PUBLIC HEALTH BULLETIN-PAKISTAN

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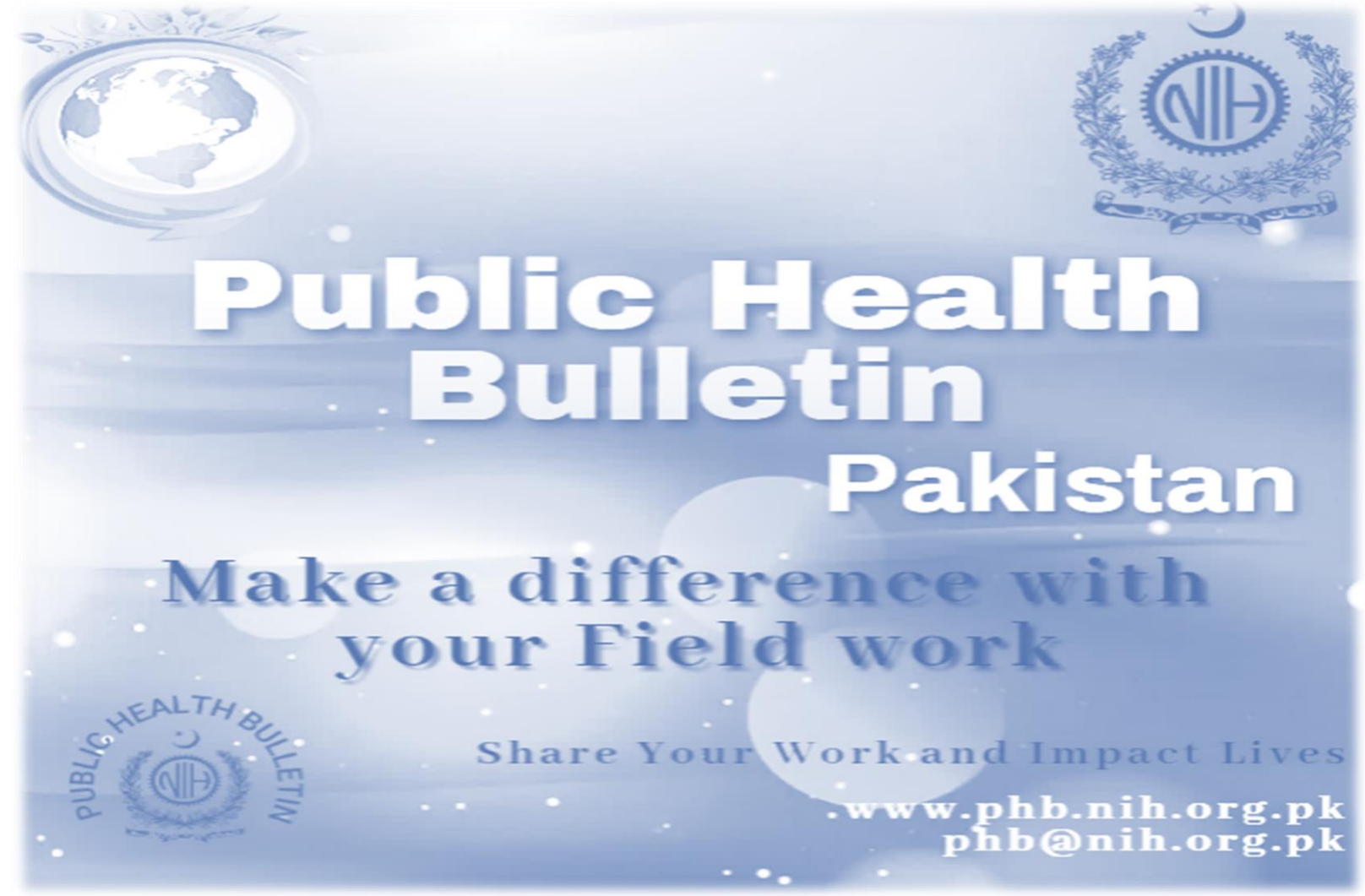
# Integrated Disease Surveillance & Response (IDSR) Report

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 52, 2023**

This week's bulletin reveals critical trends and insights relevant to public health in Pakistan:

During epidemiological week 52, Acute Diarrhea (Non-Cholera) emerged as the most frequently reported disease, followed by Malaria, Influenza-like Illness (ILI), Acute Lower Respiratory Tract Infection (ALRI) in children under 5, Bloody Diarrhea, Typhoid, Viral Hepatitis (B, C & D), Severe Acute Respiratory Infection (SARI), and Dog Bite. Ten suspected Diphtheria cases were reported from Balochistan, requiring field verification to confirm their status.

This edition features insights from ongoing field investigations of a Laboratory-Confirmed Diphtheria Case in Rawalpindi and Gujranwala's Dengue Fight with Third-Party Case Verification.

Recognizing the crucial role of individual responsibility, the closing section explores the ongoing debate on whether COVID-19 is fading or will become a seasonal threat. Emphasizing the importance of understanding and prioritizing respiratory health, the article encourages the public to practice good hygiene and seek medical attention when experiencing symptoms.

Our public health team reiterates the importance of vigilance and immediate medical consultation for any suspected infections. By working together, we can effectively safeguard the health of our communities.

Sincerely,

The Chief Editor

- *During week 52, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, ALRI <5 years, B. Diarrhea, Typhoid, VH (B, C & D), SARI, and dog bite.*
- *A high number of Measles cases are reported from KPK this week. Field investigation required to verify cases.*
- *Ten cases of Diphtheria reported from Balochistan. All are suspected cases and need field verification.*

## *IDSR compliance attributes*

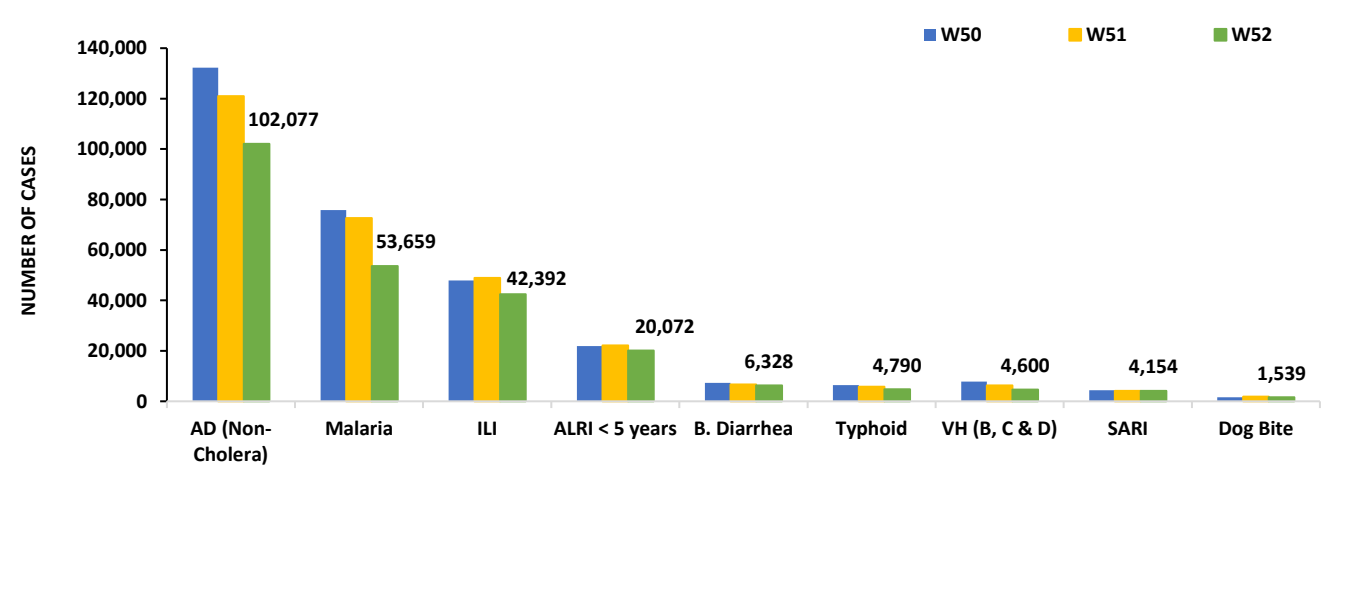
- *The national compliance rate for IDSR reporting in 124 implemented districts* is 74%
- *AJK and Sindh are the top reporting region with a compliance rate of 93% and 89% followed by Baluchistan with 87% and Gilgit Baltistan 67%*
- *The lowest compliance rate was observed in ICT.*

| *Region* | Expected Reports | Received Reports | Compliance (%) |
|---|---|---|---|
| ***Khyber Pakhtunkhwa*** | *2658* | *1530* | *58* |
| ***Azad Jammu Kashmir*** | *382* | *354* | *93* |
| ***Islamabad Capital Territory*** | *70* | *6* | *9* |
| ***Balochistan*** | *1179* | *1041* | *88* |
| ***Gilgit Baltistan*** | *390* | *262* | *67* |
| ***Sindh*** | *2088* | *1819* | *87* |
| ***National*** | *6767* | *5012* | *74* |

***Table 1: Province/Area wise distribution of most frequently reported suspected cases during week 52, Pakistan***

| Diseases | AJK | Balochistan | GB | ICT | KP | Punjab | Sindh | Total |
|---|---|---|---|---|---|---|---|---|
| AD (Non-Cholera) | 1,077 | 5,307 | 367 | 171 | 11,921 | 55,257 | 27,977 | 102,077 |
| Malaria | 81 | 5,973 | 0 | 1 | 3,163 | 2,933 | 41,508 | 53,659 |
| ILI | 3,617 | 8,670 | 525 | 1,774 | 7,092 | 26 | 20,688 | 42,392 |
| ALRI < 5 years | 1,762 | 2,607 | 749 | 7 | 2,383 | NR | 12,564 | 20,072 |
| B.Diarrhea | 67 | 1,602 | 40 | 3 | 531 | 1,347 | 2,738 | 6,328 |
| Typhoid | 32 | 779 | 41 | 0 | 577 | 2,154 | 1,207 | 4,790 |
| VH (B, C & D) | 13 | 120 | 0 | 0 | 71 | NR | 4,396 | 4,600 |
| SARI | 455 | 1,179 | 350 | 0 | 1,764 | NR | 406 | 4,154 |
| Dog Bite | 30 | 175 | 1 | 0 | 165 | NR | 1,168 | 1,539 |
| AVH(A&E) | 18 | 13 | 30 | 0 | 160 | NR | 478 | 699 |
| Mumps | 34 | 63 | 23 | 0 | 67 | NR | 293 | 480 |
| AWD (S. Cholera) | 50 | 247 | 63 | 0 | 60 | NR | 36 | 456 |
| CL | 0 | 141 | 52 | 0 | 217 | 1 | 14 | 425 |
| Measles | 4 | 44 | 1 | 1 | 255 | NR | 54 | 359 |
| Pertussis | 10 | 84 | 4 | 0 | 167 | NR | 66 | 331 |
| Chickenpox/ Varicella | 5 | 4 | 4 | 4 | 66 | 47 | 39 | 169 |
| Gonorrhea | 0 | 69 | 0 | 0 | 9 | NR | 9 | 87 |
| Dengue | 0 | 11 | 0 | 0 | 0 | NR | 60 | 71 |
| VL | 0 | 23 | 0 | 0 | 3 | NR | 9 | 35 |
| Meningitis | 3 | 3 | 0 | 0 | 12 | NR | 12 | 30 |
| AFP | 5 | 0 | 0 | 0 | 16 | NR | 4 | 25 |
| Syphilis | 0 | 3 | 0 | 0 | 2 | 4 | 16 | 25 |
| Diphtheria (Probable) | 0 | 10 | 1 | 0 | 4 | NR | 0 | 15 |
| Brucellosis | 0 | 0 | 0 | 0 | 8 | NR | 0 | 8 |
| Rubella (CRS) | 0 | 4 | 0 | 0 | 1 | NR | 1 | 6 |
| NT | 0 | 0 | 0 | 0 | 5 | NR | 0 | 5 |
| Chikungunya | 0 | 0 | 0 | 0 | 2 | NR | 0 | 2 |
| HIV/AIDS | 0 | 0 | 0 | 0 | 0 | NR | 0 | 0 |

***Figure 1: Most frequently reported suspected cases during week 52, Pakistan.***



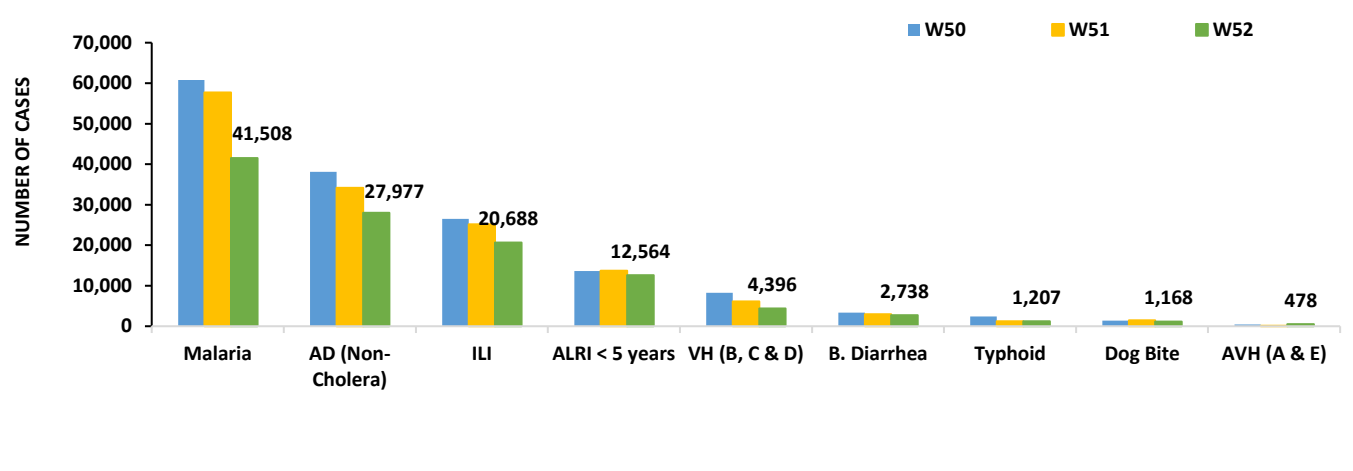
# Sindh

- Malaria cases were maximum followed by AD (Non-Cholera), ILI, ALRI<5 Years, VH (B, C, D), B. Diarrhea, Typhoid, dog bite and AVH (A&E).
- Malaria cases are from Khairpur, Larkana and Kambar whereas AD cases are mostly from Khairpur, Badin and Tharparkar.
- There is a decline trend in cases observed for Malaria, AD (Non- Cholera) and ILI cases this week.

***Table 2: District wise distribution of most frequently reported suspected cases during week 52, Sindh***

| DISTRICTS | Malaria | AD (Non-Cholera) | ILI | ALRI < 5 years | VH (B, C & D) | B. Diarrhea | Typhoid | Dog Bite | AVH(A&E) |
|---|---|---|---|---|---|---|---|---|---|
| Badin | 1,743 | 1,916 | 661 | 620 | 301 | 174 | 30 | 56 | 8 |
| Dadu | 2,840 | 1,353 | 0 | 890 | 3 | 313 | 134 | 51 | 9 |
| Ghotki | 257 | 495 | 0 | 598 | 333 | 158 | 0 | 151 | 1 |
| Hyderabad | 131 | 531 | 331 | 46 | 32 | 12 | 14 | 0 | 0 |
| Jacobabad | 1,815 | 775 | 377 | 930 | 158 | 92 | 16 | 87 | 1 |
| Jamshoro | 2,415 | 1,102 | 106 | 206 | 117 | 86 | 56 | 9 | 8 |
| Kamber | 3,146 | 1,174 | 0 | 538 | 241 | 124 | 19 | 28 | 0 |
| Karachi Central | 33 | 620 | 1,564 | 62 | 251 | 7 | 38 | 0 | 1 |
| Karachi East | 52 | 422 | 294 | 29 | 0 | 4 | 0 | 4 | 0 |
| Karachi Keamari | 4 | 150 | 84 | 25 | 0 | 1 | 1 | 0 | 0 |
| Karachi Korangi | 50 | 207 | 349 | 2 | 0 | 0 | 8 | 0 | 1 |
| Karachi Malir | 39 | 357 | 1,391 | 108 | 4 | 46 | 15 | 25 | 2 |
| Karachi South | 11 | 65 | 0 | 0 | 0 | 2 | 0 | 0 | 1 |
| Karachi West | 150 | 666 | 624 | 244 | 28 | 38 | 32 | 34 | 7 |
| Kashmore | 1,996 | 452 | 1,047 | 337 | 45 | 51 | 10 | 79 | 0 |
| Khairpur | 5,012 | 2,681 | 4,046 | 1,357 | 583 | 392 | 506 | 118 | 1 |
| Larkana | 4,620 | 1,514 | 14 | 829 | 155 | 210 | 1 | 0 | 5 |
| Matiari | 920 | 1,054 | 32 | 431 | 249 | 69 | 10 | 28 | 1 |
| Mirpurkhas | 2,116 | 1,571 | 3,104 | 850 | 170 | 65 | 11 | 56 | 2 |
| Naushero Feroze | 776 | 584 | 951 | 140 | 73 | 39 | 51 | 104 | 0 |
| Sanghar | 2,189 | 1,264 | 48 | 756 | 527 | 55 | 53 | 49 | 5 |
| Shaheed Benazirabad | 1,139 | 1,391 | 0 | 457 | 95 | 81 | 110 | 47 | 0 |
| Shikarpur | 1,887 | 894 | 3 | 207 | 290 | 137 | 3 | 65 | 0 |
| Sujawal | 912 | 610 | 0 | 201 | 16 | 39 | 0 | 38 | 17 |
| Sukkur | 2,028 | 860 | 1,806 | 361 | 352 | 167 | 0 | 57 | 0 |
| Tando Allahyar | 671 | 845 | 1,073 | 308 | 81 | 103 | 7 | 7 | 0 |
| Tando Muhammad Khan | 579 | 548 | 0 | 210 | 80 | 52 | 2 | 0 | 0 |
| Tharparkar | 1,682 | 1,806 | 2,031 | 1,033 | 39 | 117 | 50 | 0 | 12 |
| Thatta | 1,339 | 899 | 752 | 356 | 154 | 33 | 23 | 75 | 395 |
| Umerkot | 956 | 1,171 | 0 | 433 | 19 | 71 | 7 | 0 | 1 |
| Total | 41,508 | 27,977 | 20,688 | 12,564 | 4,396 | 2,738 | 1,207 | 1,168 | 478 |

***Figure 2: Most frequently reported suspected cases during week 52 Sindh***



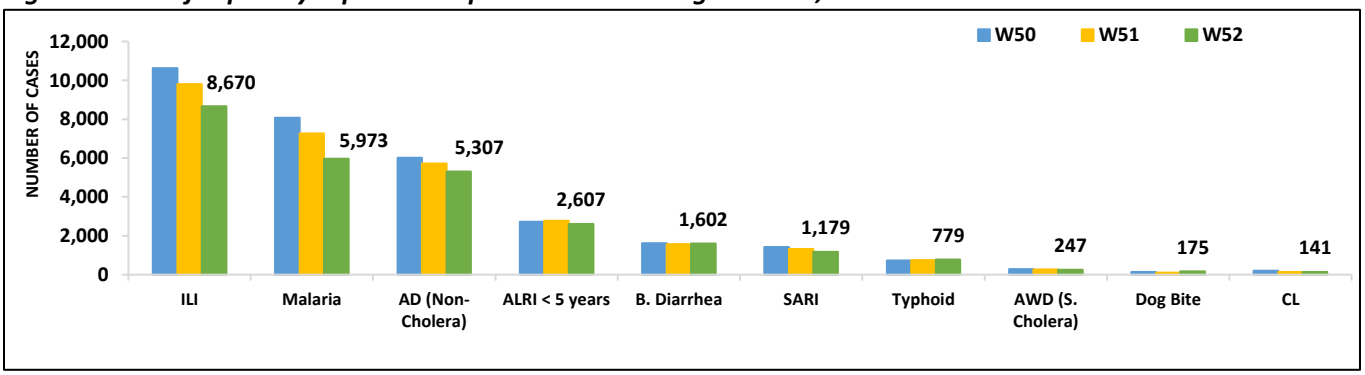
# Balochistan

- ILI, Malaria, AD (Non-Cholera), ALRI <5 years, B. Diarrhea, SARI, Typhoid, AWD (S. Cholera), dog bite and CL were the most frequently reported disease.
- Declining trend for ILI, Malaria and AD (Non-Cholera) cases observed this week.
- Cases of ALRI <5 years were reported in high numbers from Zhob, Usta Muhammad and Harnai. All are suspected cases and need field investigation to verify the cases.
- Ten cases of Diphtheria reported from Balochistan. All are suspected cases and need field verification..

***Table 3: District wise distribution of most frequently reported suspected cases during week 52, Balochistan***

| Districts | ILI | Malaria | AD Non-Cholera) | ALRI < 5 years | B. Diarrhea | SARI | Typhoid | AWD (S.Cholera) | Dog Bite | CL |
|---|---|---|---|---|---|---|---|---|---|---|
| Awaran | 40 | 66 | 26 | 2 | 18 | 5 | 8 | 14 | 0 | 0 |
| Barkhan | 236 | 30 | 142 | 192 | 18 | 9 | 89 | 3 | 4 | 1 |
| Chagai | 361 | 12 | 129 | 1 | 49 | 3 | 32 | 25 | 2 | 0 |
| Chaman | 255 | 1 | 107 | 10 | 152 | 28 | 58 | 11 | 0 | 9 |
| Dera Bugti | 79 | 203 | 70 | 63 | 43 | 20 | 10 | 0 | 1 | 0 |
| Duki | 79 | 20 | 92 | 53 | 66 | 72 | 10 | 9 | 7 | 2 |
| Gwadar | 652 | 80 | 252 | 36 | 33 | 0 | 8 | 0 | 0 | 2 |
| Harnai | 22 | 53 | 84 | 256 | 76 | 0 | 0 | 5 | 4 | 0 |
| Hub | 101 | 156 | 184 | 25 | 48 | 81 | 4 | 9 | 69 | 5 |
| Jaffarabad | 143 | 694 | 319 | 48 | 48 | 33 | 2 | 0 | 14 | 37 |
| Jhal Magsi | 185 | 698 | 276 | 137 | 10 | 0 | 28 | 1 | 13 | 3 |
| Kachhi (Bolan) | 206 | 393 | 218 | 32 | 47 | 35 | 43 | 20 | 19 | 6 |
| Kalat | 36 | 24 | 50 | 26 | 27 | 0 | 34 | 0 | 0 | 3 |
| Kech (Turbat) | 995 | 273 | 342 | 92 | 43 | 3 | NR | NR | NR | NR |
| Kharan | 392 | 59 | 115 | 0 | 58 | 8 | 3 | 6 | 0 | 0 |
| Khuzdar | 135 | 65 | 69 | 12 | 35 | 7 | 10 | 0 | 0 | 0 |
| Killa Saifullah | 6 | 110 | 119 | 177 | 58 | 4 | 17 | 0 | 0 | 0 |
| Kohlu | 633 | 135 | 221 | 83 | 153 | 148 | 42 | 33 | 1 | 2 |
| Lasbella | 87 | 437 | 249 | 128 | 15 | 46 | 2 | 0 | 9 | 13 |
| Loralai | 420 | 71 | 135 | 67 | 67 | 152 | 32 | 1 | 0 | 1 |
| Mastung | 205 | 17 | 108 | 20 | 37 | 101 | 24 | 2 | 0 | 1 |
| Musa Khel | 124 | 107 | 72 | 56 | 23 | 12 | 25 | 27 | 9 | 0 |
| Naseerabad | 2 | 383 | 190 | 20 | 8 | 2 | 46 | 0 | 5 | 1 |
| Nushki | 32 | 2 | 117 | 0 | 47 | 5 | 0 | 2 | 0 | 0 |
| Panjgur | 115 | 91 | 62 | 97 | 16 | 12 | 2 | 22 | 0 | 1 |
| Pishin | 211 | 2 | 20 | 39 | 21 | 0 | 5 | 0 | 7 | 5 |
| Quetta | 1,248 | 8 | 365 | 63 | 72 | 4 | 26 | 4 | 0 | 27 |
| Sherani | 89 | 2 | 21 | 0 | 18 | 89 | 2 | 4 | 0 | 2 |
| Sibi | 336 | 382 | 161 | 60 | 33 | 61 | 46 | 11 | 4 | 15 |
| Sohbat pur | 0 | 666 | 229 | 111 | 60 | 38 | 76 | 2 | 1 | 4 |
| Surab | 137 | 53 | 97 | 34 | 0 | 58 | 55 | 0 | 0 | 0 |
| Usta Muhammad | 187 | 537 | 358 | 288 | 43 | 13 | 7 | 0 | 2 | 1 |
| Washuk | 325 | 53 | 99 | 5 | 67 | 11 | 4 | 0 | 0 | 0 |
| Zhob | 294 | 66 | 127 | 301 | 41 | 97 | 9 | 5 | 0 | 0 |
| Ziarat | 302 | 24 | 82 | 73 | 52 | 22 | 20 | 31 | 4 | 0 |
| Total | 8,670 | 5,973 | 5,307 | 2,607 | 1,602 | 1,179 | 779 | 247 | 175 | 141 |

***Figure 3: Most frequently reported suspected cases during week 52, Balochistan***



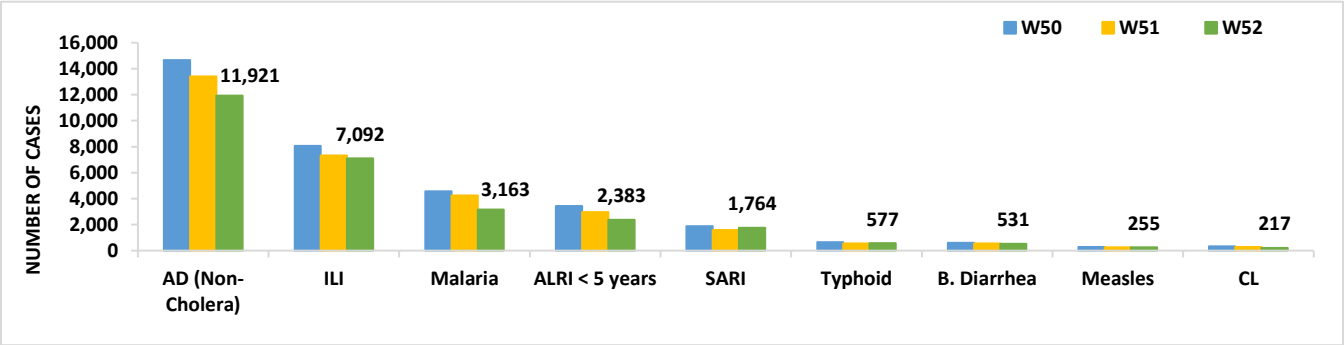
## Khyber Pakhtunkhwa

- Cases of AD (Non-Cholera) were maximum followed by ILI, Malaria, ALRI<5 Years, SARI, Typhoid, B. Diarrhea, Measles and CL cases.
- AD (Non-Cholera), ILI and Malaria cases showed a decline trend this week.
- One hundred and six Typhoid cases from Peshawar and 58 cases of Measles from D. I. Khan were reported this week. These are suspected cases and a field investigation is required to verify cases.

***Table 4: District wise distribution of most frequently reported suspected cases during week 52, KP***

| Districts | AD (Non-Cholera) | ILI | Malaria | ALRI <5 Years | SARI | Typhoid | B. Diarrhea | CL | Measles |
|---|---|---|---|---|---|---|---|---|---|
| Abbottabad | 291 | 109 | 1 | 26 | 35 | 9 | 2 | 2 | 0 |
| Bajaur | 151 | 37 | 50 | 15 | 6 | 1 | 15 | 1 | 0 |
| Bannu | 638 | 2 | 1,111 | 25 | 0 | 61 | 3 | 21 | 0 |
| Battagram | 80 | 440 | 26 | 0 | 2 | 0 | 0 | 1 | 0 |
| Buner | 219 | 0 | 133 | 46 | 0 | 3 | 4 | 2 | 0 |
| Charsadda | 678 | 471 | 187 | 83 | 119 | 49 | 15 | 2 | 0 |
| Chitral Lower | 147 | 143 | 12 | 76 | 62 | 13 | 13 | 2 | 3 |
| Chitral Upper | 68 | 13 | 6 | 26 | 8 | 26 | 4 | 0 | 0 |
| D.I. Khan | 630 | 0 | 220 | 60 | 7 | 0 | 12 | 58 | 0 |
| Dir Lower | 733 | 6 | 414 | 296 | 0 | 28 | 66 | 10 | 2 |
| Dir Upper | 213 | 397 | 5 | 30 | 13 | 40 | 3 | 3 | 10 |
| Hangu | 157 | 222 | 233 | 8 | 22 | 6 | 5 | 1 | 9 |
| Haripur | 544 | 756 | 10 | 210 | 39 | 44 | 9 | 0 | 0 |
| Karak | 186 | 92 | 57 | 13 | 0 | 3 | 0 | 39 | 43 |
| Khyber | 46 | 146 | 16 | 19 | 5 | 3 | 18 | 3 | 20 |
| Kohat | 44 | 32 | 12 | 0 | 0 | 0 | 0 | 0 | 0 |
| Kohistan Lower | 98 | 0 | 0 | 7 | 0 | 0 | 8 | 0 | 0 |
| Kohistan Upper | 177 | 25 | 1 | 12 | 48 | 4 | 20 | 3 | 0 |
| Kolai Palas | 96 | 0 | 1 | 17 | 36 | 0 | 5 | 0 | 1 |
| L & C Kurram | 2 | 62 | 0 | 0 | 0 | 1 | 4 | 0 | 0 |
| Lakki Marwat | 273 | 5 | 142 | 121 | 0 | 8 | 9 | 5 | 7 |
| Malakand | 375 | 12 | 7 | 69 | 5 | 4 | 42 | 15 | 11 |
| Mansehra | 336 | 571 | 0 | 49 | 100 | 0 | 2 | 0 | 0 |
| Mardan | 542 | 41 | 8 | 318 | 2 | 0 | 16 | 0 | 1 |
| Mohmand | 98 | 104 | 86 | 22 | 76 | 13 | 16 | 2 | 52 |
| NWA | 0 | NR | 5 | NR | NR | 0 | 0 | NR | 5 |
| Nowshera | 760 | 368 | 5 | 11 | 16 | 12 | 26 | 1 | 3 |
| Peshawar | 1,913 | 1,184 | 48 | 300 | 161 | 106 | 101 | 37 | 2 |
| SD DI Khan | 10 | 0 | 4 | 0 | 0 | 0 | 0 | 0 | 0 |
| SD Peshawar | 2 | 15 | 0 | 1 | 0 | 0 | 0 | 0 | 0 |
| SD Tank | 1 | 0 | 2 | 0 | 0 | 1 | 0 | 0 | 0 |
| Shangla | 186 | 0 | 21 | 23 | 18 | 13 | 0 | 2 | 0 |
| SWA | 63 | 173 | 69 | 134 | 99 | 57 | 29 | 3 | 9 |
| Swabi | 644 | 935 | 17 | 266 | 97 | 17 | 8 | 14 | 0 |
| Swat | 1,144 | 236 | 16 | 77 | 0 | 0 | 27 | 13 | 0 |
| Tank | 238 | 5 | 214 | 8 | 0 | 35 | 1 | 5 | 28 |
| Tor Ghar | 37 | 0 | 22 | 5 | 32 | 5 | 9 | 1 | 11 |
| Upper Kurram | 101 | 490 | 2 | 10 | 756 | 15 | 39 | 9 | 0 |
| Total | 11,921 | 7,092 | 3,163 | 2,383 | 1,764 | 577 | 531 | 255 | 217 |

***Figure 4: Most frequently reported suspected cases during week 52, KP***



## ICT, AJK & GB

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

*AJK:* ILI cases were maximum followed by ALRI <5 years, AD (Non-Cholera), SARI, Malaria, B. Diarrhea, AWD (S. Cholera), Mumps and Typhoid. Trend for ILI cases remained same whereas AD (Non-Cholera) and ALRI <5 years showed a downward trend in cases this week.

*GB:* ALRI<5 years cases were the most frequently reported diseases followed by ILI, AD (Non. Cholera), SARI, AWD (S. Cholera), CL and Typhoid. Trend of ALRI<5 years and AD (Non. Cholera) cases remained same this week.

***Figure 5: Week wise reported suspected cases of ILI, ICT***

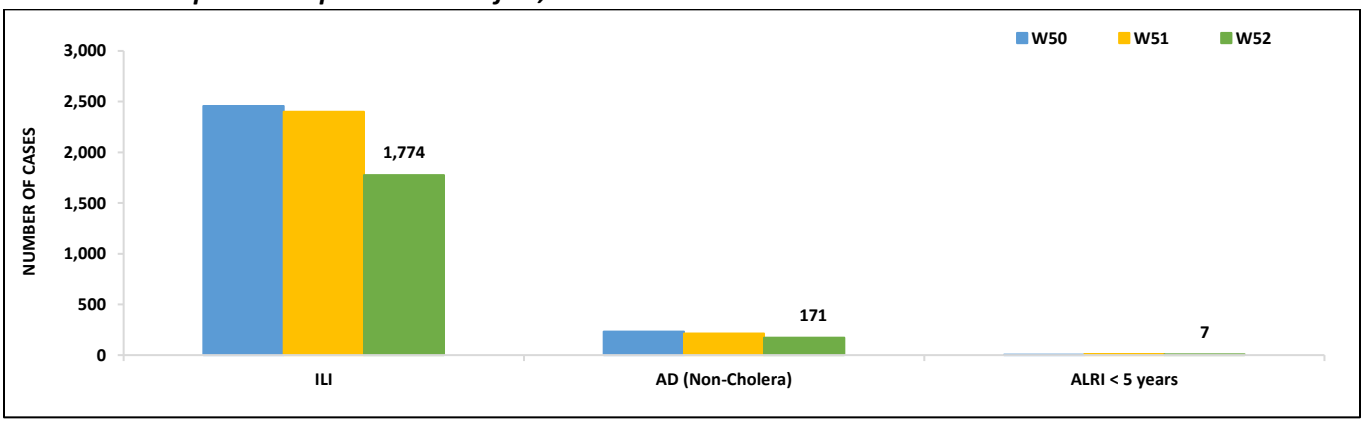



***Figure 6: Week wise reported suspected cases of ILI, ICT***

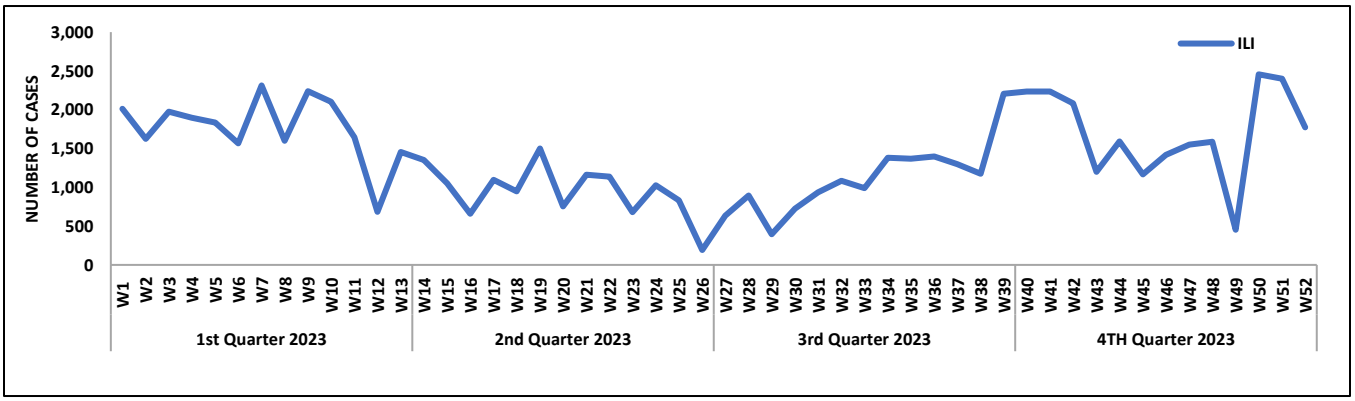



***Figure 7: Most frequently reported suspected cases during week 52, AJK***

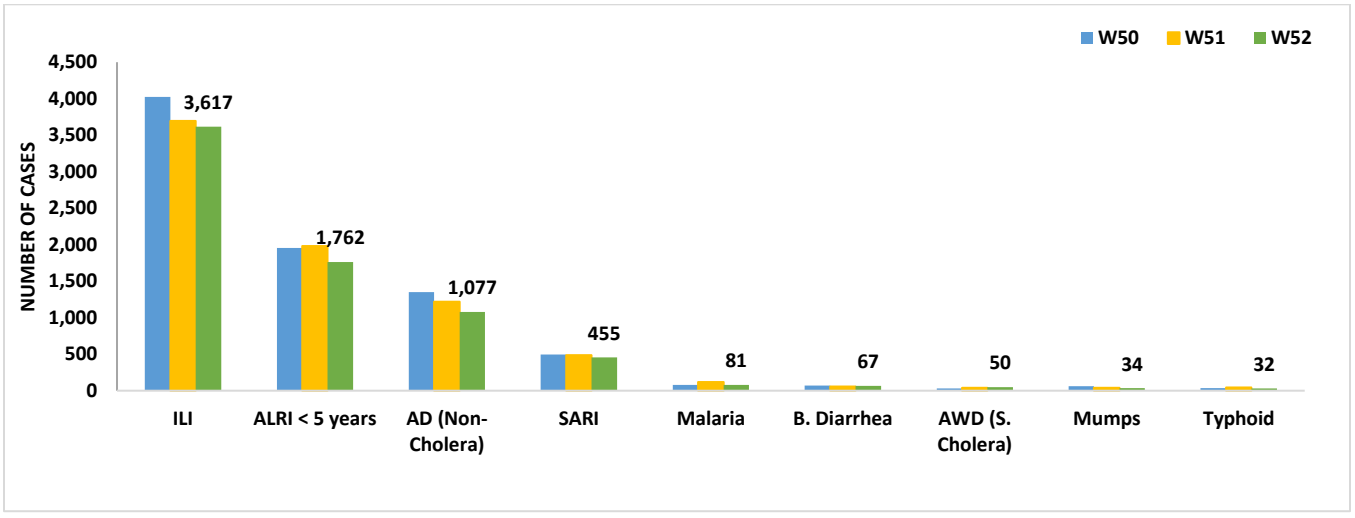


*Figure 8: Week wise reported suspected cases of ILI and ALRI<5 years AJK*

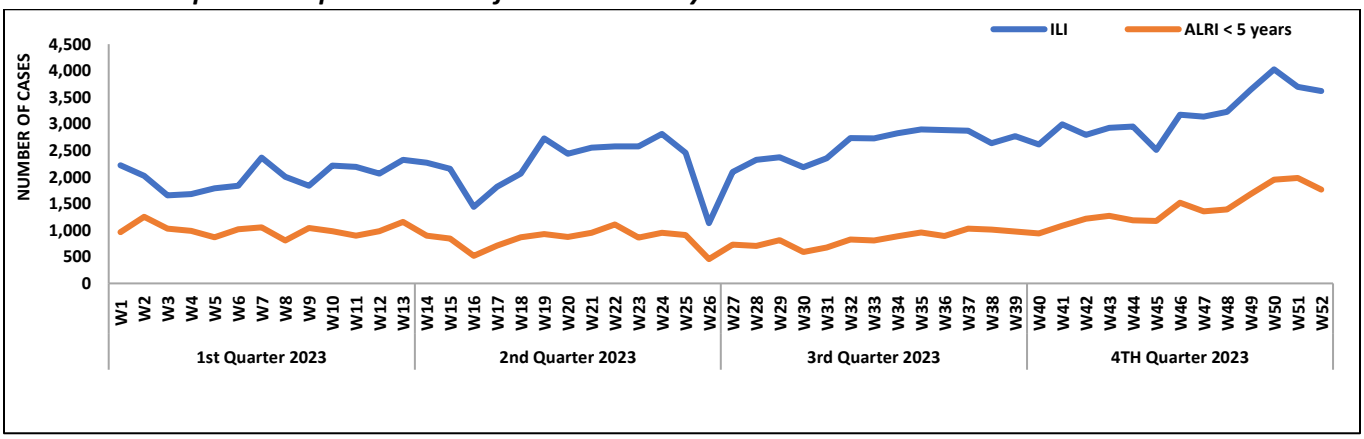



*Figure 9: Most frequent cases reported during WK 52, GB*

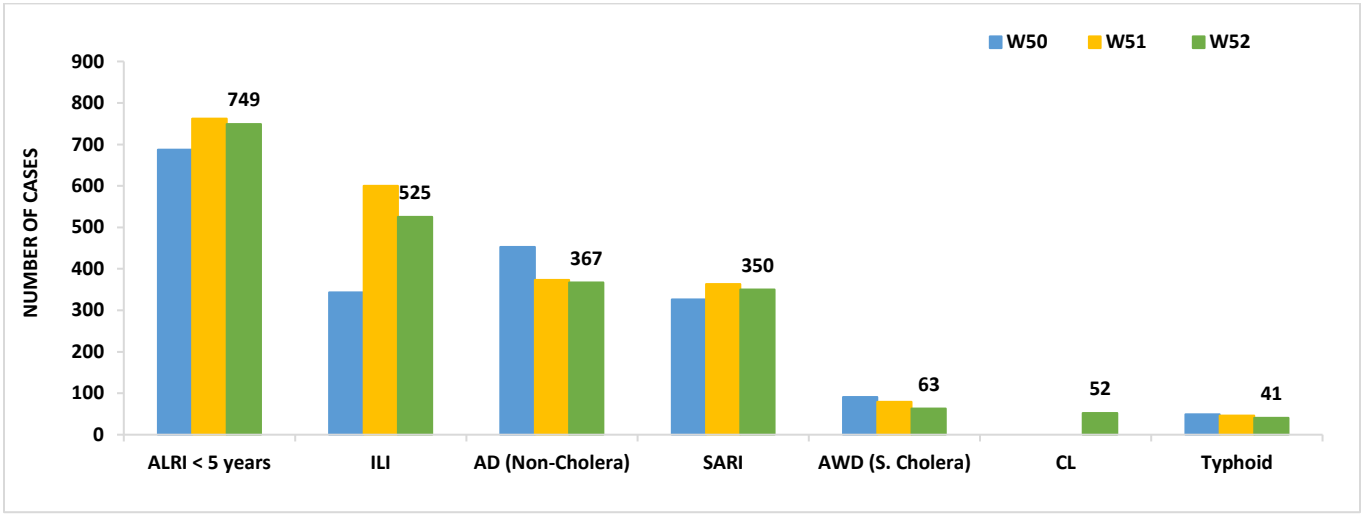
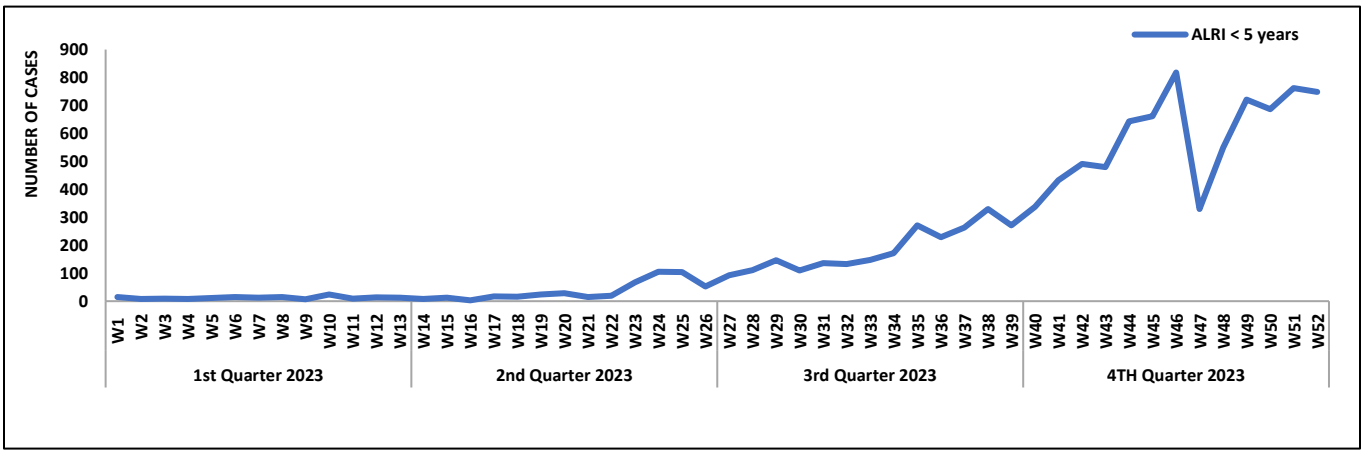



*Figure 10: Week wise reported suspected cases of ALRI, GB*

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## Punjab

- Cases of AD (Non-Cholera) were the most frequently reported followed by Malaria, Typhoid, B. Diarrhea, Chickenpox and ILI.
- AD (Non-Cholera) and Typhoid cases showed a decline trend this week.

***Figure 11: District wise distribution of most frequently reported suspected cases during week 52, Punjab***

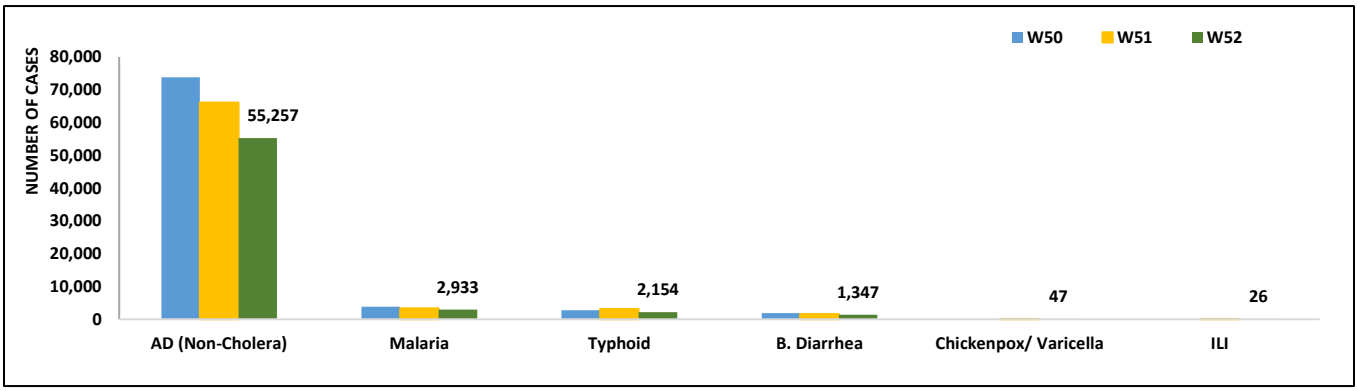


***Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 52***

| Disease | Sindh | | Baluchistan | | KPK | | Gilgit-Baltistan | | ICT | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Processed | Confirm | Processed | Confirm | Processed | Confirm | Processed | Confirm | Processed | Confirm |
| Malaria | 814 | 28 | - | 0 | - | 0 | 2 | 0 | 0 | 0 |
| CCHF | - | - | 14 | 0 | - | - | - | - | - | - |
| Dengue | - | - | - | - | - | - | - | - | 3 | 0 |
| Acute-Viral-Hepatitis(B) | 29 | 3 | - | - | - | - | 120 | 0 | 26 | 0 |
| Acute-Viral-Hepatitis(A) | - | - | - | - | - | - | - | - | 3 | 0 |
| Acute-Viral-Hepatitis(E) | - | - | - | - | - | - | - | - | 2 | 0 |
| Acute-Viral-Hepatitis(C) | 31 | 9 | 33 | 8 | - | - | 120 | 0 | 26 | 1 |
| Typhoid | 469 | 2 | - | - | - | - | - | - | - | - |
| Covid-19 | - | - | 93 | 7 | - | - | 11 | 0 | 229 | 1 |
| HIV | - | - | - | - | - | - | - | - | 1 | 0 |
| Pertussis | - | - | - | - | - | - | - | - | 1 | 0 |
| Diphtheria | - | - | - | - | 1 | 0 | - | - | 16 | 1 |
| Influenza | - | - | - | - | 30 | 7 | - | - | | - |


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# IDSR Reports Compliance

- Out OF 125 IDSR implemented districts, compliance is low from KPK. Green color showing >50% compliance while red color is <50% compliance

***Table 6: IDSR reporting districts Week 52***

| Provinces/Regions | Districts | Total Number of Reporting Sites | Number of Reported Sites for current week | Compliance Rate (%) |
|---|---|---|---|---|
| Khyber Pakhtunkhwa | Abbottabad | 110 | 101 | 92% |
| | Bannu | 244 | 104 | 43% |
| | Battagram | 63 | 23 | 37% |
| | Buner | 34 | 24 | 71% |
| | Bajaur | 44 | 19 | 43% |
| | Charsadda | 59 | 53 | 90% |
| | Chitral Upper | 34 | 28 | 82% |
| | Chitral Lower | 35 | 35 | 100% |
| | D.I. Khan | 94 | 92 | 98% |
| | Dir Lower | 74 | 72 | 97% |
| | Dir Upper | 52 | 46 | 88% |
| | Hangu | 22 | 22 | 100% |
| | Haripur | 71 | 60 | 85% |
| | Karak | 32 | 32 | 100% |
| | Khyber | 64 | 13 | 20% |
| | Kohat | 61 | 61 | 100% |
| | Kohistan Lower | 11 | 11 | 100% |
| | Kohistan Upper | 20 | 18 | 90% |
| | Kolai Palas | 10 | 10 | 100% |
| | Lakki Marwat | 70 | 70 | 100% |
| | Lower & Central Kurram | 40 | 4 | 10% |
| | Upper Kurram | 42 | 10 | 24% |
| | Malakand | 48 | 37 | 77% |
| | Mansehra | 136 | 71 | 52% |
| | Mardan | 80 | 71 | 89% |
| | Nowshera | 54 | 51 | 94% |
| | North Waziristan | 380 | 1 | 0% |
| | Peshawar | 153 | 120 | 78% |
| | Shangla | 65 | 17 | 26% |
| | Swabi | 62 | 60 | 97% |
| | Swat | 76 | 66 | 87% |
| | South Waziristan | 133 | 45 | 34% |
| | Tank | 34 | 30 | 88% |
| | Torghar | 14 | 14 | 100% |
| | Mohmand | 86 | 34 | 40% |
| | SD DI Khan | 19 | 1 | 5% |
| | SD Peshawar | 5 | 3 | 60% |
| | SD Tank | 58 | 1 | 2% |
| | Mirpur | 37 | 37 | 100% |
| | Bhimber | 20 | 20 | 100% |
| | Kotli | 60 | 60 | 100% |
| | Muzaffarabad | 45 | 43 | 96% |
| | Poonch | 46 | 46 | 100% |
| | Haveli | 39 | 32 | 82% |

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|---|---|---|---|---|
| **Azad Jammu Kashmir** | Bagh | 40 | 22 | 55% |
| | Neelum | 39 | 38 | 97% |
| | Jhelum Vellay | 29 | 29 | 100% |
| | Sudhnooti | 27 | 27 | 100% |
| **Islamabad Capital Territory** | ICT | 35 | 3 | 9% |
| | CDA | 35 | 3 | 9% |
| **Balochistan** | Gwadar | 25 | 25 | 100% |
| | Kech | 39 | 27 | 69% |
| | Khuzdar | 20 | 20 | 100% |
| | Killa Abdullah | 20 | 8 | 40% |
| | Lasbella | 55 | 55 | 100% |
| | Pishin | 62 | 26 | 42% |
| | Quetta | 43 | 35 | 81% |
| | Sibi | 36 | 36 | 100% |
| | Zhob | 39 | 39 | 100% |
| | Jaffarabad | 16 | 16 | 100% |
| | Naserabad | 32 | 32 | 100% |
| | Kharan | 30 | 30 | 100% |
| | Sherani | 15 | 15 | 100% |
| | Kohlu | 75 | 67 | 89% |
| | Chagi | 35 | 35 | 100% |
| | Kalat | 41 | 41 | 100% |
| | Harnai | 17 | 17 | 100% |
| | Kachhi (Bolan) | 35 | 35 | 100% |
| | Jhal Magsi | 26 | 26 | 100% |
| | Sohbat pur | 25 | 25 | 100% |
| | Surab | 32 | 32 | 100% |
| | Mastung | 45 | 45 | 100% |
| | Loralai | 33 | 31 | 94% |
| | Killa Saifullah | 28 | 26 | 93% |
| | Ziarat | 29 | 26 | 90% |
| | Duki | 31 | 29 | 94% |
| | Nushki | 32 | 32 | 100% |
| | Dera Bugti | 45 | 45 | 100% |
| | Washuk | 46 | 24 | 52% |
| | Panjgur | 38 | 21 | 55% |
| | Awaran | 23 | 10 | 43% |
| | Chaman | 24 | 23 | 96% |
| | Barkhan | 20 | 20 | 100% |
| | Hub | 33 | 33 | 100% |
| | Usta Muhammad | 34 | 34 | 100% |
| **Gilgit Baltistan** | Hunza | 32 | 0 | 0% |
| | Nagar | 20 | 17 | 85% |
| | Ghizer | 40 | 37 | 93% |
| | Gilgit | 40 | 39 | 98% |
| | Diamer | 78 | 42 | 54% |
| | Astore | 54 | 54 | 100% |
| | Shigar | 27 | 3 | 11% |

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|---|---|---|---|---|
| | Skardu | 52 | 23 | 44% |
| | Ganche | 29 | 29 | 100% |
| | Kharmang | 18 | 18 | 100% |
| **Sindh** | Hyderabad | 73 | 30 | 41% |
| | Ghotki | 64 | 62 | 97% |
| | Umerkot | 43 | 38 | 88% |
| | Naushahro Feroze | 107 | 62 | 58% |
| | Tharparkar | 282 | 242 | 86% |
| | Shikarpur | 60 | 60 | 100% |
| | Thatta | 53 | 31 | 58% |
| | Larkana | 67 | 63 | 94% |
| | Kamber Shadadkot | 71 | 64 | 90% |
| | Karachi-East | 23 | 22 | 96% |
| | Karachi-West | 20 | 20 | 100% |
| | Karachi-Malir | 37 | 14 | 38% |
| | Karachi-Kemari | 18 | 8 | 44% |
| | Karachi-Central | 11 | 7 | 64% |
| | Karachi-Korangi | 18 | 13 | 72% |
| | Karachi-South | 4 | 4 | 100% |
| | Sujawal | 54 | 15 | 28% |
| | Mirpur Khas | 106 | 105 | 99% |
| | Badin | 127 | 122 | 96% |
| | Sukkur | 64 | 62 | 97% |
| | Dadu | 90 | 88 | 98% |
| | Sanghar | 100 | 94 | 94% |
| | Jacobabad | 44 | 43 | 98% |
| | Khairpur | 169 | 166 | 98% |
| | Kashmore | 59 | 59 | 100% |
| | Matiari | 42 | 39 | 93% |
| | Jamshoro | 68 | 68 | 100% |
| | Tando Allahyar | 54 | 54 | 100% |
| | Tando Muhammad Khan | 40 | 40 | 100% |
| | Shaheed Benazirabad | 124 | 124 | 100% |

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## A Note from Field Activities

### Epidemiological Investigation of a Laboratory-Confirmed Diphtheria Case in Rawalpindi, Union Council No. 38 (November 2023)

**Dr. Ehsan Ghani**
**District Health Officer**
**Preventive Services,**
**Rawalpindi**

**Dr. Muhammad Ali Mirza**
**DSC, Rawalpindi**
**Punjab**

### Introduction:

An urgent notification on November 24, 2023, raised the alarm for a suspected diphtheria case in Rawalpindi. A 72-month-old male child, presented with concerning symptoms, prompting immediate adherence to established investigation protocols. These protocols encompassed comprehensive contact tracing, crucial chemoprophylaxis advice, and prompt laboratory testing to confirm the diagnosis.

### Methods:

To understand the context of this case, a multi-pronged investigation was launched. This included a thorough assessment of the family's socioeconomic background, particularly their living conditions and the father's occupation. Child's vaccination history, along with that of his siblings, was meticulously examined, including travel history and recent relocations. The definitive diagnosis was established through a molecular PCR assay confirming the presence of Corynebacterium diphtheriae, the causative agent.

### Results:

The investigation yielded significant findings. Child's vaccination history was ambiguous and potentially incomplete, suggesting susceptibility to diphtheria. However, meticulous active surveillance and a targeted mop-up vaccination campaign in the surrounding 160 houses did not detect any additional cases. This mop-up activity, focusing on children under 5 years old, resulted in the administration of 27 DTP booster doses and one pentavalent vaccine, demonstrating the proactive response to potential transmission risks. Active surveillance further revealed concerning factors, including poor sanitation conditions near the patient's residence and a lack of awareness about diphtheria at nearby healthcare facilities.

Child's school was also visited. The principal

confirmed his admission on November 1st but absentee from November 17th to 24th due to illness, leading to hospitalization. No other similar cases were reported at the school. Other schools were visited in the same area for active surveillance of similar cases, but no other case was identified

Within Union Council (UC) 38 of Rawalpindi, the targeted population for DTP booster vaccination in 2022 comprised 649 children. Notably, the vaccination campaign exceeded its target, achieving coverage for 807 children, translating to a commendable 24% surplus. Although this preliminary data suggests positive DTP booster coverage in UC 38, it is crucial to acknowledge the limitations for comprehensive analysis. To gain a deeper understanding, further context and details are required, including seroprevalence surveys, which would provide valuable insights into vaccine-induced immunity among the target population.

## Discussion:

The proximity of Rawalpindi to other provinces and the seasonal influx of migrants create a heightened vulnerability to vaccine-preventable diseases like diphtheria. This case highlights the challenges associated with incomplete vaccination, particularly among relocated families, emphasizing the need for robust tracking mechanisms and targeted interventions. The upcoming routine vaccination campaign in Rawalpindi presents a crucial opportunity to improve overall immunization coverage and effectively prevent future outbreaks.

## Way Forward:

To build upon the commendable response to this case, several avenues for improvement are evident. Enhanced collaboration with neighboring provinces is essential to facilitate immunization data sharing and strengthen coordinated disease prevention efforts. Continued active surveillance for diphtheria cases in Rawalpindi, especially during the winter months with increased migration, remains crucial. Strengthening awareness and capacity building among healthcare providers will enable prompt identification and effective management of potential cases. Prioritizing routine immunization campaigns and addressing incomplete vaccination, particularly among relocated families, will be instrumental in building long-term immunity and safeguarding vulnerable populations.

## Conclusion:

The prompt investigation and management of this diphtheria case, along with planned vaccination campaigns, demonstrate Rawalpindi's commitment to proactive disease control. However, continued vigilance, interprovincial collaboration, and sustained investments in immunization programs remain key to preventing future outbreaks and protecting the health of everyone in the region.

# A Note from Field Activities.

## Gujranwala's Dengue Fight: A Third-Party Perspective

**Dr. Yadullah Ali,**
**Director Health Services**
**CD&EPC,**
**Punjab**

**Dr. M. Mohsan Wattoo**
**Epidemiologist, PSHD**
**Punjab**

As dengue cases surged in Gujranwala, a team from the Provincial Health Department conducted a third-party validation (TPV) on November 23rd, 2023, to assess the district's response. Here's a glimpse into their findings and recommendations.

### Hotspot Hunting:

While last year's hotspots saw minimal activity, new UCs emerged with significant caseloads, suggesting a dynamic spread of the virus. Aroop Town, particularly UCs 7 & 8, emerged as the epicenter, prompting the team's visit. In Gulshan Iqbal Park, a major hotspot, tree holes were filled to prevent water stagnation, breeding grounds for dengue mosquitoes. Bird houses received similar attention, with housekeepers educated on larval detection and eradication.

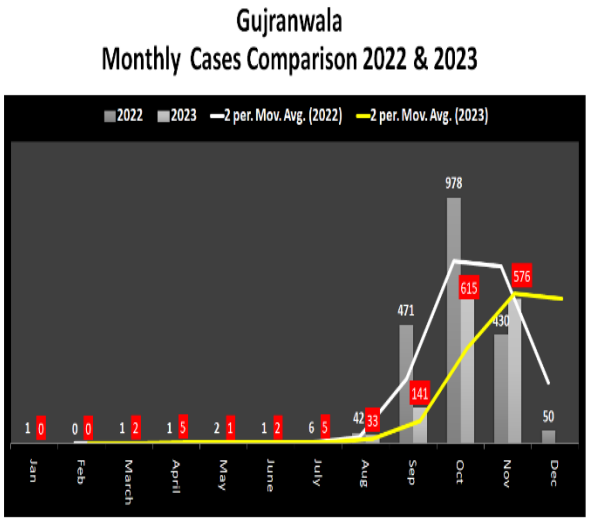
### Indoor & Outdoor Surveillance:

While inspecting residences, the team observed door markings and encountered indoor surveillance teams. In UC 7, positive houses were identified, samples confirmed the presence of Aedes larvae, and case response measures were verified.

Similarly, in UC 8, confirmed cases were followed up on, with rooftop water sources checked for dryness and larval absence.

## Hospital Visit & Data Analysis:

The DHQ Teaching Hospital's dengue counter maintained proper patient registers and O forms. The dengue ward housed 16 confirmed cases, with 6 requiring close monitoring. Data revealed 468 confirmed cases in 2023, with 20 in November alone.




## Meeting with District Administration:

The TPV team briefed the Deputy Commissioner on their observations and analysis. Key takeaways highlighted a shift in hotspots from last year, with new UCs reporting cases. While a slight decline in weekly cases was noted, vulnerable UCs were identified for targeted interventions.

## Recommendations for Improvement:

The team emphasized the need for:

- **Inter-sectoral Collaboration**: Establish a coordinated action plan within one week with line departments (WASA, PHA, GWMC) for improved solid waste management, vegetation removal, and stagnant water control. Utilize DERC and TERC for real-time data sharing and response.
- **Community Engagement**: Launch immediate and ongoing community mobilization campaigns using local influencers, media outreach, and targeted household programs to address refusal rates and lack of housekeeping practices.
- **Monitoring and Evaluation**: Implement a robust system for regular monitoring and evaluation of all control activities, including performance indicators, reporting requirements, and feedback mechanisms.
- **TPV Gaps**: Ensure nominated line departments fulfill their TPV responsibilities by defining roles, conducting regular reviews, and providing capacity building.
- **Data Correction**: Collaboratively rectify technical issues causing inaccurate reporting of probable dengue cases on the PITB Dengue Dashboard and implement standardized protocols for data entry and validation.
- **Serotype Identification**: Prioritize serotype testing in confirmed cases and facilitate data analysis and reporting by collaborating with tertiary care hospitals, DHA Gujranwala, and Punjab Public Health Reference Lab.
- **Training Enhancement**: Develop and implement comprehensive dengue-related training programs for healthcare personnel at all levels, covering case identification, management, surveillance, and community mobilization.

## Conclusion:

Gujranwala's dengue battle demands swift and coordinated action. The TPV report provides valuable insights and actionable recommendations. By addressing the gaps identified and implementing the proposed measures, the district can effectively curb dengue transmission and safeguard public health.

# *Knowledge Hub*

## The Evolving Landscape of Covid-19: Trends, Challenges, and Uncertainties

The ever-shifting landscape of COVID-19 throws a complex question our way: will this virus, once a dominant force, settle into a predictable pattern, resembling the seasonal rhythms of influenza or RSV, or will it continue to surprise us with unpredictable surges? While the crystal ball remains cloudy, current trends offer glimpses of a potentially less disruptive future, but caution remains paramount.

### Reasons for Optimism:

- **Widespread Immunity**: Vaccination and prior infections have significantly bolstered population immunity, leading to milder illness and reduced pressure on healthcare systems. This widespread protection acts as a buffer against severe disease and large-scale outbreaks.
- **Seasonality:** Like influenza and RSV, COVID-19 seems to exhibit seasonality, with cases rising during colder months when indoor gatherings increase. This predictable pattern allows for more accurate forecasting and preparation, enabling proactive measures like targeted vaccination campaigns and public health advisories.
- **Science and Technology**: Advancements in diagnostics, treatment, and research empower us to track variants, develop targeted interventions, and potentially predict future outbreaks. This proactive approach allows us to stay ahead of the curve and mitigate the virus's impact.

### Reasons for Caution:

- **The Mutation Factor**: The virus's ability to evolve and mutate remains a significant threat. New variants like JN.1 demonstrate its potential to bypass existing immunity, leading to unexpected surges. This underscores the need for continued vigilance and adaptation.
- **Equity and Access**: Unequal access to vaccines and healthcare across the globe can create pockets of vulnerability, allowing the virus to persist and potentially mutate. Addressing these disparities is crucial for achieving global control.
- **Long-Term Effects**: The long-term consequences of COVID-19, such as Long COVID, remain unclear. We must continue research efforts to understand and address these potential complications.

### The Crossroads of Hope and Vigilance:

We stand at a crossroads where the future of COVID-19 remains uncertain. While the current trajectory suggests a potential future where the virus becomes less disruptive, akin to a seasonal illness, the possibility of unexpected twists and turns cannot be ignored.

### Moving Forward with Adaptability:

Navigating this uncertainty requires a cautious yet hopeful outlook. We must:

- **Remain Adaptable**: Our strategies and interventions need to be flexible, adjusting to the virus's evolution and changing circumstances.
- **Invest in Research**: Continued research efforts are crucial to understanding the virus, developing new vaccines and treatments, and predicting future outbreaks.
- **Prioritize Global Equity**: Addressing vaccine and healthcare disparities globally is essential for achieving long-term control and preventing further mutations.
- **Keep Individual Responsibility**: Individual actions like mask-wearing, hand hygiene, and responsible behavior remain critical in mitigating transmission and protecting vulnerable populations.

By adopting this balanced approach, we can navigate the evolving nature of COVID-19 and build a future where it occupies a less prominent space in our lives. We must walk the tightrope between hope and vigilance, embracing both the possibilities and challenges that lie ahead.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