PUBLIC HEALTH BULLETIN-PAKISTAN

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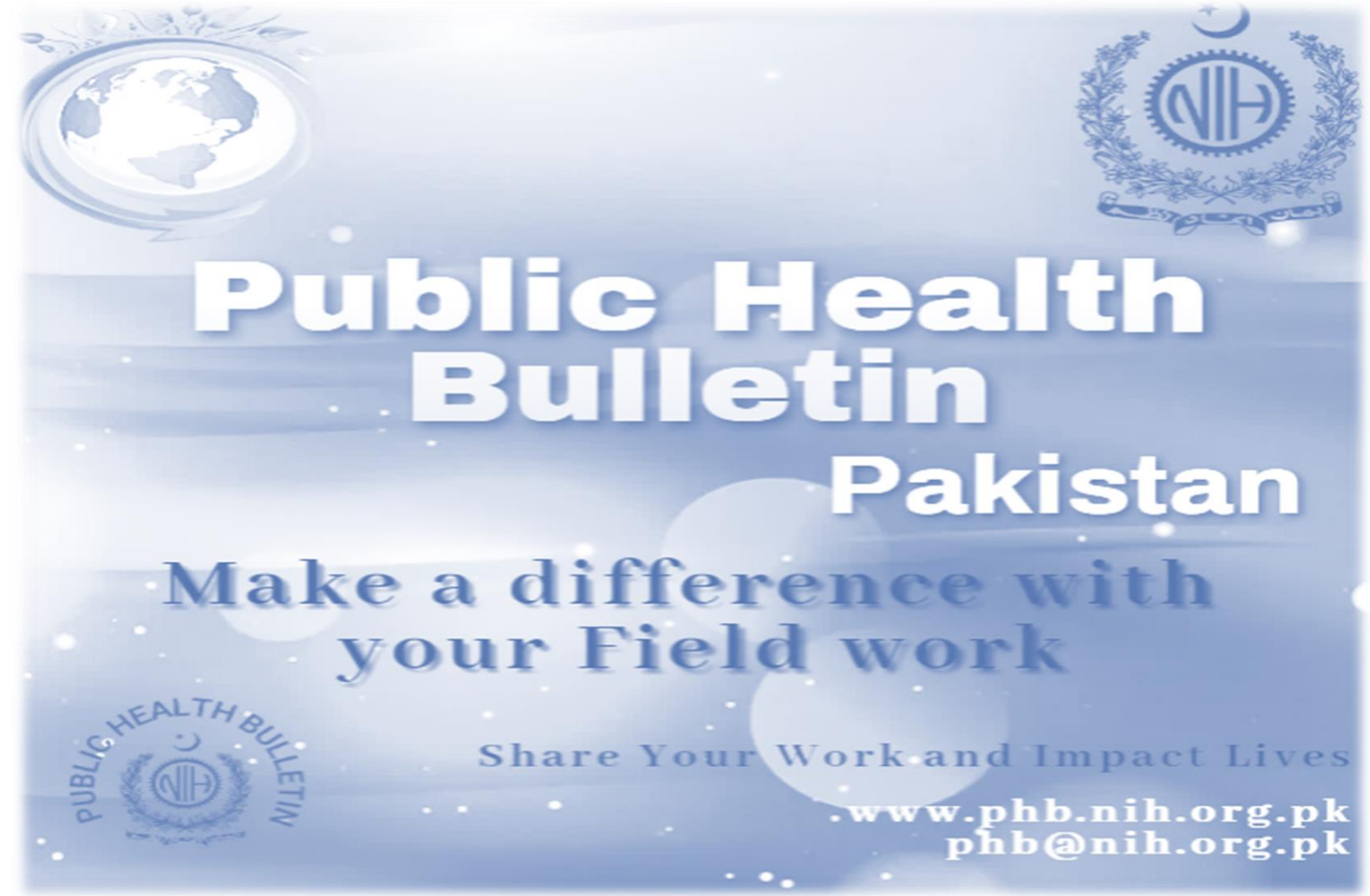
# Integrated Disease Surveillance & Response (IDSR) Report

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 19, 2024

*Overview*

*IDSR Reports*

*Ongoing Events*

*Field Reports*

The latest Public Health Bulletin transcends a simple list of illnesses, evolving into a comprehensive resource for healthcare professionals and the public alike. This report offers a critical analysis of prevalent diseases, providing granular data on key areas like tuberculosis and dog bites. This empowers stakeholders with the information necessary to tailor preventive interventions and address emerging public health concerns.

The Bulletin serves not only as a data repository but also as an early warning system. Proactive investigations are facilitated for concerning diseases like Acute Flaccid Paralysis and Brucellosis. This allows for swift responses to contain outbreaks and protect public health. Notably, an increasing trend has been observed this week for Acute Diarrhea (Non-Cholera), Malaria, Influenza-Like Illness (ILI), Tuberculosis, Bacillary Dysentery, dog bites, Viral Hepatitis (B, C & D), Typhoid, and Acute Watery Diarrhea

Moving beyond data presentation, the Bulletin delves deeper through dedicated outbreak investigation reports. This includes reports on Dengue in Peshawar, Measles in Dera Ismail Khan, Acute Watery Diarrhea in Toba Tek Singh, and Crimean-Congo Hemorrhagic Fever in Peshawar. These detailed reports provide valuable insights for targeted responses and future preparedness.

The "Knowledge Hub" section further empowers individuals by providing accessible resources. An example is the informative article titled "Public Health Awareness and Education on Crimean-Congo Hemorrhagic Fever (CCHF) during Eid-ul-Azha in Pakistan." This empowers individuals with the knowledge to protect themselves and their communities.

By staying informed through the Public Health Bulletin and translating its insights into action, we can collectively build a healthier Pakistan. This essential tool empowers all stakeholders – healthcare professionals, public health officials, and the community – to play a vital role in safeguarding the nation's health and well-being.

Sincerely,

The Chief Editor

# Overview

- *During week 19, the most frequently reported cases were of Acute Diarrhea (Non-Cholera) followed by Malaria, ILI, TB, ALRI <5 years, B. Diarrhea, dog bite, VH (B, C & D), Typhoid and AWD (S. Cholera).*
- *Twenty-five cases of AFP reported from KP, twelve from Sindh, seven from Balochistan and three from Punjab. All are suspected cases and need field verification.*
- *Nine suspected cases of HIV/ AIDS reported from Punjab, four from Sindh and two from KP. Field investigation required to verify the cases.*
- *Seven cases of Brucellosis reported from Balochistan and four from KP. These are suspected cases and require field verification.*
- *Three suspected cases of CCHF reported from Punjab. Field investigation required to verify the cases.*
- *There is an increasing trend observed for Acute Diarrhea (Non-Cholera), Malaria, ILI, TB, B. Diarrhea, dog bite, VH (B, C & D), Typhoid and AWD (S. Cholera) cases this week.*

## *IDSR compliance attributes*

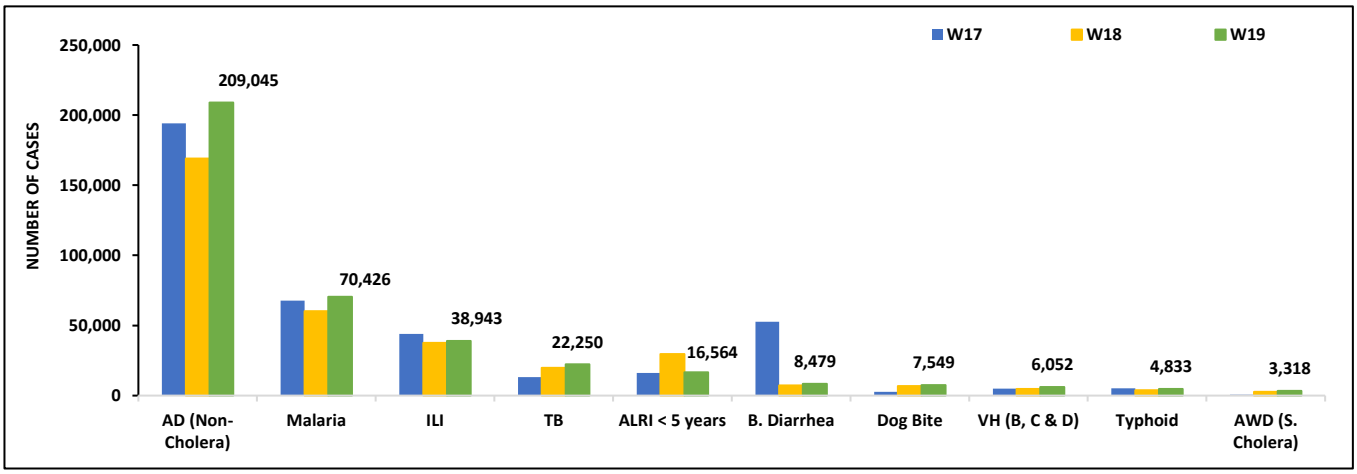
- *The national compliance rate for IDSR reporting in 149 implemented districts* is 76%
- *Gilgit Baltistan and Sindh are the top reporting regions with a compliance rate of 99% and 94%, followed by AJK 85% and ICT 80%*
- *The lowest compliance rate was observed in KPK.*

| *Region* | Expected Reports | Received Reports | Compliance (%) |
|---|---|---|---|
| ***Khyber Pakhtunkhwa*** | *2740* | *1662* | *61* |
| ***Azad Jammu Kashmir*** | *382* | *324* | *85* |
| ***Islamabad Capital Territory*** | *35* | *28* | *80* |
| ***Balochistan*** | *1220* | *872* | *71* |
| ***Gilgit Baltistan*** | *374* | *370* | *99* |
| ***Sindh*** | *2086* | *1957* | *94* |
| ***National*** | *6837* | *5213* | *76* |

***Table 1: Province/Area wise distribution of most frequently reported suspected cases during week 19, Pakistan.***

| Diseases | AJK | Balochistan | GB | ICT | KP | Punjab | Sindh | Total |
|---|---|---|---|---|---|---|---|---|
| AD (Non-Cholera) | 1551 | 6,809 | 761 | 397 | 25,087 | 123,279 | 51,161 | 209,045 |
| Malaria | 2 | 5,389 | 0 | 3 | 4,588 | 3,348 | 57,096 | 70,426 |
| ILI | 1831 | 6,426 | 404 | 1006 | 4,816 | 20 | 24,440 | 38,943 |
| TB | 41 | 161 | 73 | 7 | 528 | 10,083 | 11,357 | 22,250 |
| ALRI < 5 years | 795 | 1677 | 676 | 2 | 1,495 | 1,687 | 10,232 | 16,564 |
| B.Diarrhea | 58 | 1626 | 70 | 9 | 1,039 | 1,656 | 4,021 | 8,479 |
| Dog Bite | 29 | 245 | 1 | 0 | 665 | 4,681 | 1,928 | 7,549 |
| VH (B, C & D) | 7 | 118 | 2 | 0 | 128 | 0 | 5,797 | 6,052 |
| Typhoid | 45 | 739 | 62 | 4 | 615 | 2,122 | 1,246 | 4,833 |
| AWD (S. Cholera) | 35 | 376 | 108 | 5 | 104 | 2,686 | 4 | 3,318 |
| SARI | 301 | 711 | 278 | 4 | 1,149 | 0 | 130 | 2,573 |
| Dengue | 0 | 184 | 0 | 0 | 4 | 945 | 142 | 1,275 |
| Measles | 14 | 22 | 22 | 1 | 491 | 118 | 254 | 922 |
| AVH (A&E) | 17 | 20 | 1 | 0 | 215 | 0 | 350 | 603 |
| CL | 0 | 170 | 1 | 0 | 373 | 2 | 1 | 547 |
| Mumps | 5 | 61 | 4 | 1 | 44 | 1 | 233 | 349 |
| Chickenpox/ Varicella | 0 | 15 | 0 | 2 | 60 | 17 | 65 | 159 |
| Gonorrhea | 0 | 61 | 0 | 0 | 14 | 0 | 27 | 102 |
| Meningitis | 5 | 2 | 0 | 0 | 2 | 63 | 6 | 78 |
| Pertussis | 0 | 50 | 1 | 0 | 22 | 0 | 0 | 73 |
| AFP | 1 | 7 | 0 | 0 | 25 | 3 | 12 | 48 |
| HIV/AIDS | 0 | 1 | 0 | 0 | 2 | 9 | 4 | 16 |
| Syphilis | 0 | 3 | 0 | 0 | 0 | 0 | 12 | 15 |
| Brucellosis | 0 | 7 | 0 | 0 | 4 | 0 | 0 | 11 |
| NT | 0 | 3 | 0 | 0 | 7 | 0 | 0 | 10 |
| VL | 0 | 7 | 0 | 0 | 0 | 0 | 0 | 7 |
| Diphtheria (Probable) | 0 | 3 | 0 | 0 | 2 | 0 | 0 | 5 |
| Chikungunya | 0 | 2 | 0 | 0 | 0 | 0 | 2 | 4 |
| CCHF | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 3 |

***Figure 1: Most frequently reported suspected cases during week 19, Pakistan.***



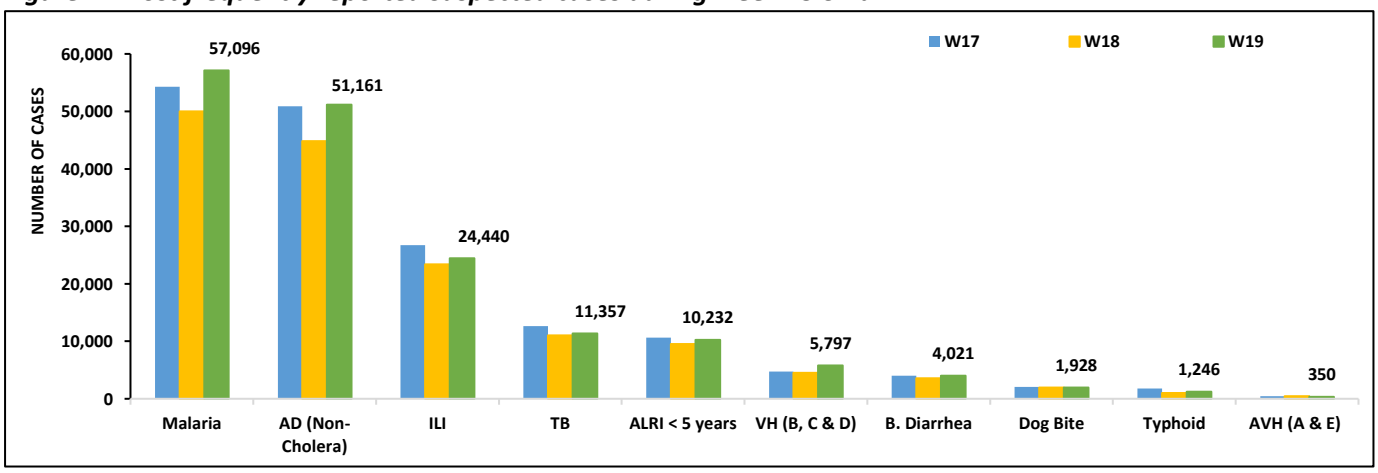
## Sindh

- Malaria cases were maximum followed by AD (Non-Cholera), ILI, TB, ALRI<5 Years, VH (B, C, D), B. Diarrhea, dog bite, Typhoid and AVH (A & E). Malaria cases are mostly from Larkana, Khairpur and Dadu whereas AD (Non-Cholera) cases are from Dadu, Khairpur and Badin.
- Twelve cases of AFP and Four suspected cases of HIV/ AIDS reported from Sindh. All are suspected cases and need field verification.
- There is an increasing trend observed for Malaria, AD (Non-Cholera), ILI, ALRI<5 Years, VH (B, C, D) and B. Diarrhea cases and almost same trend for TB, dog bite, Typhoid and AVH (A & E) cases this week.

***Table 2: District wise distribution of most frequently reported suspected cases during week 19, Sindh***

| Districts | Malaria | AD (Non-Cholera) | ILI | TB | ALRI < 5 years | VH (B, C & D) | B. Diarrhea | Dog Bite | Typhoid | AVH (A&E) |
|---|---|---|---|---|---|---|---|---|---|---|
| Badin | 4,084 | 3,485 | 365 | 801 | 548 | 277 | 247 | 75 | 56 | 19 |
| Dadu | 4,248 | 4,015 | 360 | 425 | 1,297 | 58 | 694 | 172 | 95 | 13 |
| Ghotki | 1,267 | 1,356 | 0 | 239 | 391 | 342 | 131 | 162 | 0 | 18 |
| Hyderabad | 300 | 1,426 | 2,050 | 49 | 147 | 39 | 8 | 13 | 13 | 0 |
| Jacobabad | 909 | 1,038 | 264 | 103 | 479 | 143 | 171 | 143 | 40 | 3 |
| Jamshoro | 2,122 | 2,513 | 35 | 422 | 181 | 98 | 89 | 12 | 36 | 5 |
| Kamber | 3,734 | 1,877 | 0 | 835 | 310 | 286 | 174 | 166 | 32 | 0 |
| Karachi Central | 97 | 1,264 | 1,574 | 737 | 124 | 207 | 22 | 0 | 185 | 4 |
| Karachi East | 66 | 581 | 246 | 9 | 15 | 1 | 14 | 8 | 4 | 0 |
| Karachi Keamari | 1 | 207 | 55 | 0 | 4 | 0 | 0 | 0 | 2 | 2 |
| Karachi Korangi | 97 | 239 | 0 | 0 | 1 | 0 | 3 | 0 | 1 | 0 |
| Karachi Malir | 194 | 1,840 | 2,840 | 95 | 280 | 90 | 67 | 45 | 41 | 15 |
| Karachi South | 46 | 128 | 23 | 1 | 0 | 0 | 1 | 0 | 0 | 1 |
| Karachi West | 172 | 1,167 | 2,079 | 176 | 143 | 107 | 51 | 112 | 35 | 17 |
| Kashmore | 1,743 | 684 | 635 | 309 | 188 | 49 | 61 | 169 | 8 | 3 |
| Khairpur | 5,382 | 4,001 | 5,358 | 1000 | 1,045 | 203 | 609 | 149 | 299 | 5 |
| Larkana | 5,939 | 2,648 | 6 | 853 | 473 | 120 | 387 | 0 | 7 | 3 |
| Matiari | 1,686 | 2,487 | 3 | 543 | 330 | 208 | 79 | 40 | 5 | 6 |
| Mirpurkhas | 3,541 | 3,211 | 2,886 | 582 | 562 | 220 | 98 | 48 | 52 | 6 |
| Naushero Feroze | 934 | 688 | 849 | 322 | 120 | 83 | 73 | 98 | 49 | 0 |
| Sanghar | 3,439 | 1,417 | 9 | 1113 | 410 | 968 | 26 | 123 | 24 | 8 |
| Shaheed Benazirabad | 1,840 | 2,233 | 0 | 437 | 355 | 132 | 83 | 157 | 155 | 0 |
| Shikarpur | 2,186 | 1,346 | 3 | 145 | 138 | 1,558 | 142 | 77 | 3 | 0 |
| Sujawal | 1,735 | 788 | 0 | 92 | 147 | 0 | 60 | 43 | 2 | 61 |
| Sukkur | 1,863 | 1,649 | 1,295 | 370 | 280 | 84 | 200 | 24 | 7 | 0 |
| Tando Allahyar | 1,745 | 1,869 | 773 | 444 | 261 | 193 | 185 | 28 | 14 | 1 |
| Tando Muhammad Khan | 1,691 | 1,404 | 0 | 475 | 158 | 26 | 99 | 0 | 2 | 0 |
| Tharparkar | 2,216 | 1,819 | 1,372 | 337 | 741 | 128 | 123 | 0 | 25 | 35 |
| Thatta | 1,715 | 2,359 | 1,360 | 66 | 535 | 100 | 78 | 64 | 31 | 120 |
| Umerkot | 2,104 | 1,422 | 0 | 377 | 569 | 77 | 46 | 0 | 23 | 5 |
| Total | 57,096 | 51,161 | 24,440 | 11,357 | 10,232 | 5,797 | 4,021 | 1,928 | 1,246 | 350 |

***Figure 2: Most frequently reported suspected cases during week 19 Sindh***



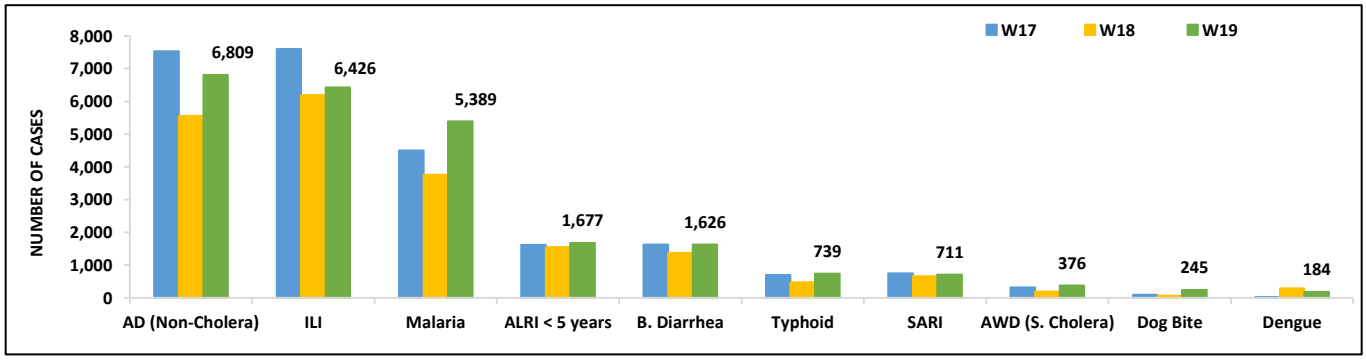
# Balochistan

- AD (Non-Cholera), ILI, Malaria, ALRI <5 years, B. Diarrhea, Typhoid, SARI, AWD (S. Cholera), dog bite and Dengue cases were the most frequently reported diseases from Balochistan province. ILI cases are mostly reported from Kech (Turbat), Gwadar and Quetta while AD (Non-Cholera) cases are mostly reported from Usta Muhammad, Gwadar and Kech (Turbat).
- AD (Non-Cholera), ILI, Malaria, ALRI <5 years, B. Diarrhea, Typhoid, SARI, AWD (S. Cholera) and dog bite cases showed an increasing trend this week.
- Seven cases of AFP and Seven cases of Brucellosis reported from Balochistan. All are suspected cases and need field verification.

***Table 3: District wise distribution of most frequently reported suspected cases during week 19, Balochistan***

| Districts | AD Non-Cholera) | ILI | Malaria | ALRI < 5 years | B. Diarrhea | Typhoid | SARI | AWD (S.Cholera) | Dog Bite | Dengue |
|---|---|---|---|---|---|---|---|---|---|---|
| Awaran | 24 | 61 | 91 | 2 | 24 | 3 | 1 | 12 | 0 | 0 |
| Barkhan | 152 | 84 | 97 | 27 | 12 | 125 | 17 | 51 | 9 | 0 |
| Chagai | 223 | 246 | 45 | 2 | 65 | 27 | 3 | 14 | 3 | 0 |
| Chaman | 77 | 212 | 0 | 1 | 99 | 43 | 15 | 1 | 1 | 0 |
| Dera Bugti | 71 | 37 | 181 | 39 | 49 | 16 | 39 | 0 | 2 | 0 |
| Duki | 33 | 8 | 10 | 8 | 26 | 6 | 12 | 4 | 10 | 0 |
| Gwadar | 419 | 821 | 58 | 11 | 33 | 23 | 1 | 0 | 0 | 7 |
| Harnai | 69 | 10 | 47 | 163 | 44 | 1 | 0 | 3 | 4 | 0 |
| Hub | 329 | 62 | 206 | 17 | 41 | 5 | 0 | 0 | 17 | 0 |
| Jaffarabad | 387 | 117 | 912 | 67 | 87 | 5 | 39 | 0 | 27 | 0 |
| Jhal Magsi | 237 | 84 | 267 | 11 | 3 | 12 | 3 | 7 | 12 | 0 |
| Kachhi (Bolan) | 141 | 50 | 125 | 16 | 28 | 45 | 68 | 20 | 0 | 1 |
| Kalat | 39 | 4 | 31 | 16 | 12 | 25 | 3 | 0 | 0 | 0 |
| Kech (Turbat) | 419 | 865 | 175 | 15 | 86 | NR | NR | NR | NR | 175 |
| Kharan | 188 | 358 | 48 | 0 | 67 | 4 | 5 | 7 | 0 | 0 |
| Khuzdar | 41 | 38 | 53 | 0 | 7 | 0 | 4 | 1 | 2 | 0 |
| Killa Saifullah | 132 | 1 | 187 | 117 | 88 | 20 | 9 | 2 | 0 | 0 |
| Kohlu | 284 | 482 | 165 | 39 | 131 | 44 | 101 | 31 | 1 | 0 |
| Lasbella | 415 | 127 | 526 | 110 | 35 | 11 | 5 | 0 | 1 | 1 |
| Loralai | 225 | 300 | 49 | 54 | 50 | 25 | 137 | 0 | 5 | 0 |
| Mastung | 171 | 127 | 38 | 63 | 40 | 25 | 23 | 24 | 0 | 0 |
| Naseerabad | 352 | 11 | 348 | 19 | 8 | 56 | 0 | 0 | 139 | 0 |
| Nushki | 170 | 25 | 6 | 0 | 75 | 0 | 0 | 2 | 0 | 0 |
| Panjgur | 327 | 103 | 190 | 148 | 79 | 8 | 15 | 65 | 0 | 0 |
| Pishin | 109 | 222 | 14 | 17 | 49 | 4 | 13 | 5 | 2 | 0 |
| Quetta | 315 | 757 | 22 | 16 | 60 | 31 | 6 | 35 | 0 | 0 |
| Sherani | 20 | 63 | 19 | 4 | 18 | 6 | 18 | 9 | 0 | 0 |
| Sibi | 220 | 424 | 327 | 77 | 67 | 39 | 53 | 72 | 2 | 0 |
| Sohbat pur | 284 | 15 | 591 | 226 | 87 | 44 | 24 | 3 | 6 | 0 |
| Surab | 47 | 95 | 10 | 0 | 0 | 40 | 0 | 0 | 0 | 0 |
| Usta Muhammad | 562 | 116 | 446 | 108 | 41 | 9 | 10 | 0 | 2 | 0 |
| Washuk | 44 | 102 | 10 | 0 | 26 | 0 | 0 | 0 | 0 | 0 |
| Zhob | 143 | 176 | 46 | 251 | 50 | 10 | 77 | 0 | 0 | 0 |
| Ziarat | 140 | 223 | 49 | 33 | 39 | 27 | 10 | 8 | 0 | 0 |
| Total | 6,809 | 6,426 | 5,389 | 1,677 | 1,626 | 739 | 711 | 376 | 245 | 184 |

***Figure 3: Most frequently reported suspected cases during week 19, Balochistan***

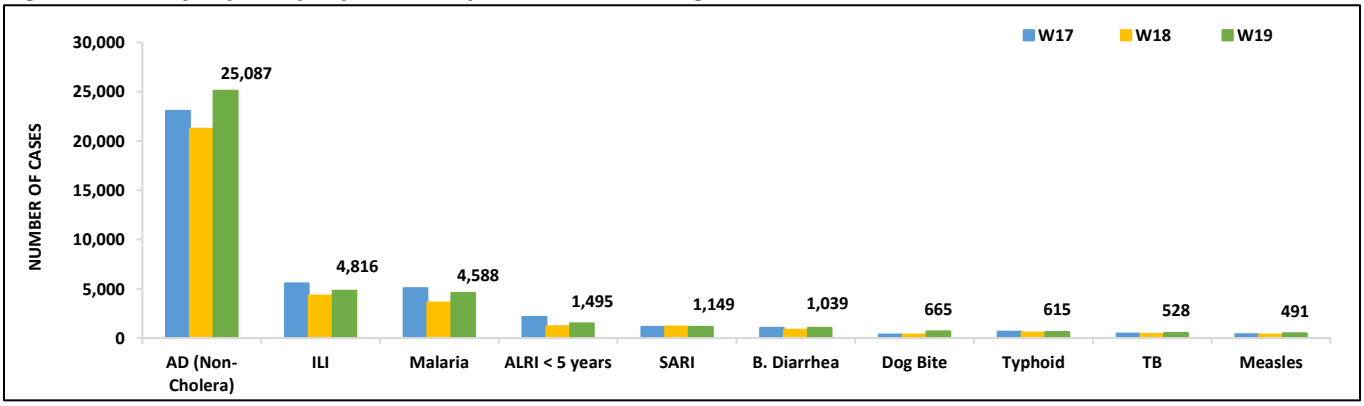


- Cases of AD (Non-Cholera) were maximum followed by ILI, Malaria, ALRI<5 Years, SARI, B. Diarrhea, dog bite, Typhoid, TB and Measles cases.
- AD (Non-Cholera), ILI, Malaria, ALRI<5 Years, B. Diarrhea, dog bite, Typhoid, TB and Measles cases showed an increasing trend this week.
- Twenty-five cases of AFP reported from KP. All are suspected cases and need field verification.
- Four cases of Brucellosis and Two suspected cases of HIV/ AIDS reported from KP. Field investigation required to verify the cases

***Table 4: District wise distribution of most frequently reported suspected cases during week 19, KP***

| Districts | AD (Non-Cholera) | ILI | Malaria | ALRI <5 Years | SARI | B. Diarrhea | Dog Bite | Typhoid | TB | Measles |
|---|---|---|---|---|---|---|---|---|---|---|
| Abbottabad | 603 | 45 | 10 | 26 | 15 | 1 | 5 | 17 | 13 | 25 |
| Bajaur | 973 | 76 | 278 | 241 | 30 | 72 | 36 | 6 | 26 | 37 |
| Bannu | 881 | 6 | 1,539 | 14 | 0 | 23 | 5 | 81 | 35 | 15 |
| Battagram | 82 | 179 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Buner | 466 | 0 | 226 | 56 | 0 | 1 | 54 | 16 | 2 | 1 |
| Charsadda | 586 | 276 | 183 | 24 | 6 | 16 | 2 | 16 | 1 | 2 |
| Chitral Lower | 270 | 49 | 6 | 36 | 18 | 27 | 10 | 12 | 7 | 3 |
| Chitral Upper | 103 | 15 | 7 | 9 | 5 | 6 | 0 | 15 | 1 | 0 |
| D.I. Khan | 2,174 | 0 | 247 | 19 | 0 | 24 | 1 | 0 | 27 | 87 |
| Dir Lower | 1,079 | 2 | 190 | 123 | 0 | 73 | 11 | 41 | 18 | 7 |
| Dir Upper | 408 | 124 | 7 | 3 | 1 | 1 | 0 | 28 | 22 | 7 |
| Hangu | 10 | 6 | 23 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Haripur | 1,529 | 424 | 20 | 67 | 7 | 79 | 0 | 41 | 42 | 27 |
| Karak | 314 | 11 | 161 | 17 | 0 | 0 | 24 | 6 | 15 | 49 |
| Khyber | 363 | 41 | 102 | 8 | 20 | 47 | 47 | 58 | 15 | 2 |
| Kohat | 42 | 29 | 57 | 1 | 4 | 0 | 0 | 0 | 0 | 0 |
| Kohistan Lower | 143 | 0 | 1 | 4 | 0 | 9 | 4 | 0 | 0 | 1 |
| Kohistan Upper | 360 | 21 | 2 | 9 | 20 | 23 | 5 | 30 | 25 | 3 |
| Kolai Palas | 90 | 0 | 0 | 15 | 2 | 12 | 0 | 5 | 1 | 0 |
| L & C Kurram | 16 | 51 | 0 | 0 | 0 | 4 | 0 | 0 | 0 | 0 |
| Lakki Marwat | 778 | 2 | 198 | 4 | 0 | 14 | 42 | 5 | 10 | 8 |
| Malakand | 686 | 44 | 39 | 54 | 39 | 65 | 0 | 16 | 3 | 18 |
| Mansehra | 940 | 688 | 2 | 75 | 57 | 13 | 85 | 21 | 19 | 7 |
| Mardan | 835 | 0 | 5 | 254 | 0 | 7 | 0 | 0 | 16 | 0 |
| Mohmand | 207 | 72 | 187 | 3 | 45 | 33 | 10 | 7 | 7 | 4 |
| NWA | 73 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 10 |
| Nowshera | 2,139 | 48 | 53 | 2 | 6 | 24 | 8 | 7 | 24 | 23 |
| Orakzai | 42 | 18 | 28 | 0 | 0 | 7 | 2 | 0 | 0 | 0 |
| Peshawar | 4,018 | 639 | 54 | 44 | 56 | 231 | 4 | 58 | 40 | 63 |
| SD Peshawar | 3 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| SD Tank | 20 | 0 | 52 | 0 | 0 | 1 | 1 | 3 | 0 | 0 |
| Shangla | 392 | 0 | 285 | 14 | 0 | 0 | 22 | 18 | 44 | 1 |
| SWA | 76 | 234 | 131 | 61 | 131 | 11 | 6 | 37 | 0 | 2 |
| Swabi | 1,737 | 1,139 | 62 | 222 | 133 | 32 | 180 | 16 | 88 | 46 |
| Swat | 2,153 | 131 | 35 | 60 | 19 | 126 | 72 | 29 | 13 | 1 |
| Tank | 274 | 68 | 304 | 11 | 0 | 0 | 0 | 18 | 10 | 31 |
| Tor Ghar | 84 | 0 | 46 | 2 | 12 | 14 | 17 | 3 | 0 | 0 |
| Upper Kurram | 138 | 378 | 47 | 17 | 523 | 43 | 12 | 5 | 4 | 11 |
| Total | 25,087 | 4,816 | 4,588 | 1,495 | 1,149 | 1,039 | 665 | 615 | 528 | 491 |

***Figure 4: Most frequently reported suspected cases during week 19, KP***



## ICT, AJK & GB

*ICT*: The most frequently reported cases from Islamabad were ILI followed by AD (Non-Cholera) and B. Diarrhea. ILI showed a decreasing trend while AD (Non-Cholera) showed an increasing trend in cases this week.

*AJK:* ILI cases were maximum followed by AD (Non-Cholera), ALRI <5 years, SARI, B. Diarrhea, Typhoid, TB, AWD (S. Cholera), dog bite and AVH (A & E) cases. Cases of ILI, AD (Non-Cholera), ALRI <5 years, B. Diarrhea, TB, dog bite and AVH (A & E) showed a decreasing trend this week.

*GB:* AD (Non-Cholera) cases were the most frequently reported diseases followed by ALRI <5 Years, ILI, SARI, AWD (S. Cholera), TB, B. Diarrhea and Typhoid cases. Increasing trend for AD (Non-Cholera), ALRI <5 Years, ILI, SARI, AWD (S. Cholera), TB and Typhoid cases observed this week

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

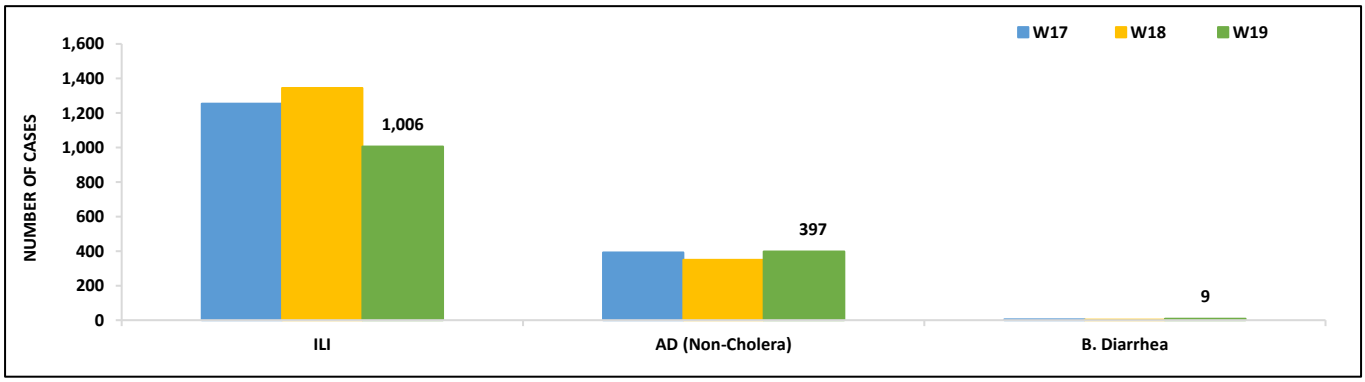



***Figure 6: Week wise reported suspected cases of ILI, ICT***

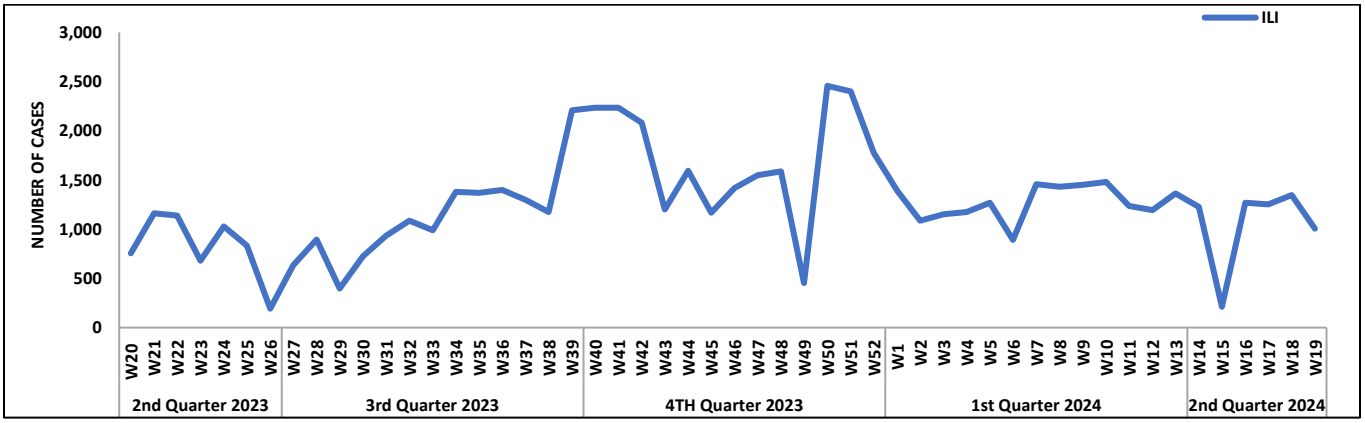



***Figure 7: Most frequently reported suspected cases during week 19, AJK***

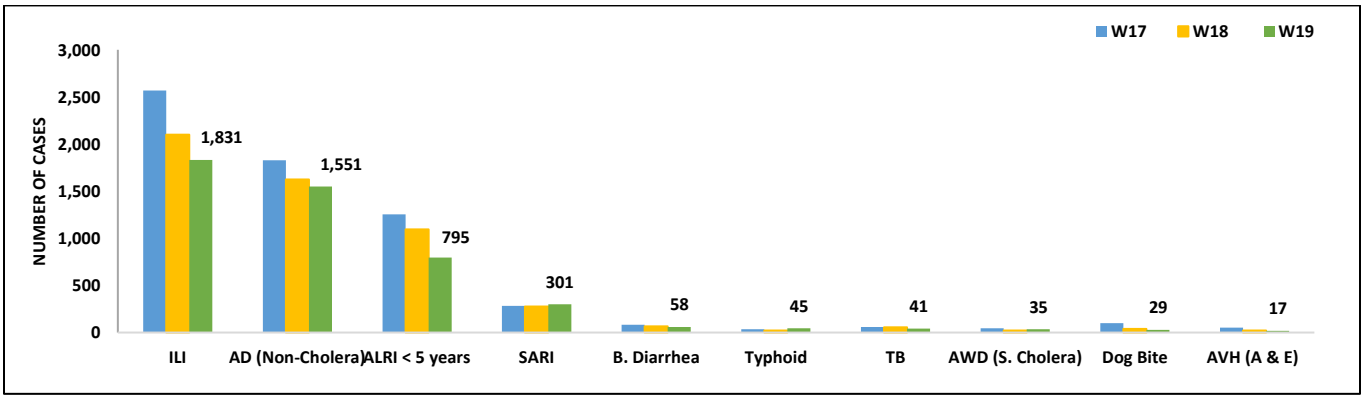


*Figure 8: Week wise reported suspected cases of ILI and AD (Non-Cholera) AJK*

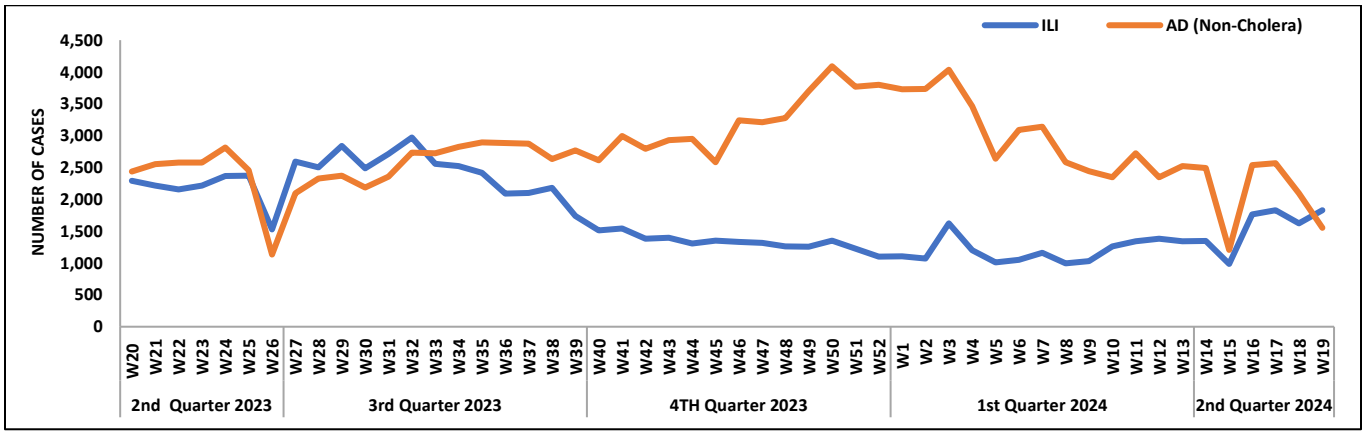



*Figure 9: Most frequent cases reported during Week 19, GB*

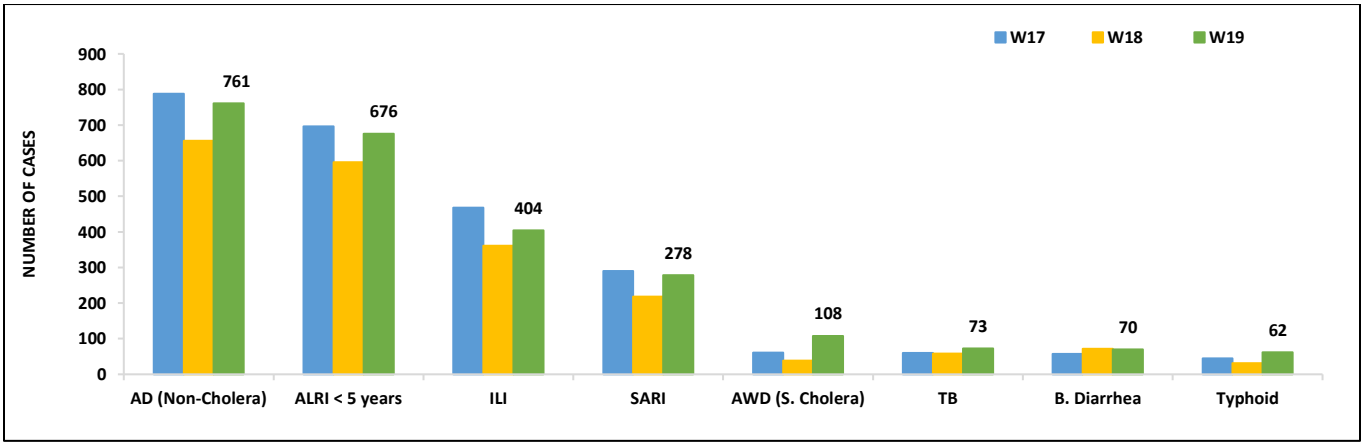



*Figure 10: Week wise reported suspected cases of ALRI, GB*

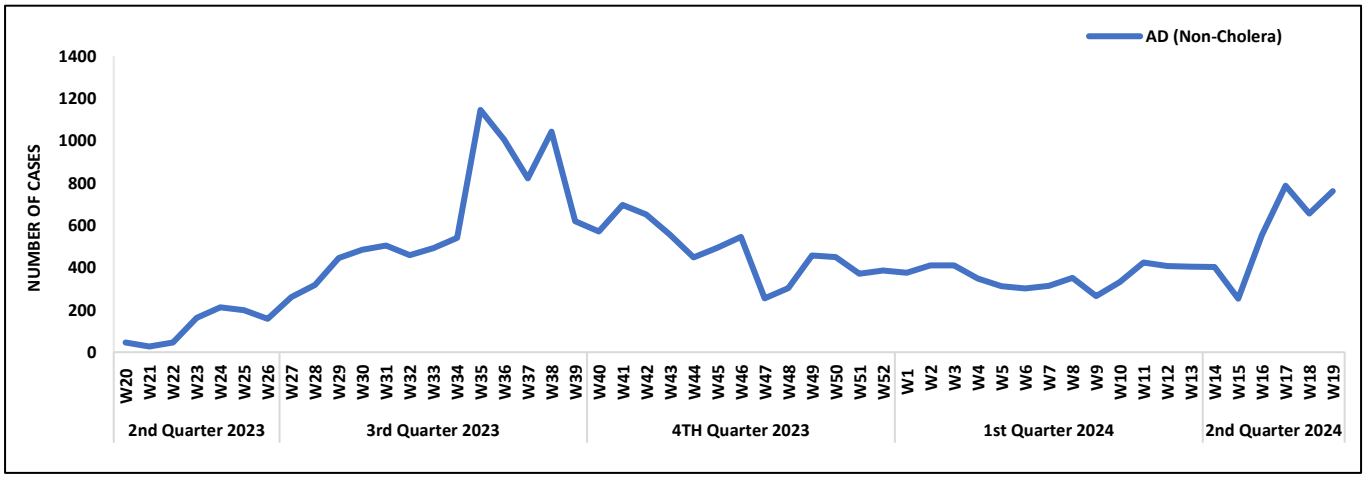


*Table 5: Public Health Laboratories confirmed cases of IDSR Priority Diseases during Epid Week 19*

| Diseases | Sindh | | Balochistan | | KPK | | ISL | | GB | |
|---|---|---|---|---|---|---|---|---|---|---|
| | Total Test | Total Positive | Total Test | Total Positive | Total Test | Total Positive | Total Test | Total Positive | Total Test | Total Positive |
| AWD (S. Cholera) | 16 | 0 | - | - | 9 | 0 | 0 | 0 | - | - |
| AD (Non-Cholera) | 85 | 0 | - | - | - | - | - | - | - | - |
| Malaria | 2,597 | 126 | - | - | - | - | - | - | - | - |
| CCHF | 0 | 0 | - | - | 9 | 0 | - | - | - | - |
| Dengue | 548 | 35 | - | - | - | - | - | - | - | - |
| VH (B) | 3,836 | 72 | 184 | 142 | - | - | - | - | 225 | 11 |
| VH (C) | 4,001 | 312 | 167 | 58 | - | - | - | - | 153 | 0 |
| VH (A&E) | 14 | 0 | - | - | - | - | - | - | - | - |
| Covid-19 | - | - | - | - | 3 | 0 | - | - | 350 | 0 |
| HIV | 210 | 0 | - | - | - | - | - | - | - | - |
| Diphtheria | - | - | - | - | - | - | 9 | 0 | - | - |
| Influenza A | 0 | 0 | 0 | 0 | 3 | 0 | 44 | 0 | 0 | 0 |
| TB | 107 | 0 | - | - | - | - | - | - | - | - |
| Syphilis | 109 | 0 | - | - | - | - | - | - | - | - |
| Pertussis | - | - | - | - | - | - | 6 | 0 | - | - |
| Typhoid | 510 | 14 | - | - | - | - | 10 | 0 | - | - |
| Mumps | - | - | - | - | - | - | - | - | - | - |
| Measles | - | - | - | - | - | - | - | - | - | - |

# IDSR Reports Compliance

- Out OF 158 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 19, 2024***

| Provinces/Regions | Districts | Total Number of Reporting Sites | Number of Reported Sites for current week | Compliance Rate (%) |
|---|---|---|---|---|
| Khyber Pakhtunkhwa | Abbottabad | 111 | 105 | 95% |
| | Bannu | 234 | 134 | 57% |
| | Battagram | 63 | 18 | 29% |
| | Buner | 34 | 29 | 85% |
| | Bajaur | 44 | 24 | 55% |
| | Charsadda | 59 | 46 | 78% |
| | Chitral Upper | 34 | 28 | 82% |
| | Chitral Lower | 35 | 34 | 97% |
| | D.I. Khan | 114 | 109 | 96% |
| | Dir Lower | 74 | 74 | 100% |
| | Dir Upper | 53 | 44 | 83% |
| | Hangu | 22 | 2 | 9% |
| | Haripur | 72 | 69 | 96% |
| | Karak | 35 | 35 | 100% |
| | Khyber | 64 | 16 | 25% |
| | Kohat | 61 | 61 | 100% |
| | Kohistan Lower | 11 | 11 | 100% |
| | Kohistan Upper | 20 | 20 | 100% |
| | Kolai Palas | 10 | 10 | 100% |
| | Lakki Marwat | 70 | 70 | 100% |
| | Lower & Central Kurram | 40 | 3 | 8% |
| | Upper Kurram | 42 | 23 | 55% |
| | Malakand | 42 | 35 | 83% |
| | Mansehra | 136 | 101 | 74% |
| | Mardan | 80 | 62 | 78% |
| | Nowshera | 55 | 53 | 96% |
| | North Waziristan | 380 | 1 | 0% |
| | Peshawar | 151 | 129 | 85% |
| | Shangla | 65 | 15 | 23% |
| | Swabi | 63 | 63 | 100% |
| | Swat | 77 | 75 | 97% |
| | South Waziristan | 134 | 53 | 40% |
| | Tank | 34 | 34 | 100% |
| | Torghar | 14 | 13 | 93% |
| | Mohmand | 86 | 39 | 45% |
| | SD Peshawar | 5 | 1 | 20% |
| | SD Tank | 58 | 6 | 10% |
| | Orakzai | 68 | 17 | 25% |
| | Mirpur | 37 | 37 | 100% |
| | Bhimber | 20 | 20 | 100% |
| | Kotli | 60 | 60 | 100% |
| | Muzaffarabad | 45 | 45 | 100% |
| | Poonch | 46 | 46 | 100% |
| | Haveli | 39 | 0 | 0% |

| | | | | |
|---|---|---|---|---|
| **Azad Jammu Kashmir** | Bagh | 40 | 23 | 58% |
| | Neelum | 39 | 39 | 100% |
| | Jhelum Vellay | 29 | 27 | 93% |
| | Sudhnooti | 27 | 27 | 100% |
| **Islamabad Capital Territory** | ICT | 21 | 19 | 90% |
| | CDA | 14 | 9 | 64% |
| **Balochistan** | Gwadar | 25 | 25 | 100% |
| | Kech | 40 | 31 | 78% |
| | Khuzdar | 20 | 6 | 30% |
| | Killa Abdullah | 20 | 0 | 0% |
| | Lasbella | 55 | 55 | 100% |
| | Pishin | 62 | 15 | 24% |
| | Quetta | 43 | 17 | 40% |
| | Sibi | 36 | 33 | 92% |
| | Zhob | 39 | 29 | 74% |
| | Jaffarabad | 16 | 16 | 100% |
| | Naserabad | 32 | 29 | 91% |
| | Kharan | 30 | 30 | 100% |
| | Sherani | 15 | 14 | 93% |
| | Kohlu | 75 | 62 | 83% |
| | Chagi | 35 | 26 | 74% |
| | Kalat | 41 | 40 | 98% |
| | Harnai | 17 | 16 | 94% |
| | Kachhi (Bolan) | 35 | 34 | 97% |
| | Jhal Magsi | 26 | 26 | 100% |
| | Sohbat pur | 25 | 25 | 100% |
| | Surab | 32 | 18 | 56% |
| | Mastung | 45 | 42 | 93% |
| | Loralai | 33 | 29 | 88% |
| | Killa Saifullah | 28 | 26 | 93% |
| | Ziarat | 29 | 20 | 69% |
| | Duki | 31 | 5 | 16% |
| | Nushki | 32 | 29 | 91% |
| | Dera Bugti | 45 | 28 | 62% |
| | Washuk | 46 | 9 | 20% |
| | Panjgur | 38 | 22 | 58% |
| | Awaran | 23 | 8 | 35% |
| | Chaman | 24 | 20 | 83% |
| | Barkhan | 20 | 20 | 100% |
| | Hub | 33 | 33 | 100% |
| | Musakhel | 41 | 0 | 0% |
| | Usta Muhammad | 34 | 34 | 100% |
| **Gilgit Baltistan** | Hunza | 32 | 30 | 94% |
| | Nagar | 20 | 20 | 100% |
| | Ghizer | 40 | 40 | 100% |
| | Gilgit | 40 | 38 | 95% |
| | Diamer | 62 | 62 | 100% |
| | Astore | 54 | 54 | 100% |

| | | | | |
|---|---|---|---|---|
| | Shigar | 27 | 27 | 100% |
| | Skardu | 52 | 52 | 100% |
| | Ganche | 29 | 29 | 100% |
| | Kharmang | 18 | 18 | 100% |
| Sindh | Hyderabad | 73 | 55 | 75% |
| | Ghotki | 64 | 64 | 100% |
| | Umerkot | 43 | 42 | 98% |
| | Naushahro Feroze | 107 | 62 | 58% |
| | Tharparkar | 282 | 247 | 88% |
| | Shikarpur | 60 | 60 | 100% |
| | Thatta | 52 | 52 | 100% |
| | Larkana | 67 | 67 | 100% |
| | Kamber Shadadkot | 71 | 71 | 100% |
| | Karachi-East | 23 | 21 | 91% |
| | Karachi-West | 20 | 20 | 100% |
| | Karachi-Malir | 37 | 37 | 100% |
| | Karachi-Kemari | 18 | 8 | 44% |
| | Karachi-Central | 11 | 10 | 91% |
| | Karachi-Korangi | 18 | 11 | 61% |
| | Karachi-South | 4 | 4 | 100% |
| | Sujawal | 54 | 53 | 98% |
| | Mirpur Khas | 106 | 103 | 97% |
| | Badin | 124 | 119 | 96% |
| | Sukkur | 63 | 63 | 100% |
| | Dadu | 90 | 90 | 100% |
| | Sanghar | 100 | 100 | 100% |
| | Jacobabad | 44 | 44 | 100% |
| | Khairpur | 169 | 169 | 100% |
| | Kashmore | 59 | 59 | 100% |
| | Matiari | 42 | 41 | 98% |
| | Jamshoro | 68 | 68 | 100% |
| | Tando Allahyar | 54 | 54 | 100% |
| | Tando Muhammad Khan | 40 | 40 | 100% |
| | Shaheed Benazirabad | 124 | 123 | 99% |

**********

## A note from Field Activities.

# Crimean-Congo Hemorrhagic Fever Case Investigation Report, Peshawar, Khyber Pakhtunkhwa, Pakistan May 2024

**Dr. Dr. Muhammad Gul Sartaj**
**Fellow FETP 15th Cohort**

**Dr. Sohail Farooqi**
**Fellow FETP 15th Cohort**

**Dr. Majid Salim**
**Technical Support Officer, DGHS, KP**

## Introduction:

Crimean-Congo Hemorrhagic Fever is a serious viral illness caused by a member of the Nairovirus group within the Bunyaviridae family. The primary modes of transmission include bites or handling of infected Hyalomma ticks, contact with the blood or tissues of infected livestock (especially during slaughter), and direct contact with bodily fluids from infected patients, leading to a risk of hospital-acquired infections. The incubation period varies depending on the exposure route, ranging from 1-3 days for tick bites to 5-6 days for contact with infected blood or tissues, with a documented maximum of 13 days.

CCHF cases exhibit seasonal peaks in spring and fall, coinciding with the tick lifecycle, the introduction of newborn and migrating animals, and increased human interaction with both infected animals and ticks. A single probable case triggers an alert, prompting immediate investigation, while a confirmed case signifies an outbreak. The disease carries a high case fatality rate, ranging from 2% to 50%. First identified in Crimea in 1944, the virus was later found in the Congo in 1956, leading to its current designation.

## Background of the Investigation

On May 19, 2024, Khyber Teaching Hospital (KTH) in Peshawar, Khyber Pakhtunkhwa (KP), reported a suspected CCHF case to the Integrated Disease Surveillance Response Unit of the Directorate General Health Services (DGHS) in KP. The patient, admitted to the hospital's Medical Intensive Care Unit, presented with symptoms suggestive of CCHF, including high fever, petechial rashes (appearing as small red or purple spots), nausea, vomiting, and body aches. Dr. Irshad Ali, Director of Public Health at DGHS, KP, upon receiving this report, directed Dr. Muhammad Gul Sartaj, a Surveillance Officer, to conduct a comprehensive investigation to confirm the diagnosis and implement necessary control measures.

## Objectives:

- To take detailed history of illness and development of symptoms.
- To investigate possible source of infection; contact with animals/ticks and travel history if any.
- To enlist all close contacts of the patient in order to assess their current status to rule out possibilities of disease transmission.

## Methodology:

To gather comprehensive data, the investigation team employed several methods:

- **Medical Record Review:** A thorough review of the patient's medical records at Khyber Teaching Hospital (KTH) in Peshawar was conducted to understand their illness history and any prior medical investigations.
- **Interviews:** Interviews were held with the attending physicians, doctors, and nursing staff at KTH who were directly involved in the patient's care. Additionally, interviews were conducted with any available family members present during the patient's hospitalization.
- **Site Visit:** The investigation team visited Khyber Teaching Hospital to gain firsthand experience of the patient's treatment environment.
- **Contact Tracing:** Active contact tracing was initiated among staff who worked in the Medical Ward or Isolation Room where the patient was treated. The following operational case definition was used to identify potential contacts:

- **Probable Case:** A suspected case with a recent fever (less than 10 days) and at least two of the following symptoms: platelet count below 50,000/mm3, petechial or purpuric rash, nosebleeds, vomiting blood, bleeding gums, coughing up blood, blood in stool, large bruises, or other signs of bleeding, with no underlying medical conditions known to cause these symptoms.
- **Contact Definition:** A contact was defined as anyone who provided care to the patient in the hospital, shared living quarters or a vehicle with them, or participated in bathing the body before burial.

## Case Report:

The investigation centered on an 18-year-old male animal handler from Charsadda, Khyber Pakhtunkhwa. Employed in the seasonal business of livestock purchase, his work frequently took him to Lahore and other parts of Punjab.

On May 14th, 2024, the individual began experiencing a high fever, body aches, and vomiting. By the following day, his condition worsened with the development of petechial rashes. He initially sought treatment from a local general practitioner who prescribed antibiotics and antipyretics. However, with no improvement, he was rushed to Khyber Teaching Hospital (KTH) in Peshawar on May 17th and admitted to the Medical Intensive Care Unit (ICU) for further investigation.

The course of his illness included the emergence of additional petechial rashes and internal bleeding. He was placed on Ribavirin alongside other supportive treatments. Despite these interventions, his condition deteriorated rapidly, requiring ventilator support. A PCR test conducted on May 18th confirmed Crimean-Congo Hemorrhagic Fever (CCHF), prompting transfer to an isolation ward.

Blood work upon admission revealed concerning abnormalities: a platelet count of 16,000/µL, hemoglobin level of 4.7 g/dL, and a total leukocyte count of 1.8 x 10^9/L, indicative of pancytopenia. Treatment included platelet concentrates and Ribavirin tablets. A sample sent to the Public Health Reference Laboratory (PHRL) in Peshawar confirmed the presence of CCHF virus RNA. Sadly, intensive treatment efforts proved unsuccessful. The patient's condition progressively declined, exhibiting signs of hepatic encephalopathy and renal failure. Multiple transfusions, including 8 units of platelets and 2 units of red cell concentrate, were required.

Social history revealed a middle-class family background. His father was unemployed at the time, and his four brothers worked as tailors. The family resided in a rented house. Notably, his travel history included a trip to Lahore for livestock purchase seven days before the onset of his illness, a routine aspect of his job.

The patient passed away on the morning of May 19, 2024, despite the valiant efforts of the medical staff at Khyber Teaching Hospital's Medical Intensive Care Unit.

## Contact Tracing:

The confirmation of a Crimean-Congo Hemorrhagic Fever (CCHF) case triggered a swift public health response. The District Health Office in Charsadda, led by the Public Health Coordinator, launched a comprehensive contact tracing initiative. This involves meticulously identifying and monitoring all individuals who might have come into contact with the infected patient to prevent further viral spread. The District Entomologist team is also collaborating with the District Health Management Team. Their combined efforts focus on identifying and monitoring tick populations, developing strategies for tick control, and educating the public on preventative measures against CCHF. Fortunately, no close contacts, including family members and those encountered at the hospital, have exhibited symptoms of fever or hemorrhagic manifestations thus far.

Educational outreach programs are being conducted to inform animal handlers about CCHF risks and safety protocols. Additionally, the department is ensuring adherence to these protocols when dealing with animals and their products. This coordinated effort between the Health Department and the Livestock Department is critical for containing the outbreak and protecting public health.

## Preventive Actions Implemented by Khyber Teaching Hospital (KTH), Peshawar

Khyber Teaching Hospital (KTH) in Peshawar implemented several measures to prevent further spread of CCHF following the confirmed case. Terminal cleaning and proper disposal of potentially contaminated items like linens, beds, curtains, and used equipment were prioritized. Additionally, fumigation was conducted in the medical wards and isolation rooms to eliminate any lingering virus particles.

To monitor for potential infections among those who may have been exposed, KTH instituted a twice-daily temperature screening protocol for all patient contacts for a period of 15 days. Anyone experiencing a fever of 100°F (37.8°C) or higher was instructed to report immediately to the hospital for evaluation.

Furthermore, KTH conducted educational sessions for the patient's attendants to raise awareness about CCHF, its symptoms, and preventive measures. Healthcare staff were also sensitized to the importance of using Personal Protective Equipment (PPE) when handling patients suspected of having CCHF.

Looking beyond the immediate case, the Public Health Section of the Directorate General Health Services (DGHS) in Khyber Pakhtunkhwa issued a province-wide advisory for CCHF prevention and control. This advisory, anticipating increased human and animal interactions during the upcoming Eid ul Azha celebrations, instructed District Health Officers, Medical Superintendents, and Medical Teaching Institutes to implement measures to interrupt CCHF transmission. The overall aim is to enhance preparedness and control efforts for CCHF under the "One Health" approach, which emphasizes collaboration between human and animal health sectors to address zoonotic diseases like CCHF.

## Preventive Actions Implemented by the Livestock Department, Khyber Pakhtunkhwa

The Livestock Department of Khyber Pakhtunkhwa responded swiftly to the confirmation of CCHF and the tragic death of a young person in Prang, Charsadda. Demonstrating a clear commitment to public health, Veterinary Assistant Mr. Younas initiated a series of strategic epidemiological measures on May 19th, 2024. These actions focused on three key areas:

1. **Vector Control:** Acaricidal spraying was conducted in high-risk zones to target and eliminate ticks, the primary carriers of CCHF. This crucial step aims to interrupt the transmission cycle of the virus and prevent further infections.

2. **Community Education:** Awareness sessions were held to educate the community about the dangers of tick bites and the preventive measures they can take. This included promoting the use of protective clothing, regular tick checks on themselves and their animals, and maintaining proper hygiene in animal shelters.

3. **Livestock Surveillance and Movement Restrictions:** Veterinary officials intensified their surveillance efforts to identify and address tick infestations in livestock. Additionally, restrictions were placed on the movement of animals from affected areas. This two-pronged approach aims to control the spread of ticks and prevent them from establishing themselves in new locations.

## Recommendations:

- Separate isolation rooms / ward in all private/public sector hospitals.
- Bio-safety measures to avoid nosocomial infections.
- All medical / para-medical staff and attendants should use Personal Protective Equipment's (PPEs) while handling any suspected patients.
- All used items should be autoclaved before incinerating.
- Seroconversion analysis of closed contacts is recommended as virus is circulating in this region since last few years**.**

## Acknowledgements:

We would like to express our sincere gratitude to the medical team at Khyber Teaching Hospital (KTH) in Peshawar who provided critical care to the patient during this investigation. Our appreciation extends to Dr. Gohar Ayub and Dr. Naeem from the Medicine ICU Ward, as well as the

dedicated paramedical and nursing staff who attended to the patient's needs. Their expertise and tireless efforts were invaluable throughout this process.

# Measles Outbreak Investigation Report: District D I Khan, Khyber Pakhtunkhwa, Pakistan April, 2024

**Dr. Safdar Irfan Marwat**
**Fellow FETP 14th Cohort**

**Dr. Majid Salim**
**TSO KPK**

## Introduction:

This report presents the findings of an investigation into a measles outbreak that occurred in District D I Khan, Khyber Pakhtunkhwa, Pakistan. The outbreak spanned Epidemiological Weeks (Epi Weeks) 11 to 17, 2024. Measles is a highly contagious viral illness that can be effectively prevented through vaccination.

## Background:

Measles is a severe respiratory infection with the potential to cause serious complications, including pneumonia, encephalitis, and even death. The virus spreads readily through airborne droplets expelled by coughing or sneezing individuals. Children who have not received the recommended vaccinations are most susceptible to measles infection.

**Objectives:**

- To Assess the magnitude of the outbreak.
- To Recommend and implement control measures.
- To Prevent future outbreaks.

## Methods:

A descriptive study design was employed to investigate the measles outbreak in District D I Khan. The target population for this investigation comprised children under 15 years of age residing within the district, with an estimated population of 308,793.

To identify cases, a standardized case definition was utilized. A suspected case was defined as any resident of D I Khan presenting with a fever exceeding 38°C and a rash, accompanied by at least one of the following symptoms: cough, conjunctivitis, ear infection, or pneumonia. The timeframe for suspected cases spanned Epi Weeks 11 to 17, 2024. Probable cases were defined as suspected cases with a confirmed epidemiological link to a laboratory-confirmed case. Confirmation of measles infection was established through blood tests detecting the measles virus.

Data collection methods encompassed the use of structured questionnaires, active case finding through household surveys, and a thorough review of healthcare facility records. The investigation period covered Epi Weeks 11 to 17, 2024. Data analysis was conducted using Microsoft Excel and Epi Info software.

## Findings:

A total of 311 suspected measles cases were identified during the investigation period. Laboratory testing confirmed measles infection in 61 of these cases. The outbreak primarily affected young children, with a mean affected age of 36 months (SD 30.7 months) and a median age of 24 months (Range 4-168 months). Laboratory testing confirmed measles infection in 61 of these cases. among confirmed cases, males were more frequently affected, with 43 confirmed cases compared to 18 females. Children under 12 months were most vulnerable, with 29 confirmed cases in this age group

The outbreak exhibited a distinct pattern, with the peak occurring in week 14, where 66 suspected measles cases were identified. This suggests a rapid initial spread followed by a potential decline in new cases. Dera Ismail Khan Tehsil bore the brunt of the outbreak, accounting for 221 of the confirmed cases.

A significant concern is the low measles vaccination rate. Of the confirmed cases, 81% (n=252) had not received the measles vaccine.

While the investigation identified poor health-seeking behavior, fortunately, no deaths were reported during this outbreak. However, the lack of timely medical

attention for measles can lead to serious complications.

## Actions Taken:

To effectively control the recent measles outbreak, the following public health interventions have been implemented:

- **Dedicated Isolation Wards:** Ear, Nose, and Throat (ENT) and Nutrition wards within District Headquarters (DHQ) and Zonal Headquarters (ZHQ) hospitals have been temporarily repurposed to isolate measles cases. Admissions to these wards are strictly reserved for patients experiencing complications from measles.
- **Specialized Staff Allocation:** Dedicated healthcare staff have been assigned to manage the newly established isolation wards. This ensures proper care for measles patients and minimizes the risk of transmission within the healthcare facility.
- **Outbreak Immunization Campaign:** A targeted immunization campaign is underway to address the issue of defaulter children who missed their routine measles vaccinations. This strategy aims to rapidly increase population immunity and curb the spread of the disease.
- **Strengthening Routine Vaccination:** Efforts are being amplified to enhance the coverage of routine vaccinations within the community. This long-term approach ensures that future generations are adequately protected against measles.
- **Community Awareness and Education:** Public awareness and health education sessions are being conducted within communities. These sessions empower individuals with knowledge about measles prevention, transmission, and the importance of timely vaccination.
- **WASH Activities:** Water, Sanitation, and Hygiene (WASH) activities are being promoted to improve hygiene practices within the community. This helps to reduce the overall transmission of infectious diseases, including measles.

## Recommendations:

- Mass MR vaccination campaign throughout D I Khan.
- Strengthened case response for all reported measles cases.
- Instructions for healthcare facilities to report measles cases.
- Early identification and investigation of suspected cases.
- Outreach sessions by health technicians to promote routine immunization.
- Community education sessions to address vaccine hesitancy and promote MR vaccination.

## *Abstarct.*

# Dengue Outbreak Investigation at Area Multanabad Uc Wadpagga of District Peshawar October 2023

**Dr. Mussawir Manzoor**
**FETP frontline**

**Dr. Majid Salim**
**TSO, KPK**

**Introduction:** Dengue fever, a significant public health concern in Pakistan, is transmitted by Aedes mosquitos. This study investigates a dengue outbreak in Multanabad, Peshawar (October 2023).

**Methods:** A case-control study compared laboratory-confirmed dengue cases (n=12) with controls (n=37) residing in the same households. Data collection included questionnaires, hospital records, and active case searching. Line listing and EPI info 7.2 software were used for data analysis.

**Results:** The attack rate was 6/1000 population. The majority of cases (75%) were aged 20-29 years, with a male:female ratio of 3:1. Fever, headache, and myalgia were prevalent among cases. Individuals who did not use bed nets (OR 2.2) or were exposed to high mosquito levels (OR 1.4) had increased odds of

dengue. Awareness about dengue (OR=0.8) and using repellents (OR=0.7) showed a protective effect.

Discussion: The identified index case had a travel history to dengue-epidemic areas. The outbreak suggests compromised mosquito control interventions and limited preventive measures (bed net use, repellents) by the community.

Conclusion: The study highlights the importance of promoting mosquito control methods (bed nets, repellents, breeding site elimination) and community education (transmission, prevention) to prevent future outbreaks.

# *Knowledge Hub*

## Public Health Awareness and Education on Crimean-Congo Hemorrhagic Fever (CCHF) during Eid-ul-Azha in Pakistan

Eid-ul-Azha, the festival of sacrifice, is a significant event in Pakistan, marked by a large-scale movement of animals for slaughter. This increase in animal handling and close contact presents a potential risk for the spread of zoonotic diseases like Crimean-Congo Haemorrhagic Fever (CCHF). This article emphasizes the importance of public health awareness and education campaigns to mitigate this risk during Eid.

### What is CCHF?

CCHF is a viral haemorrhagic fever transmitted to humans through contact with infected animal blood, tissues, or ticks. The disease can cause severe illness, with symptoms ranging from mild fever and muscle aches to life-threatening bleeding and organ failure.

### Symptoms of CCHF:

Crimean-Congo Hemorrhagic Fever (CCHF) presents with a range of symptoms that can develop rapidly. The initial hallmark of CCHF is a sudden and significant rise in body temperature, often exceeding 39°C (102.2°F). This high fever can be quite debilitating and is often accompanied by a severe headache that can be constant and throbbing. Additionally, muscle aches and weakness become prominent, making even simple movements difficult.

As the disease progresses, the digestive system can become involved. Nausea, vomiting, and diarrhea can occur, further contributing to dehydration and discomfort. Abdominal pain, often described as a dull ache or cramping sensation, may also be present.

A hallmark sign of CCHF, and a major cause for concern, is the potential for bleeding. This can manifest in various ways, including bleeding from the gums, nosebleeds, or even spontaneous bleeding under the skin. These haemorrhagic manifestations are a result of the virus disrupting the body's ability to form blood clots effectively.

In the most severe cases of CCHF, the virus can overwhelm the body's organ systems. This can lead to organ failure, where vital organs like the liver or kidneys are no longer able to function properly. If left untreated, CCHF complications can be fatal.

It's important to note that the symptoms described above can vary depending on the severity of the infection and the individual's immune response. Early diagnosis and prompt medical attention are crucial for managing CCHF effectively and preventing complications.

### Understanding How the Virus Spreads

Crimean-Congo Hemorrhagic Fever (CCHF) can be transmitted through various routes, highlighting the importance of caution during animal handling activities. Here's a breakdown of the key transmission pathways:

1. **Direct Contact with Infected Bodily Fluids:** This is the most common mode of transmission. The virus can enter the human body through broken skin or mucous membranes (eyes, nose, mouth) during direct contact with the blood, tissues, or organs of infected animals. Activities like slaughtering, butchering, and handling sick animals without proper protective gear significantly increase the risk.
2. **Tickborne Transmission:** Ticks can serve as silent carriers of the CCHF virus. When an infected tick bites a human, the virus can be

transmitted through the tick's saliva. Ticks can be found on livestock and in areas where these animals graze.

3. **Contaminated Animal Waste:** The CCHF virus can be present in the feces and other bodily waste of infected animals. Contact with contaminated environments or improper disposal of animal waste can potentially expose humans to the virus.

4. **Consumption of Undercooked Meat:** Consuming raw or undercooked meat from animals infected with CCHF poses a significant risk. The virus can survive in muscle tissue, and improper cooking can leave residual virus that can infect humans upon consumption.

## Safe Animal Handling: From Market to Home this Eid

Animal handling carries a risk of spread zoonotic disease. Here's how to ensure a safe and healthy experience for you and your animal:

### For Animal Handlers:

- **Donning Protective Gear is Essential:** Always wear protective clothing like gloves, boots, masks, and aprons when handling livestock. These barriers create a physical shield against contact with infected blood, tissues, or bodily fluids, significantly reducing the risk of CCHF transmission.

- **Handwashing is Paramount:** Meticulous hand hygiene is a cornerstone of CCHF prevention. Wash your hands thoroughly with soap and water after every interaction with animals, regardless of their apparent health status. This simple practice helps eliminate any potential virus particles that might have come into contact with your skin.

- **Maintain Distance from Sick Animals:** If you encounter an animal exhibiting signs of illness, avoid all contact. Isolate the animal and immediately report it to veterinary authorities. This prevents the spread of the virus among other animals and safeguards your own health.

- **Prompt Reporting of Sick Animals is Crucial:** Veterinarians are equipped to diagnose and manage animal diseases, including CCHF. Reporting sick animals allows for timely intervention, preventing further transmission within the animal population and safeguarding public health.

### At the Market:

- **Observe Animal Health:** Look for animals with bright eyes, clear coats, and active behavior. Avoid lethargic or sick-looking animals.

- **Minimize Contact:** Maintain a distance from livestock. Don't touch multiple animals, and avoid touching your face after interacting with them.

- **Ask Questions:** Engage with reputable sellers. Inquire about the animal's health history and any vaccinations received.

### Transportation Tips:

- **Adequate Space:** Ensure the animal has enough space to stand comfortably during transport. This reduces stress and minimizes the risk of injuries.

- **Ventilation:** Provide proper ventilation to prevent overheating and ensure the animal receives fresh air.

- **Avoid Harsh Weather:** If possible, transport the animal during cooler hours to prevent heat stress.

### Home Care:

- **Separate Enclosure:** Isolate the animal in a clean and well-ventilated enclosure away from other animals. This minimizes the risk of disease transmission.

- **Proper Hygiene:** Maintain a clean and hygienic environment. Regularly clean the enclosure with disinfectants safe for animals.

- **Fresh Water and Food:** Provide the animal with access to clean, fresh water at all times. Offer a balanced diet appropriate for the animal's species and age.
- **Minimize Contact:** While interacting with the animal, wear gloves and wash your hands thoroughly with soap and water after each contact.

## Additional Tips:

- **Seek Veterinary Attention:** If you notice any signs of illness in the animal, consult a veterinarian promptly. Early diagnosis and treatment are crucial for the animal's health and potentially your own.
- **Safe Handling:** Practice safe handling techniques when manoeuvring the animal. Avoid unnecessary stress and potential injury for both the animal and yourself.

## For Everyone:

- **Minimize Contact with Livestock at Markets:** While animal markets are bustling with Eid preparations, prioritize your safety. Avoid close contact with livestock. Observe animals from a distance and maintain a hygienic barrier when interacting with sellers.
- **Practice Consistent Hand Hygiene:** Frequent handwashing with soap and water is vital for everyone during Eid. This simple practice protects you from various pathogens, including the CCHF virus, which can spread through contaminated surfaces.
- **Thorough Cooking of Meat is Non-Negotiable:** Always cook meat thoroughly before consumption. Ensure there is no pink remaining in the centre. This high temperature destroys any potential CCHF virus present, preventing transmission through undercooked meat.
- **Proper Disposal of Animal Waste is Essential:** Animal waste can harbor pathogens like the CCHF virus. Dispose of it responsibly in designated waste collection areas. This prevents environmental contamination and safeguards public health.

# Public Health Bulletin Pakistan

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