12 | 96 | 77 | 87 | 85 | 105 | 0 | 0 | 8 |
| Tank | 416 | 83 | 83 | 0 | 5 | 13 | 9 | 0 | 0 | 0 |
| Tor Ghar | 117 | 36 | 6 | 16 | 49 | 4 | 5 | 21 | 6 | 3 |
| Upper Kurram | 214 | 18 | 204 | 7 | 58 | 16 | 3 | 182 | 0 | 0 |
| Total | 35,124 | 4,171 | 3,625 | 1,095 | 1,030 | 809 | 802 | 500 | 436 | 386 |

***Figure 6: Most frequently reported suspected cases during Week 24, KP***

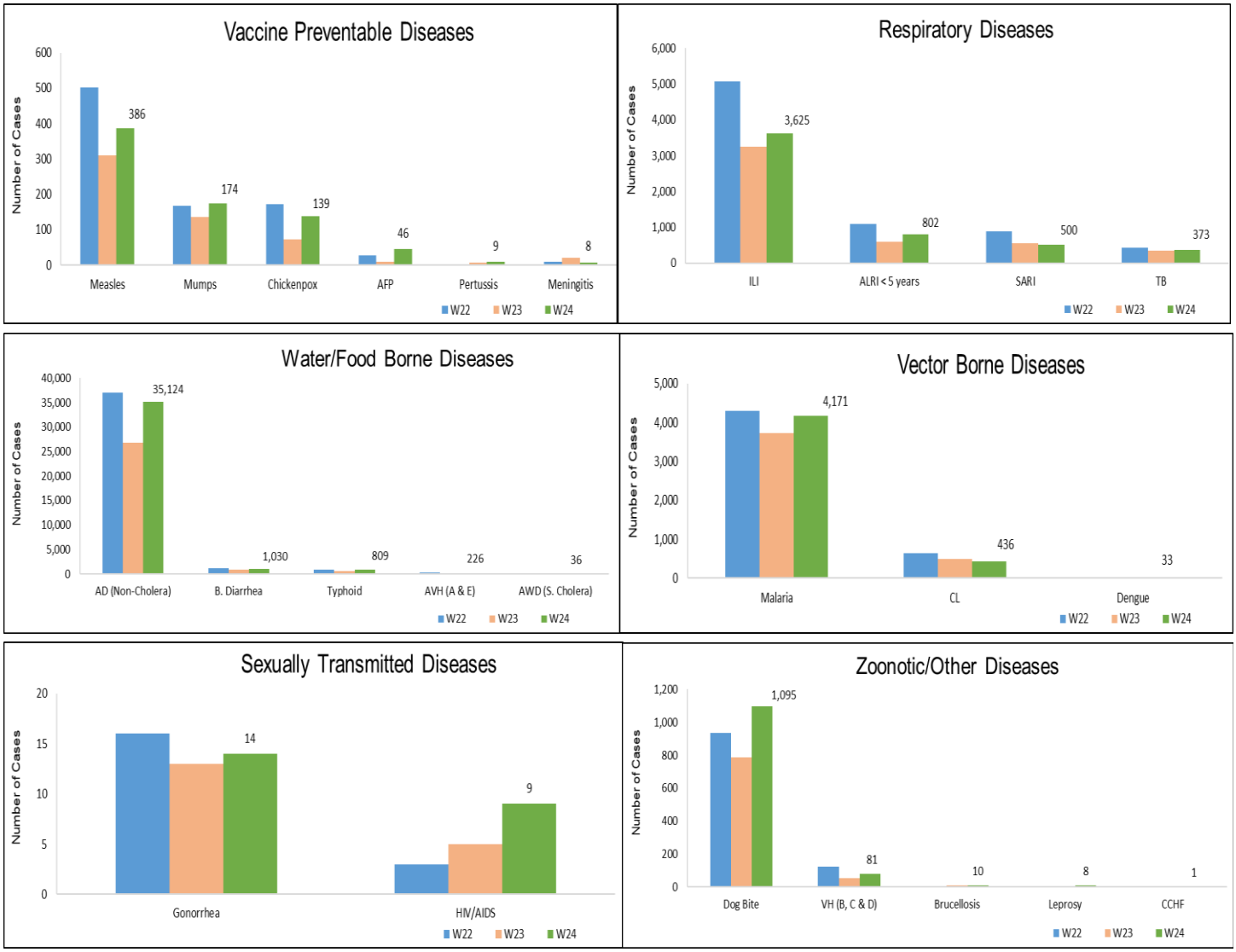
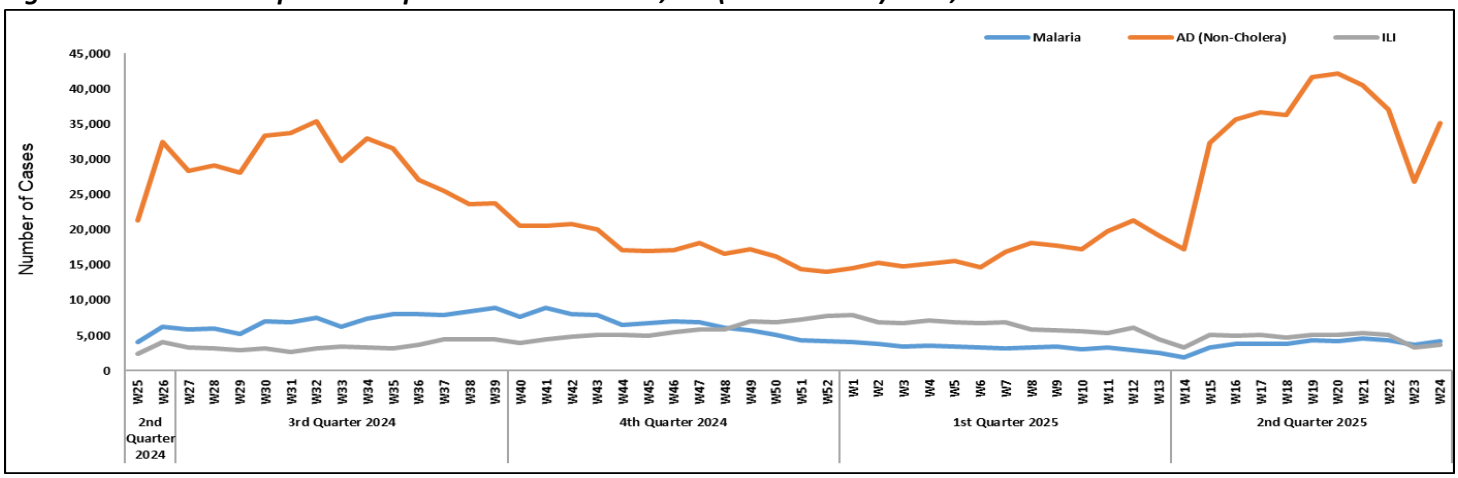



***Figure 7: Week wise reported suspected cases Malaria, AD (Non-Cholera) & ILI, KP***



- 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***

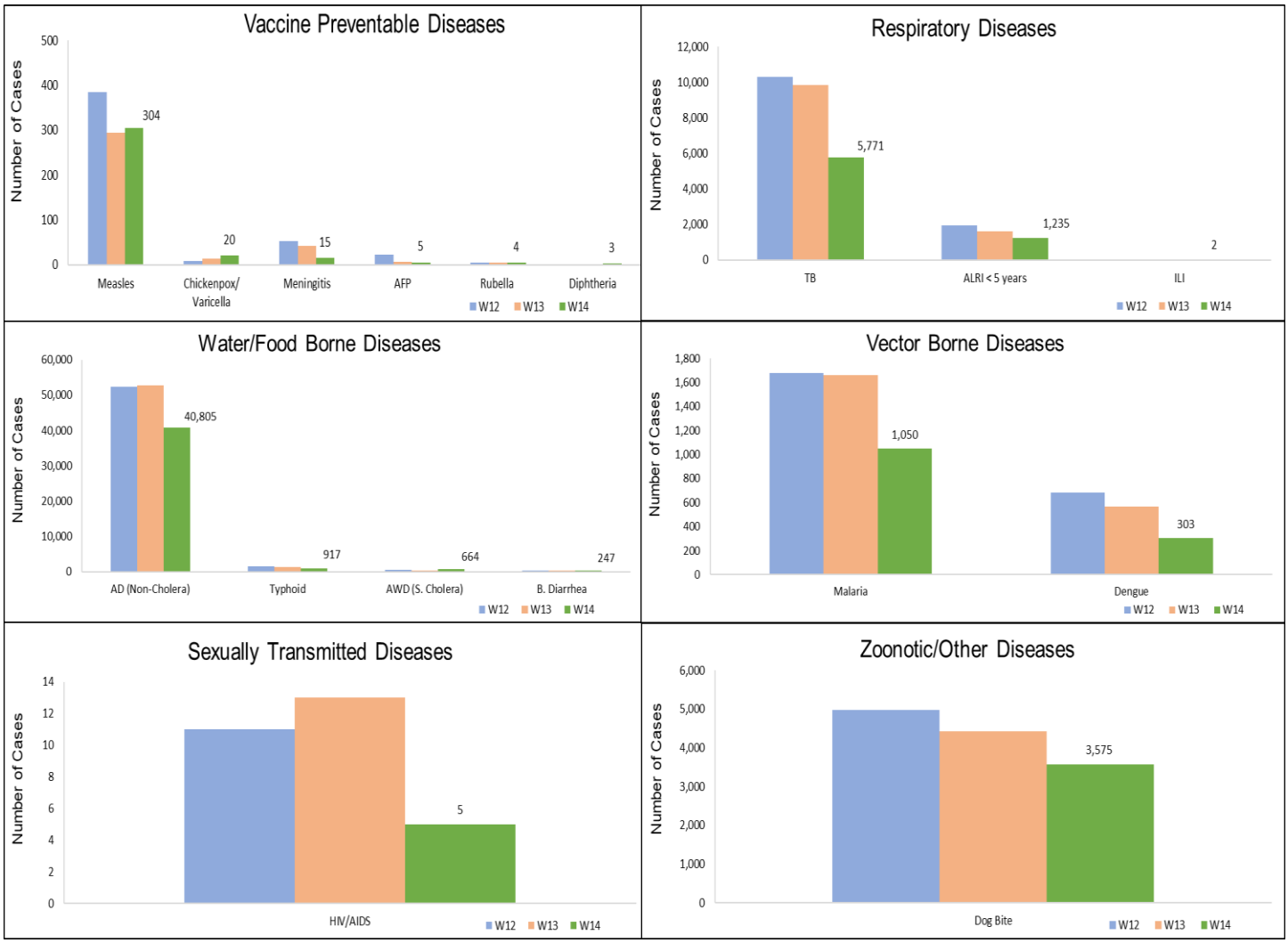
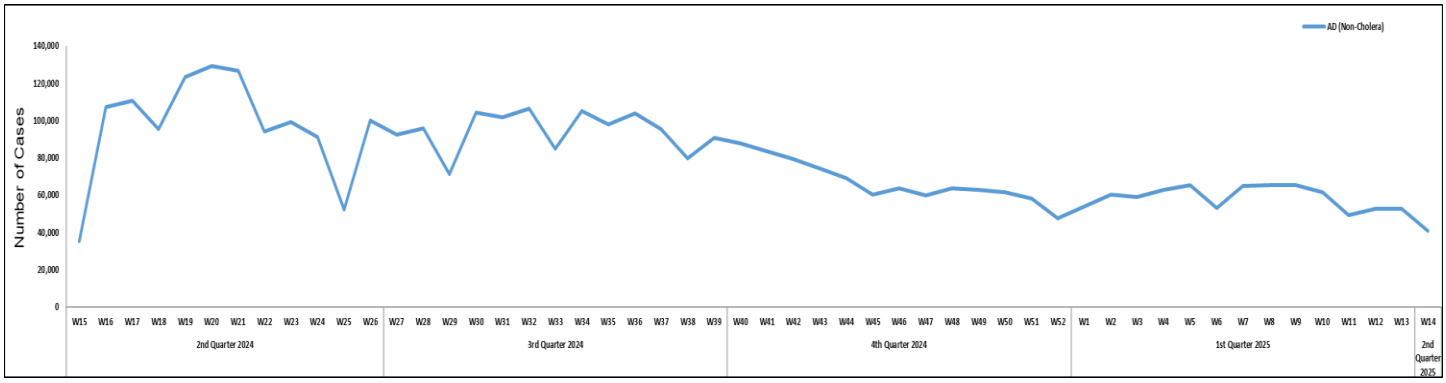



***Figure 9: Week wise reported suspected cases of AD (Non-Cholera), Punjab***



## ICT, AJK & GB

*ICT*: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and ALRI < 5years. ILI and AD (Non-Cholera) cases showed a decline in number this week.

*AJK:* AD (non-cholera) cases were maximum followed by ILI, ALRI < 5years. An increase in number of suspected cases was observed for Measles, Chickenpox, Meningitis, ILI, ALRI < 5years, AD (non-cholera) and SARI while a decline in cases observed for Mumps and Dog Bite this week.

*GB:* AD (non-cholera) cases were the most frequently reported diseases followed by ALRI <5 Years & ILI. An increase in cases observed for AD (Non-Cholera), Typhoid, B. Diarrhea, AWD (S. Cholera) ALRI, ILI, and Measles this week.

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***Figure 10: Most frequently reported suspected cases during Week 24, AJK***

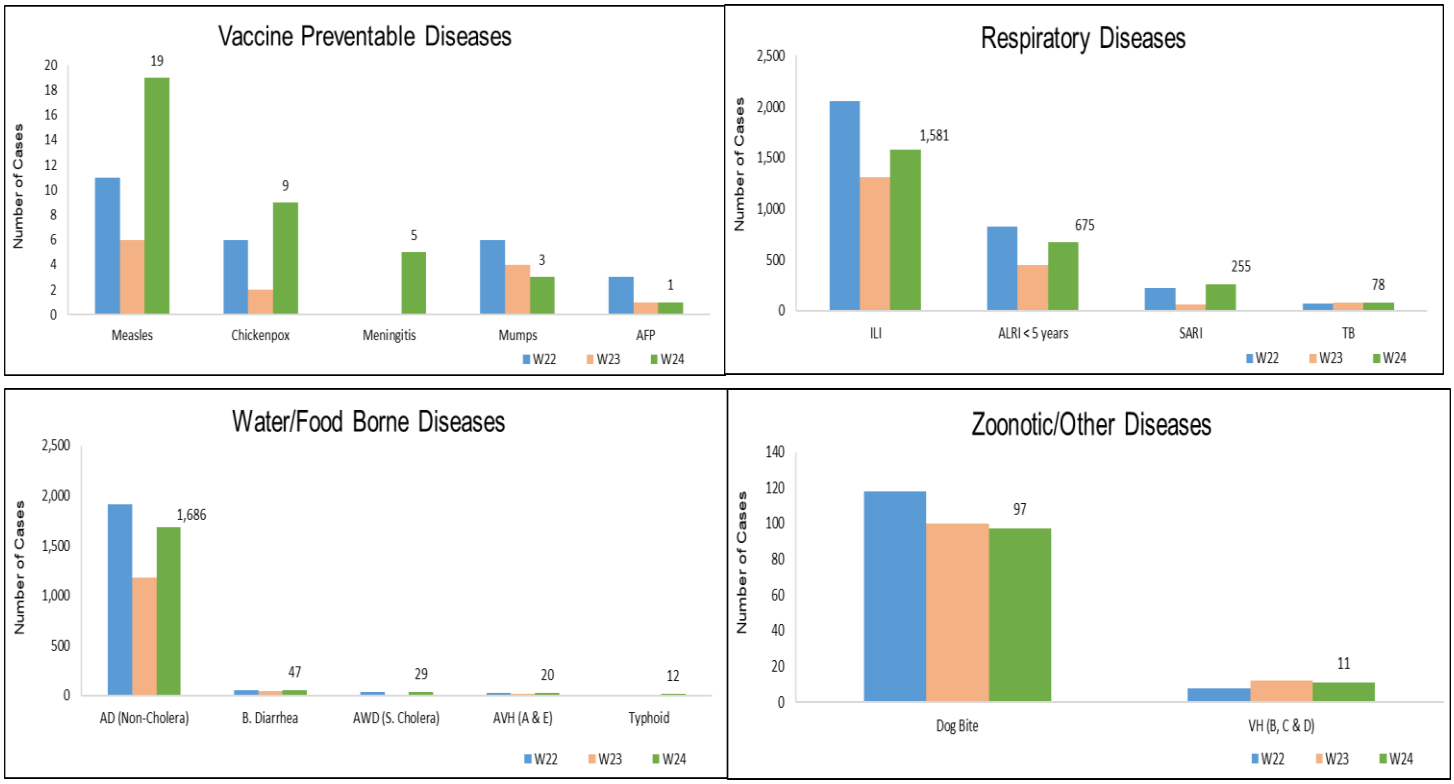


***Figure 11: Week wise reported suspected cases of ILI and AD (Non-Cholera), AJK***

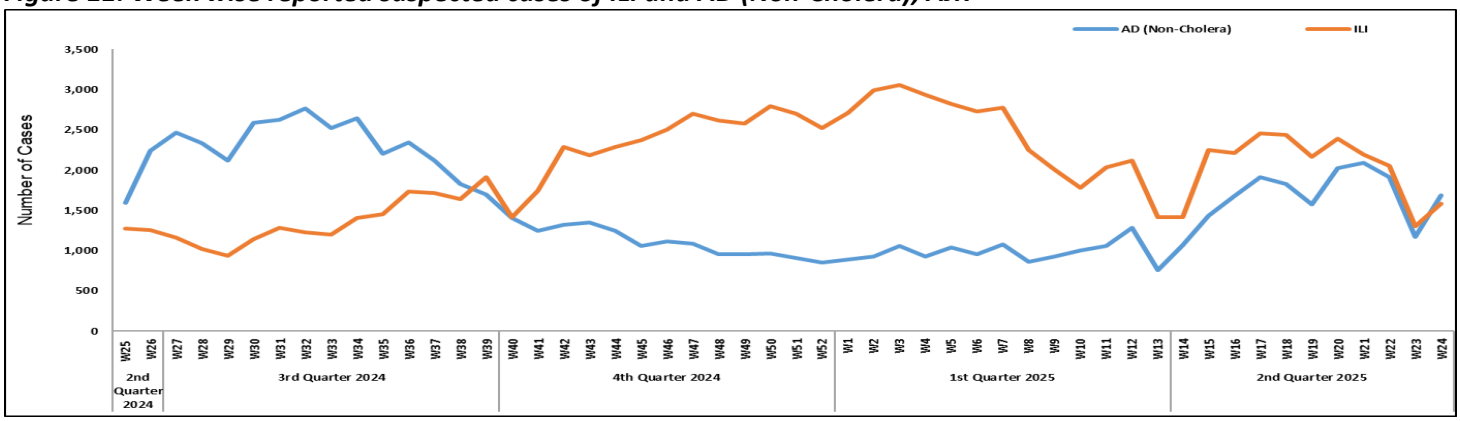

***Figure 12: Most frequently reported suspected cases during Week 24, ICT***

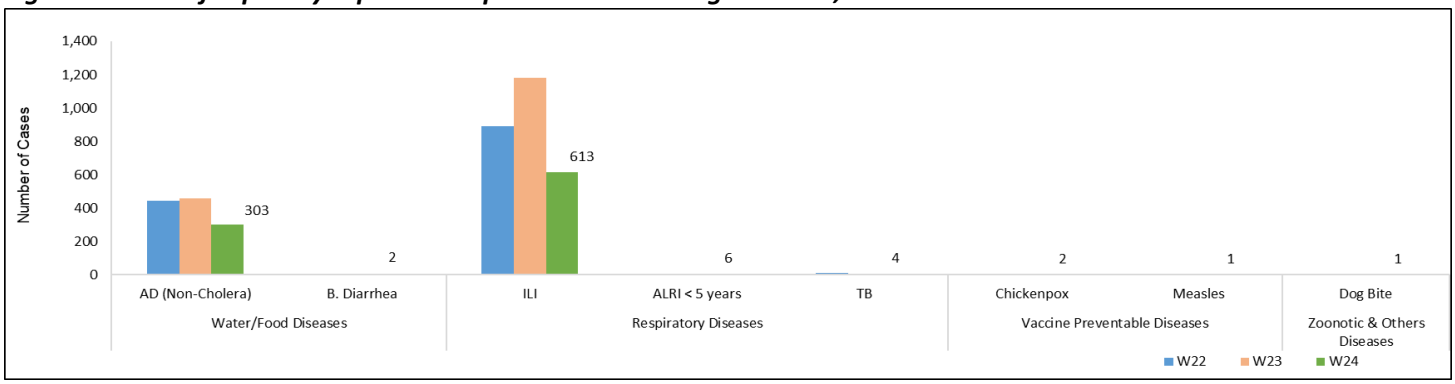


***Figure 13: Week wise reported suspected cases of ILI, ICT***

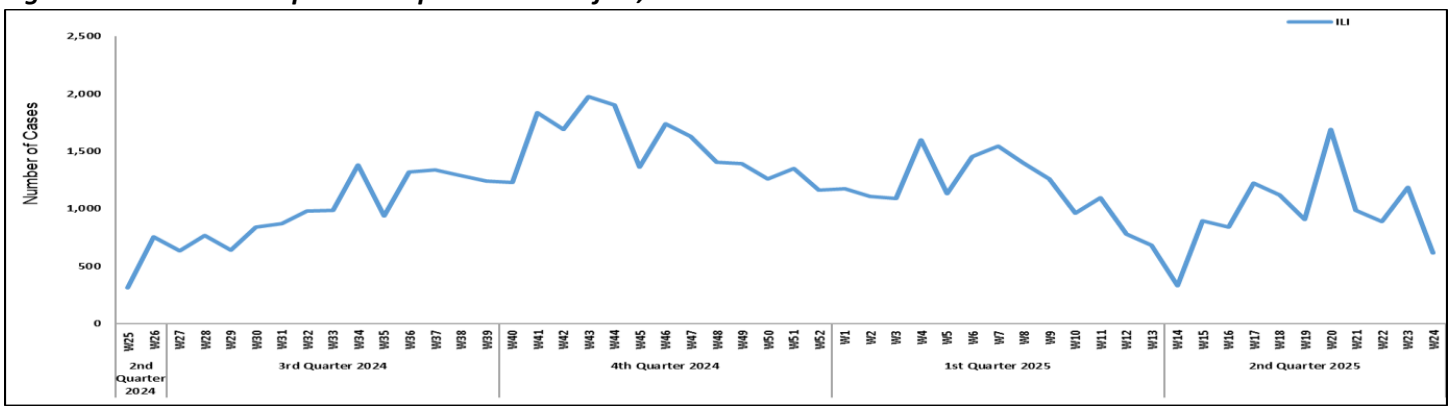


***Figure 14: Most frequent cases reported during Week 24, GB***

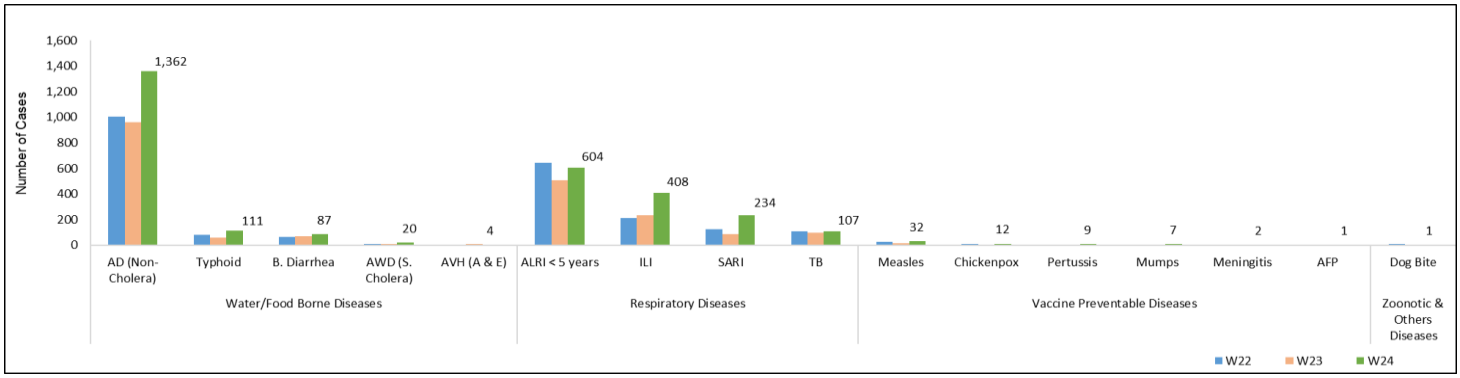


***Figure 15: Week wise reported suspected cases of AD (Non-Cholera), GB***

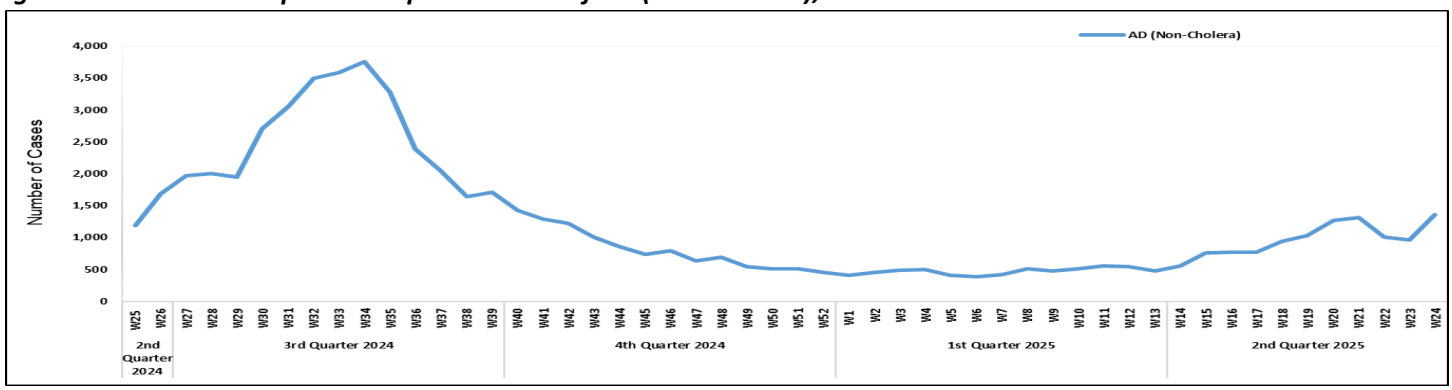

***Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epi Week 24***

| 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) | | 23 | 1 | - | - | 0 | 0 | - | - | - | - | - | - | 55 | 0 |
| Stool culture & Sensitivity | | 115 | 0 | - | - | 0 | 0 | - | - | - | - | - | - | 45 | 0 |
| Malaria | | 7,394 | 597 | - | - | 15 | 0 | - | - | - | - | - | - | 11 | 0 |
| CCHF | | 1 | 0 | 15 | 9 | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| Dengue | | 1,635 | 159 | 6 | 2 | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| VH (B) | | 13,681 | 371 | 115 | 90 | 0 | 0 | - | - | - | - | - | - | 307 | 0 |
| VH (C) | | 13,802 | 1,066 | 92 | 31 | 0 | 0 | - | - | - | - | - | - | 307 | 2 |
| VH (D) | | 54 | 22 | 31 | 6 | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| VH (A) | | 158 | 48 | - | - | 0 | 0 | - | - | - | - | - | - | 158 | 0 |
| VH (E) | | 118 | 34 | - | - | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| Covid-19 | | 112 | 2 | 1 | 0 | 0 | 0 | - | - | - | - | - | - | 13 | 0 |
| TB | | 417 | 62 | - | - | 0 | 0 | - | - | - | - | - | - | 51 | 4 |
| HIV/ AIDS | | 5,461 | 52 | - | - | 0 | 0 | - | - | - | - | - | - | 370 | 2 |
| Syphilis | | 1,159 | 20 | - | - | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| B. Diarrhea | | 14 | 0 | - | - | 0 | 0 | - | - | - | - | - | - | 10 | 0 |
| Typhoid | | 1,053 | 18 | - | - | 0 | 0 | - | - | - | - | - | - | 15 | 0 |
| Diphtheria | | 12 | 0 | - | - | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| ILI | | 24 | 1 | - | - | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| M-POX | | 0 | 0 | - | - | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| Leishmaniasis (cutaneous) | | 0 | 0 | - | - | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| Pneumonia (ALRI) | | 24 | 13 | - | - | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| Meningitis | | 0 | 0 | - | - | 0 | 0 | - | - | - | - | - | - | 0 | 0 |
| Measles | | 269 | 125 | 22 | 9 | 231 | 107 | 15 | 5 | 13 | 5 | 495 | 120 | 30 | 12 |
| Rubella | | 269 | 4 | 22 | 1 | 231 | 8 | 15 | 0 | 13 | 0 | 495 | 2 | 30 | 0 |
| Covid-19 | Out of SARI | 6 | 0 | 0 | 0 | 3 | 0 | 28 | 2 | 0 | 0 | 87 | 0 | 12 | 0 |
| | Out of ILI | 0 | 0 | 0 | 0 | 2 | 1 | 19 | 0 | 0 | 0 | 12 | 0 | 10 | 0 |
| Influenza A | Out of SARI | 6 | 0 | 0 | 0 | 3 | 0 | 28 | 0 | 0 | 0 | 87 | 0 | 12 | 0 |
| | Out of ILI | 0 | 0 | 0 | 0 | 2 | 0 | 19 | 0 | 0 | 0 | 12 | 0 | 10 | 0 |
| Influenza B | Out of SARI | 6 | 0 | 0 | 0 | 3 | 0 | 28 | 0 | 0 | 0 | 87 | 00 | 12 | 0 |
| | Out of ILI | 0 | 0 | 0 | 0 | 2 | 0 | 19 | 0 | 0 | 0 | 12 | 0 | 10 | 0 |
| RSV | Out of SARI | 6 | 0 | 0 | 0 | 3 | 0 | 28 | 0 | 0 | 0 | 87 | 0 | 12 | 0 |
| | Out of ILI | 0 | 0 | 0 | 0 | 2 | 0 | 19 | 0 | 0 | 0 | 12 | 0 | 10 | 0 |

## IDSR Reports Compliance

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

### *Table 6: IDSR reporting districts Week 24, 2025*

| Provinces/Regions | Districts | Total Number of Reporting Sites | Number of Reported Sites for current week | Compliance Rate (%) |
|---|---|---|---|---|
| Khyber Pakhtunkhwa | Abbottabad | 111 | 99 | 89% |
| | Bannu | 238 | 128 | 54% |
| | Battagram | 59 | 37 | 63% |
| | Buner | 34 | 23 | 68% |
| | Bajaur | 44 | 41 | 93% |
| | Charsadda | 59 | 57 | 97% |
| | Chitral Upper | 34 | 29 | 85% |
| | Chitral Lower | 35 | 35 | 100% |
| | D.I. Khan | 114 | 112 | 98% |
| | Dir Lower | 74 | 63 | 85% |
| | Dir Upper | 37 | 32 | 86% |
| | Hangu | 22 | 15 | 68% |
| | Haripur | 72 | 72 | 100% |
| | Karak | 36 | 36 | 100% |
| | Khyber | 53 | 43 | 81% |
| | 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 | 3 | 7% |
| | Upper Kurram | 41 | 30 | 73% |
| | Malakand | 42 | 21 | 50% |
| | Mansehra | 133 | 89 | 67% |
| | Mardan | 80 | 53 | 66% |
| | Nowshera | 56 | 53 | 95% |
| | North Waziristan | 13 | 9 | 69% |
| | Peshawar | 156 | 130 | 83% |
| | Shangla | 37 | 36 | 97% |
| | Swabi | 64 | 62 | 97% |
| | Swat | 77 | 76 | 99% |
| | South Waziristan (Upper) | 93 | 35 | 38% |
| | South Waziristan (Lower) | 42 | 21 | 50% |
| | Tank | 34 | 32 | 94% |
| | Torghar | 14 | 14 | 100% |
| | Mohmand | 68 | 58 | 85% |
| | SD Peshawar | 5 | 0 | 0% |
| | SD Tank | 58 | 4 | 7% |

| | | | | |
|---|---|---|---|---|
| | Orakzai | 69 | 14 | 20% |
| **Azad Jammu Kashmir** | Mirpur | 37 | 37 | 100% |
| | Bhimber | 42 | 20 | 48% |
| | Kotli | 60 | 60 | 100% |
| | Muzaffarabad | 45 | 45 | 100% |
| | Poonch | 46 | 46 | 100% |
| | Haveli | 39 | 39 | 100% |
| | Bagh | 40 | 40 | 100% |
| | Neelum | 39 | 0 | 0% |
| | Jhelum Velley | 29 | 28 | 97% |
| | Sudhnooti | 27 | 27 | 100% |
| **Islamabad Capital Territory** | ICT | 23 | 22 | 96% |
| | CDA | 15 | 6 | 40% |
| **Balochistan** | Gwadar | 26 | 20 | 77% |
| | Kech | 44 | 0 | 0% |
| | Khuzdar | 74 | 0 | 0% |
| | Killa Abdullah | 26 | 20 | 77% |
| | Lasbella | 55 | 55 | 100% |
| | Pishin | 69 | 54 | 78% |
| | Quetta | 55 | 11 | 20% |
| | Sibi | 36 | 20 | 56% |
| | Zhob | 39 | 28 | 72% |
| | Jaffarabad | 16 | 0 | 0% |
| | Naserabad | 32 | 32 | 100% |
| | Kharan | 30 | 30 | 100% |
| | Sherani | 15 | 0 | 0% |
| | Kohlu | 75 | 10 | 13% |
| | Chagi | 36 | 20 | 56% |
| | Kalat | 41 | 40 | 98% |
| | Harnai | 17 | 0 | 0% |
| | Kachhi (Bolan) | 35 | 9 | 26% |
| | Jhal Magsi | 28 | 28 | 100% |
| | Sohbat pur | 25 | 25 | 100% |
| | Surab | 32 | 10 | 31% |
| | Mastung | 45 | 45 | 100% |
| | Loralai | 33 | 25 | 76% |
| | Killa Saifullah | 28 | 24 | 86% |
| | Ziarat | 29 | 0 | 0% |
| | Duki | 31 | 0 | 0% |
| | Nushki | 32 | 0 | 0% |
| | Dera Bugti | 45 | 15 | 33% |
| | Washuk | 46 | 0 | 0% |
| | Panjgur | 38 | 0 | 0% |
| | Awaran | 23 | 0 | 0% |
| | Chaman | 24 | 0 | 0% |
| | Barkhan | 20 | 19 | 95% |
| | Hub | 33 | 20 | 61% |
| | Musakhel | 41 | 17 | 41% |
| | Usta Muhammad | 34 | 34 | 100% |
| **Gilgit Baltistan** | Hunza | 32 | 32 | 100% |

| | | | | |
|---|---|---|---|---|
| | Nagar | 25 | 19 | 76% |
| | Ghizer | 38 | 37 | 97% |
| | Gilgit | 42 | 42 | 100% |
| | 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 | 63 | 98% |
| | Umerkot | 62 | 62 | 100% |
| | Naushahro Feroze | 107 | 98 | 92% |
| | Tharparkar | 276 | 234 | 85% |
| | Shikarpur | 60 | 60 | 100% |
| | Thatta | 52 | 52 | 100% |
| | Larkana | 67 | 67 | 100% |
| | Kamber Shadadkot | 71 | 71 | 100% |
| | Karachi-East | 21 | 16 | 76% |
| | Karachi-West | 20 | 20 | 100% |
| | Karachi-Malir | 35 | 35 | 100% |
| | Karachi-Kemari | 22 | 20 | 91% |
| | Karachi-Central | 12 | 8 | 67% |
| | Karachi-Korangi | 18 | 18 | 100% |
| | Karachi-South | 6 | 5 | 83% |
| | Sujawal | 55 | 55 | 100% |
| | Mirpur Khas | 106 | 104 | 98% |
| | Badin | 124 | 124 | 100% |
| | Sukkur | 64 | 63 | 98% |
| | Dadu | 90 | 90 | 100% |
| | Sanghar | 100 | 98 | 98% |
| | Jacobabad | 44 | 44 | 100% |
| | Khairpur | 170 | 169 | 99% |
| | Kashmore | 59 | 59 | 100% |
| | Matiari | 42 | 42 | 100% |
| | Jamshoro | 75 | 74 | 99% |
| | Tando Allahyar | 54 | 53 | 98% |
| | Tando Muhammad Khan | 41 | 41 | 100% |
| | Shaheed Benazirabad | 122 | 122 | 100% |

*Table 7: IDSR reporting Tertiary care hospital Week 24, 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% |

# Notes from the field:

## Outbreak Investigation Report: Measles Outbreak in Sirri and Gaddai, Dera Ghazi Khan, June-July 2025

**Dr Muhammad Awais**
**Mr. Umair Ahmad**
**FETP Frontline Fellows, 23rd Cohort**

### Introduction

Measles is a highly contagious viral illness characterized by fever, maculopapular rash, cough, coryza, and conjunctivitis, with the potential to cause serious complications such as pneumonia, encephalitis, and death. Despite the availability of a safe and effective vaccine, measles remains a significant public health concern globally, particularly among children under five years of age. In 2023, the World Health Organization (WHO) reported over 140,000 measles-related deaths worldwide, with the majority occurring in unvaccinated children (1). In the Eastern Mediterranean Region, including Pakistan, measles continues to be endemic, with frequent outbreaks driven by low immunization coverage and weak surveillance systems (2). Although the disease is included in Pakistan's Expanded Programme on Immunization (EPI), substantial gaps in vaccination coverage persist, hindering eradication efforts (3,5).

On June 30, 2025, a confirmed case of measles was reported from Sirri, Dera Ghazi Khan, involving an unvaccinated child. The outbreak was subsequently amplified following a funeral in Sirri attended by residents of both Sirri and Gaddai, and potentially through hospital visits. This report documents the findings of the outbreak investigation and provides evidence-based recommendations to prevent future outbreaks.

### Objectives

- To determine the magnitude of the outbreak.
- To identify key risk factors associated with measles transmission.
- To provide actionable public health recommendations to prevent further transmission.

### Methodology

A descriptive investigation followed by a case-control study was conducted in this outbreak. The population under study included children and residents of Sirri and Gaddai, Union Councils in Dera Ghazi Khan, Punjab Province, who were potentially exposed to measles. The investigation was conducted between June 30 and July 21, 2025. A suspected case was defined as "any individual residing in Sirri and Gadai with a fever, rash, and at least one of the following symptoms: cough, coryza, or conjunctivitis, with symptom onset during June 30 and July 21, 2025. A confirmed case was either epidemiologically linked to another confirmed case or laboratory-confirmed via IgM or PCR testing. Data were collected using structured questionnaires and line listing forms documenting demographics, clinical signs, exposure history, and vaccination status. Active case finding was conducted through house-to-house visits and hospital record reviews. Laboratory investigations included serological testing (IgM/IgG), nasopharyngeal swabs for PCR and verification of vaccination status through cards or recall.

Descriptive analysis summarized the distribution of cases by person, place, and time, while analytical analysis involved a case-control study (1:2 ratio) to assess associations between key exposures such as funeral attendance, hospital visits, contact with measles cases, and vaccination status and the likelihood of infection

through the calculation of odds ratios.

## Results

A total of 15 confirmed measles cases were reported during the outbreak period from June 30 to July 21, 2025, with 10 cases originating from Sirri and 5 from Gaddai The mean age of cases was 3.6 years (Range 1 - 6 years), and 73% were children under five years of age. The male-to-female ratio was 1:1. The overall attack rate was 0.5%, with an age-specific attack rate of 1.1% among children under five. Area-specific attack rates were 0.67% in Sirri and 0.33% in Gaddai. One death was reported, resulting in a case fatality ratio of 6.7%. A majority of cases (73%) were either unvaccinated or partially vaccinated. Clinically, 80% of the cases presented with fever, rash, and cough; 60% had runny nose, and 40% experienced conjunctivitis.

Risk factor analysis shows that funeral attendance (OR=14.0), hospital visits (OR=14.2), being unvaccinated (OR=10.5), and contact with a measles case (OR=9.3) were the most significant risk factors associated with measles infection during the outbreak.

## Discussion

The measles outbreak in Sirri and Gaddai, Dera Ghazi Khan, highlights ongoing challenges in achieving adequate immunization coverage and maintaining effective disease surveillance in Pakistan. The identification confirmed cases, with a majority being unvaccinated children under the age of five, highlights the high susceptibility of this age group and the consequences of suboptimal routine immunization coverage. These findings are consistent with global patterns, where the burden of measles morbidity and mortality remains highest among unvaccinated children, particularly in low- and middle-income countries (1).

The temporal clustering of cases, with a clear peak following a large funeral gathering, suggests a super-spreader event that significantly amplified transmission. Such events, characterized by close interpersonal contact in confined or crowded settings, have been previously documented as accelerators of measles outbreaks (6). Additionally, the association of measles cases with hospital visits reflects the role of healthcare settings as potential sites of nosocomial transmission, particularly when infection prevention and control (IPC) practices are inadequate. This risk is especially concerning in resource-limited settings where triage, isolation, and case management protocols may be weak or inconsistently applied (7).

The case-control study revealed that funeral attendance and hospital exposure were the most significant risk factors for infection, followed closely by being unvaccinated and having contact with an infected. These findings align with existing literature, which consistently identifies lack of vaccination and high-contact environments as the primary drivers of measles outbreaks (8,9).

Although measles is a vaccine-preventable disease, its persistence in Pakistan reflects systemic challenges in immunization programs, including vaccine hesitancy, logistical challenges in remote or underserved areas, and lapses in timely case reporting and outbreak response. Strengthening routine immunization coverage to above 95%, as recommended by the WHO, is essential to achieving herd immunity and preventing similar outbreaks (10). Furthermore, enhancing active surveillance, rapid response capacity, and community engagement can significantly improve early detection and containment of outbreaks.

## Conclusion

The outbreak predominantly affected unvaccinated children under five. Epidemiological analysis confirmed funeral

attendance, hospital exposure, and unvaccinated status as key risk factors.

### Recommendations

**Improve Surveillance:** Enhance active case detection and ensure timely, complete reporting from health facilities.

**Strengthen Routine Immunization:** Achieve and maintain >95% measles vaccination coverage at the union council level.

**Targeted Mop-Up Campaigns:** Conduct immediate catch-up campaigns in Sirri, Gaddai, and adjacent high-risk areas.

**Healthcare Worker Training:** Train staff in measles case recognition, reporting, and infection control practices.

**Rapid Response Mechanisms:** Establish district-level outbreak investigation and response teams with pre-positioned resources.

**Community Engagement:** Mobilize community leaders to advocate for vaccination and discourage mass gatherings during outbreaks.

**Nosocomial Infection Control:** Implement triage and isolation protocols in outpatient and emergency settings.

**Data Validation and Supervision:** Routinely verify zero reporting and cross-check vaccination records at the facility level.

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# Knowledge Hub

## Understanding Measles: What You Need to Know

Measles is a highly contagious respiratory disease caused by a virus. It is spread through the air when an infected person coughs or sneezes. Measles can be serious, especially for young children, and can lead to severe health complications, including death.

### What is Measles?

Measles is caused by a virus in the paramyxovirus family. It is a vaccine-preventable disease. Before the widespread use of the Measles, Mumps, and Rubella (MMR) vaccine, measles was a very common childhood illness. While it has been largely eliminated in many regions due to high vaccination rates, outbreaks can still occur, particularly in communities with low vaccination coverage.

### How Measles Spreads

Measles is one of the most contagious diseases known. It spreads through the air when an infected person coughs or sneezes. The measles virus can remain infectious in the air and on surfaces for up to two hours after an infected person leaves the area.

**Airborne transmission:** The virus travels through the air in tiny droplets.

**Direct contact:** Touching contaminated surfaces and then touching your eyes, nose, or mouth.

A person with measles can spread the virus to others for **four days before** the rash appears and **four days after** the rash appears.

**Signs & Symptoms**

Symptoms of measles typically appear **7-14 days after exposure** to the virus.

Initial symptoms usually include:

**High fever** (can reach over 104 F or 40 C).

Cough.

Runny nose (coryza).

Red, watery eyes (conjunctivitis).

**Kolpik spots:** Tiny white spots with bluish-white centers on a red background found inside the mouth on the inner lining of the cheek. These usually appear 2-3 days after symptoms begin and before the rash.

A characteristic **measles rash** appears 3-5 days after the first symptoms:

The rash typically begins as flat, red spots on the face, along the hairline, and behind the ears.

It then spreads downwards to the neck, trunk, arms, legs, and feet.

The spots may become slightly raised and can merge together.

As the rash fades, it may leave a brownish discoloration and fine peeling of the skin.

## Complications

Measles can lead to severe complications, especially in young children (under 5 years old) and adults (over 20 years old), pregnant individuals, and people with compromised immune systems.

Common complications include:

**Ear infections (otitis media):** The most common complication.

**Diarrhea.**

**Pneumonia:** The most common cause of death from measles in young children.

**Bronchitis or croup:** Inflammation of the airways.

More severe and less common complications can include:

**Encephalitis:** Swelling of the brain, which can lead to convulsions, deafness, or intellectual disability. This is a rare but serious complication.

**Subacute Sclerosing Panencephalitis (SSPE):** A very rare, but fatal degenerative disease of the central nervous system that can develop 7 to 10 years after a person has measles, even though the person seems to have fully recovered from the initial illness.

**Pregnancy complications:** Measles during pregnancy can lead to premature birth, low birth weight, or miscarriage.

## Prevention

The best way to prevent measles is through **vaccination** with the Measles, Mumps, and Rubella (**MMR**) vaccine.

**Children:** The CDC, WHO, and other health organizations recommend two doses of the MMR vaccine:

The first dose at **12-15 months of age**.

The second dose at **4-6 years of age** (before starting school).

**Adults:** If you are an adult and not sure if you are protected against measles, talk to your doctor. You may need one or two doses of the MMR vaccine.

Don't have evidence of immunity (two doses of MMR, blood test confirming immunity, or documentation of having had measles).

Work in a healthcare setting.

Are planning international travel.

Vaccination is highly effective and safe. It not only protects the vaccinated individual but also helps to protect vulnerable community members who cannot be vaccinated (e.g., infants, people with certain medical conditions) by reducing the spread of the virus ("herd immunity").

## Diagnosis

Measles is diagnosed by a healthcare provider based on symptoms, a review of vaccination history, and laboratory tests.

**Blood test:** To confirm the presence of measles antibodies or the virus itself.

**Swab test:** From the nose or throat.

**Urine sample:** May also be used for testing.

Early diagnosis is important to confirm the infection and prevent further spread, especially in communities.

### Treatment

There is no specific antiviral treatment for measles. Care focuses on managing symptoms and preventing complications:

**Rest:** Get plenty of rest.

**Fluids:** Drink plenty of fluids (water, oral rehydration solutions) to stay hydrated.

**Fever reducers:** Use over-the-counter medications like acetaminophen (paracetamol) or ibuprofen for fever and aches. **Do NOT give aspirin to children or teenagers** due to the risk of Reye's syndrome.

**Vitamin A supplementation:** WHO recommends two doses of vitamin A for all children diagnosed with measles, particularly in developing countries, as it can reduce the risk of severe complications and death.

**Humidifier:** A humidifier may help with cough and sore throat.

**Eye care:** Keep eyes clean and protected from bright light.

Individuals with measles are typically advised to isolate themselves from others for four days after the rash appears to prevent further spread.

### More Information

For additional authoritative information on measles, please visit:

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

# MEASLES
## IT ISN'T JUST A LITTLE RASH

**Measles can be dangerous, especially for babies and young children.**

**Measles symptoms typically include:**

- **High fever** (may spike to more than 104°F)
- **Cough**
- **Runny nose**
- **Red and/or watery eyes**
- **Rash** (breaks out 3-5 days after symptoms begin)

## Measles can be serious.

Measles can cause severe health complications, including pneumonia, swelling of the brain (encephalitis) and death.

- **1 out of 5** people who get measles will be hospitalized.
- **1 out of every 20** children with measles will get pneumonia, the most common cause of death from measles in young children.
- **1 out of every 1,000** people with measles will develop brain swelling, which may lead to brain damage.
- **1 to 3 out of 1,000** people with measles will die.

**Long-term complications**

A very rare, but deadly disease called subacute sclerosing panencephalitis can develop 7 to 10 years after a person has recovered from measles.

CDC

www.cdc.gov/measles

## You have the power to protect your child.

Provide your children with safe and long-lasting protection against measles by making sure they get the measles-mumps-rubella (MMR) vaccine. Talk to your healthcare provider.

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| | https://phb.nih.org.pk/ | | https://twitter.com/NIH_Pakistan |
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UK Health Security Agency

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CDC U.S. CENTERS FOR DISEASE CONTROL AND PREVENTION