

Syndromic Surveillance for AFI & ADD at selected Metropolitan Surveillance Units (MSUs)

Background

Acute Febrile Illness (AFI) and Acute Diarrheal Diseases (ADD) represent major public health concerns in India, particularly within densely populated metropolitan areas where high population density accelerates pathogen transmission. AFI contributes to substantial infectious disease-related morbidity and mortality, while ADD accounts for over 50% of outbreaks reported to the Integrated Disease Surveillance Programme (IDSP) annually.

To strengthen early threat detection and urban health infrastructure, the Government of India, under the **Pradhan Mantri Ayushman Bharat Health Infrastructure Mission (PM-ABHIM)**, established **Metropolitan Surveillance Units (MSUs)**. Functioning under the IDSP network, MSUs serve as decentralized hubs connecting district and state surveillance units with tertiary hospitals and high-volume urban health facilities.

This project pilots an integrated, lab-based syndromic surveillance framework for AFI and ADD across selected high-burden metropolitan cities. By combining systematic patient enrollment with multi-pathogen testing, the initiative strengthens early outbreak signal detection, informs clinical management, and provides actionable data to guide public health interventions.

Objectives

- **Etiological Mapping:** Establish multi-pathogen diagnostic testing to identify, track, and monitor viral, bacterial, and parasitic etiologies of AFI and ADD in real time.
- **Real-Time Data Integration:** Securely transmit case-based clinical, epidemiological, demographic, and laboratory data into the **Integrated Health Information Platform (IHIP)**.
- **Evidence-Based Patient Management:** Facilitate rapid laboratory confirmation to minimize empirical treatment and optimize antimicrobial stewardship.
- **Outbreak Early Warning:** Enhance local, state, and national rapid response capacity through automated outbreak signal detection and geographic clustering analysis.
- **Scalable Surveillance Model:** Evaluate an evidence-based, integrated urban surveillance framework for national expansion.