

NCDC Newsletter

Quarterly Newsletter from National Centre for Disease Control (NCDC)



Director's Desk



Development and strengthening of public health capacity is a step towards creating a resilient system that can respond efficiently to current and future health challenges. NCDC is committed towards strengthening public health through its various training programmes. The current issue of newsletter provides a snapshot of various field epidemiology trainings being carried out by the institute.

This issue also presents malaria, jaundice and diphtheria outbreak investigations conducted by NCDC Epidemic Intelligence Surveillance Officers (EISOs) and State health department respectively. The other sections of this issue report various activities

carried out by NCDC and its branches during the first quarter of the year like inaugural of NCDC branches, regional centre and BSL 3 Laboratories by Honorable Union Minister of Health & Family Welfare. NCDC also organised its first National Public Health Conference (NPHICON) which was attended by participants from across the country.

In addition, this issue also captures information broadcast and global disease alert.

We hope that this newsletter has provided you with valuable insights, and updates. Inputs and ideas to improve it further are welcome.

Thematic Area: Capacity Building is key to Strengthening Health Systems

Lead Story: Strengthening Health Systems: Role of Field Epidemiology Trainings

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In today's era of everchanging scenarios of public health problems, a resilient public health system with trained public health workforce is very crucial. Countries are required to have effective field epidemiology capacity to adequately protect and safeguard the health of their population and their neighbouring countries. This need has been specifically highlighted during the Covid-19 pandemic. Enhancing public health capacity becomes more relevant for India in the context of its sheer population size.

In India, public health cadre exists at the centre but only a few states (e.g. Kerala, Maharashtra, Odisha, Tamil Nadu, West Bengal) have

Highlights in this issue

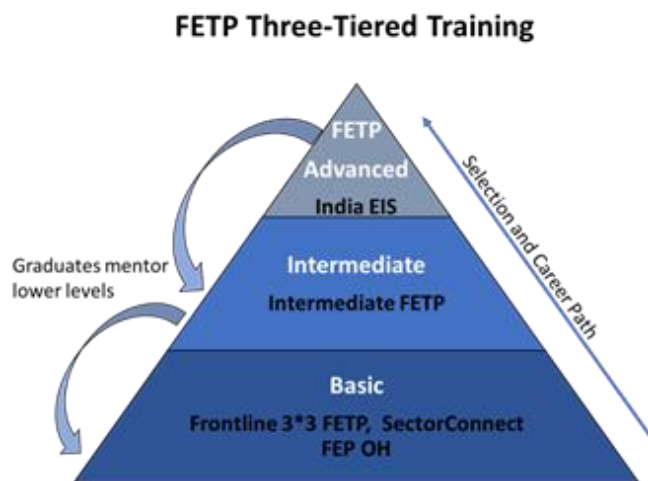
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designated public health workforce. Most postgraduate academic programmes in public health do not include field-based core public health competencies for outbreak investigations and public health responses.

National Centre for Disease Control (NCDC) has a mandate to support public health response during outbreaks, pandemics, disease eradication, surveillance during mass gathering and post disaster establishment of surveillance for communicable diseases. NCDC has been involved in capacity building in epidemiology, disease surveillance, entomology and laboratory diagnostic methods in the country through its various training programmes since 1963 and started a university-affiliated MPH Programme in 2006. NCDC's Epidemiology Division is WHO Collaborating Centre for Epidemiology and Training since 1996.

FETP training follows a three-tiered pyramidal model comprising basic, intermediate, and advanced training. Basic-level FETPs, or Frontline FETPs, generally require part-time training for three months. Intermediate-level FETPs are part-time, on-the-job trainings for upto one year and include contact sessions and conducting field based projects at their workplaces. Most advanced-level programs require two years of mentored, full-time training.

India Epidemic Intelligence Service (India-EIS), a 2-year full-time training programme, established in 2012, is an advanced FETP focusing on field competency-based, learning-by-doing approach for future public health leaders. Selected Public health officers, State nominated or self-sponsored,



are placed in various disease programmes of Ministry of Health and Family Welfare. Starting 2022, EIS officers also receive a degree in Masters in Applied Epidemiology (MAE). Since inception, 72 officers have graduated, and 28 officers are currently undergoing training.

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Frontline 3X3 FETP training focuses on rapid epidemiological capacity building for district frontline public health workforce, surveillance officers, epidemiologists and microbiologists. Officers undergo this part-time training at their state

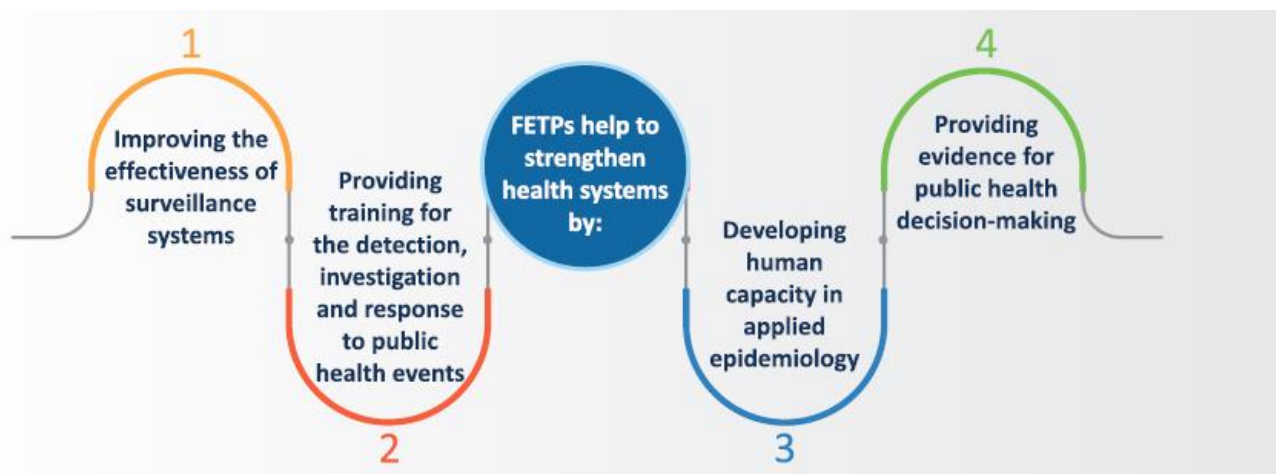


Fig:1: Role of field epidemiology trainings in strengthening health systems

headquarters (3 contact sessions, 3 days each, over a period of 3 months). National Institute of Health and Family Welfare (NIHFW) trained approximately 250 district-level personnel between 2016-2019. In 2021, to meet the requirements of field surveillance officers, NCDC updated and adapted the modules and has trained over 300 officers across 8 states of India.

SectorConnect FEP OH, a joint initiative of NCDC and Department of Animal Husbandry and Dairying (DAHD), operationalises One Health approach by training multi-sectoral and interdisciplinary Rapid Response Teams (RRTs) at the field level to enhance integrated response through surveillance data analysis & information sharing, and joint outbreak investigation. The 3-month, on-the-job training for district-level officers from health-related sectors and departments (public health, veterinary, wildlife, food safety, points of entries or POEs), evolved from the 3x3 Frontline FETP. Successfully piloted with 73 officers & 18 mentors from 17 districts of Gujarat, this training

is a testament to India's commitment towards fostering interdisciplinary collaboration and operationalizing One Health principles at field level. Intermediate FETP, initiated by NCDC in 2024, is a one-year in-service training programme for Public Health Officers selected from a pool of applicants nominated by the State governments or public health professionals looking for a career in public health. During various FETP trainings, 75% learning is through practical training in the field under the guidance of mentors having comprehensive knowledge of the expected core activities of learning, including surveillance, data collection, analysis, and epidemiologic investigation. To perform these duties successfully, FETP alumni are the preferred mentors, as they have a comprehensive understanding of the programme's requirements and the necessary technical knowledge and field experience required to support and supervise the residents. A strong and successful mentor is an experienced field epidemiologist who works closely with the officers.

Characteristic	Frontline FETP	Intermediate FETP	Advanced FETP
Duration	3 months	12-15 months	2 years
Part-time or full-time	Part-time	Part-time	Full time
Field work and Service	8 weeks	60 weeks	Up to 88 weeks
Core activities of learning			
Surveillance data quality	✓	NA	NA
Surveillance data analysis	✓	✓	✓
Surveillance system/ programme evaluation	NA	✓	✓
Case investigation	✓ (group)	NA	NA
Outbreak investigation	✓ (group)	✓	✓
Epi study	NA	✓ (group)	✓
Conference abstract	NA	✓	✓
Oral presentation (conference)	NA	✓	✓
Manuscript	NA	NA	✓

Table: 1 Core Activities of Learning under three-tiered FETP

Mentorship model in FETP:

Mentors are selected based on certain criteria, including their expertise in public health, advanced training in field epidemiology (such as FETP/EIS), and current involvement in public health institutions or disease control programs. They must also demonstrate strong teaching skills and a commitment to training. Effective mentorship involves establishing clear communication plans, guiding workplans, providing timely feedback, and supporting scientific writing. Strong mentorship not only enhances trainee performance but also fosters professional development, enriches the mentor's network, and contributes to the overall success of the training programs by cultivating future public health leaders.

FETP impact:

The graduates/alumni from various FETP programs hold various significant public health posts in the country for instance, 22 alumni from India EIS programme at NCDC are serving in national or international development agencies, 40 as program officers at district, state, and national levels, 4 in WHO (subnational levels) and 7 are involved in national programs. These roles highlight the significant impact of the FETP in

cultivating public health leaders across multiple sectors in India.

Community engagement is the key to tackle challenges faced in the field

During a Scrub typhus outbreak investigation in a remote village, EIS officers faced significant challenges, including difficult terrain and language barriers. The village was accessible only by foot, making it hard to reach the affected households. To overcome this, the officers partnered with local health authorities, who provided logistical support and guided them through the area. Additionally, they enlisted the help of a local teacher to assist with translation, ensuring clear communication with the villagers. These efforts allowed the team to conduct thorough investigations, collect accurate data, and recommend targeted interventions to prevent and control such outbreaks in the future.

Way Forward:

NCDC will lead the expansion of FETP in India in close collaboration with ICMR- NIE, state-level Directorates of public health, medical education, DAHD and partner organizations and work synergistically to rapidly expand the three tiers of FETP from 2023-2030.



Fig 2: Graduated officers of India Epidemic Intelligence Programme (EIS), Cohort-8, Nov'2023

Epidemic Intelligence Surveillance Officers at forefront of Public Health

Contributed by: Dr Tanzin Dikid¹, Dr Ramesh Chandra², Dr Vijaypal Singh³, Mr Abhishek⁴
¹Joint Director, NCDC; ²Deputy Director, NCDC; ³Epidemiologist, NCDC; ⁴Technical Officer, NCDC

The India Epidemic Intelligence Service (EIS) officers at the National Centre for Disease Control (NCDC) undergo a full-time two-year training designed to enhance their skills in field epidemiology. During this period, they are strategically placed within various health programs and divisions under the Ministry of Health, enabling them to gain hands-on experience in public health practice. Their training includes rigorous requirements, such as conducting at least one surveillance system evaluation or program evaluation and participating in at least three outbreak investigations. These activities are crucial for strengthening the country's public health response and ensuring that officers are well-prepared to manage health emergencies.

The following is a brief summary analysis of the activities undertaken by the EIS officers since 2012.

Surveillance system evaluations:

The list of surveillance system evaluations conducted by the Epidemic Intelligence Services

(EIS) officers in India encompassed a wide range of disease and health conditions, indicating a robust and comprehensive public health surveillance infrastructure. These evaluations covered both communicable diseases like malaria, dengue, tuberculosis, viral hepatitis, COVID-19, rabies, leptospirosis, and Japanese Encephalitis, as well as non-communicable diseases such as cancer, diabetes, cardiovascular diseases, and heat-related illnesses. Evaluations were conducted across diverse regions, including Delhi, Uttar Pradesh, Karnataka, Tamil Nadu, Maharashtra, Gujarat, West Bengal, Odisha, Assam, and Arunachal Pradesh. The geographic spread and variety of conditions reflected an adaptive surveillance system capable of addressing both traditional and emerging health challenges, improving public health infrastructure from densely populated urban areas to remote rural districts. This comprehensive approach helped tailor public health interventions to the unique needs of different communities across India.

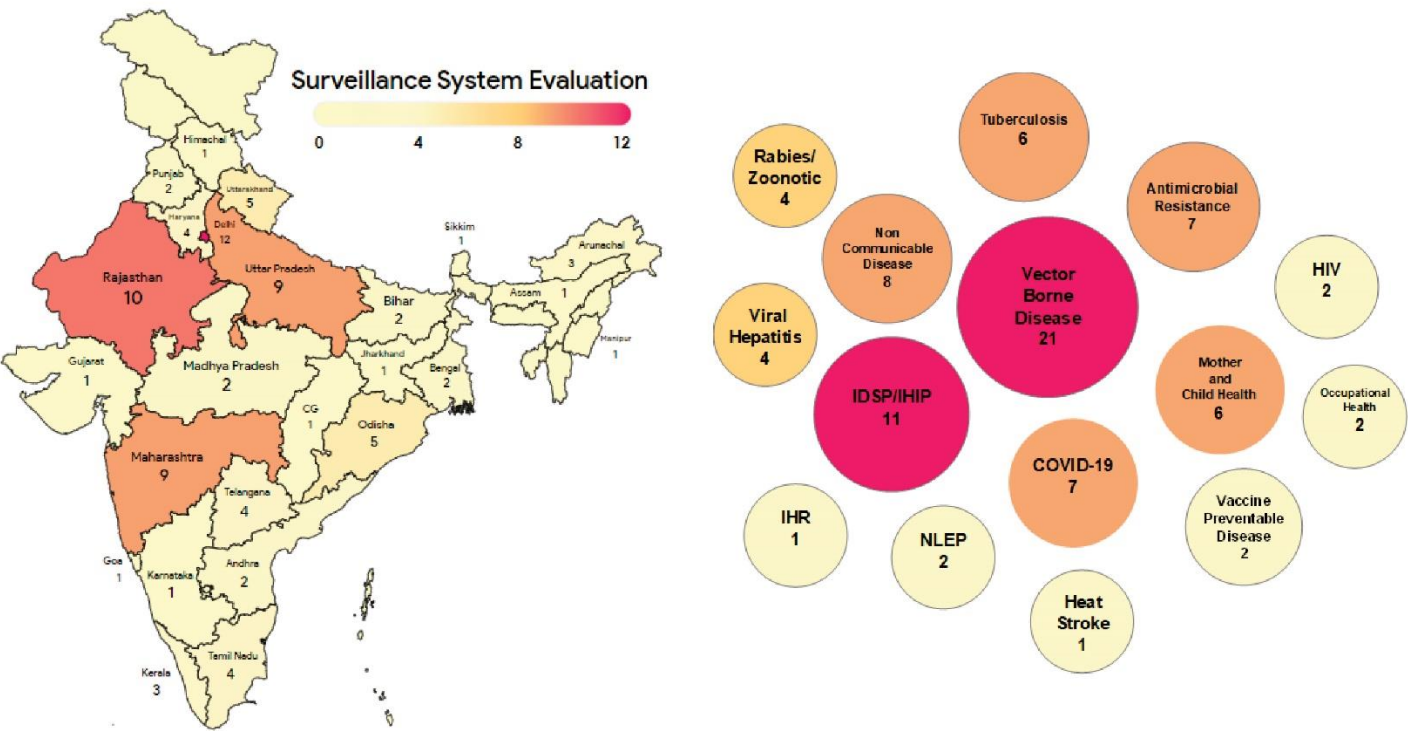


Fig 1: Surveillance System Evaluations conducted by EIS officers since 2012

Outbreak investigations:

Since 2012, Epidemic Intelligence Services (EIS) Officers have played vital role in investigating a wide range of disease outbreaks across India, highlighting the essential role of epidemiological services in public health. These investigations have covered various diseases, categorized based on their transmission modes, such as waterborne diseases like cholera and hepatitis E in states like Punjab and Maharashtra, and vector-borne diseases like dengue and malaria in West Bengal and Rajasthan. The recurrence of vaccine-preventable diseases, including measles and diphtheria, in states like Bihar and Punjab, underscores the importance of maintaining high immunization coverage.

EIS officers have also tackled emerging public health threats, including drug-resistant strains like ceftriaxone-resistant *Salmonella* in Odisha and acute respiratory illnesses like Swine Flu (H1N1) in New Delhi. The COVID-19 pandemic posed a significant challenge, requiring a coordinated response across states like Kerala and Maharashtra. Additionally, foodborne illnesses and environmental health issues, such as chemical

leaks and high-altitude sickness, have been part of the investigative spectrum in the states Goa and Uttarakhand.

The widespread geographical distribution of these investigations, reflects the nationwide scope of the EIS officers' work. Each investigation enhances public health preparedness, deepens understanding of disease patterns, and ultimately safeguards communities from future outbreaks, underscoring the crucial role of these officers in protecting public health across India.

EIS officers have also played a critical role in mass gathering surveillance events, such as the Kumbh Mela in Uttar Pradesh and the Amarnath Yatra in Jammu and Kashmir. They were instrumental in establishing surveillance systems to monitor public health, conducting death analyses, and providing key recommendations to mitigate mortality risks. Their proactive measures helped manage the health challenges posed by large crowds, ensuring that potential outbreaks were swiftly identified and controlled. This work underscores the importance of EIS officers in protecting public health during high-risk events and gatherings.

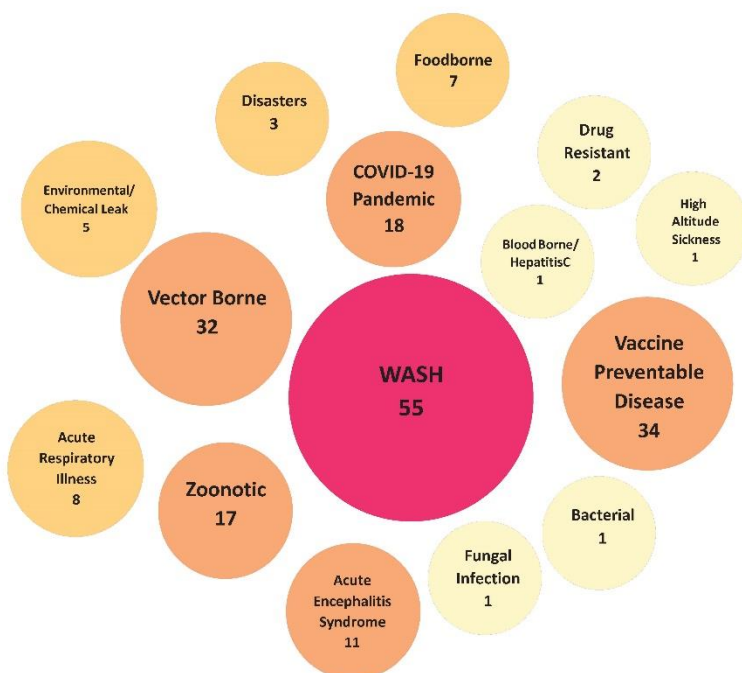
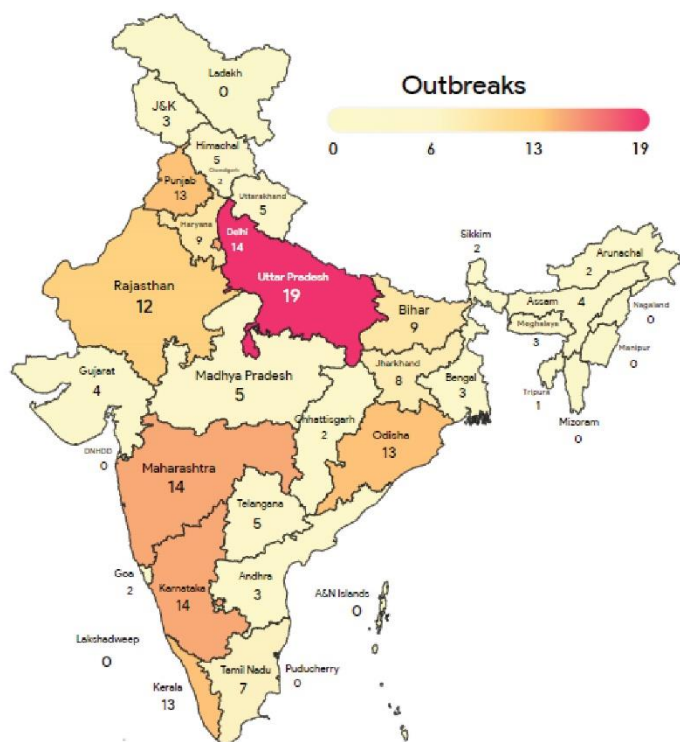


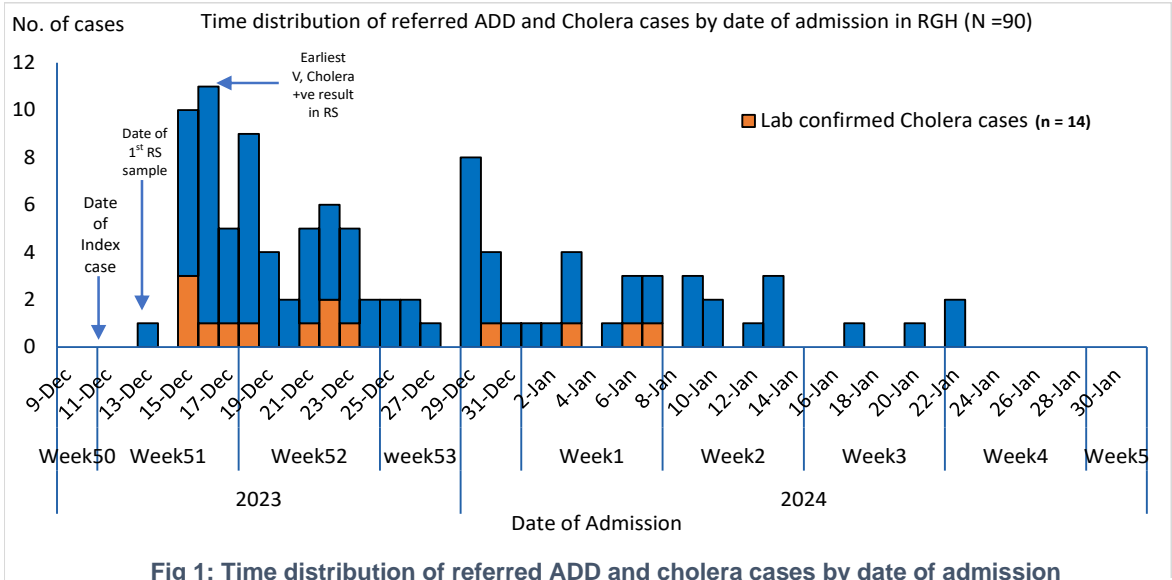
Fig 2: Outbreak investigations undertaken by the EIS officers since 2012

Descriptive analysis of referred cases of Acute Diarrhoeal Disease (ADD) and Cholera during an ADD outbreak, Rourkela, Odisha, 2024

Contributed by: Dr Thiyagarajan¹, Dr Dharmesh Arya², Dr Vijaypal Singh³, Dr Nivethitha Krishnan⁴, Dr Tanzin Dikid⁵
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In December 2023, Rourkela General Hospital (RGH) in Odisha observed a sharp increase in severe Acute Diarrhoeal Disease (ADD) cases, resulting in several deaths. On December 16, 2023, a stool sample tested positive for *Vibrio cholerae*, leading to the declaration of a cholera outbreak. Of the 3,146 reported ADD cases, 1,319 were admitted to RGH, and 90 severe cases were referred to other hospitals. A descriptive cross-sectional study analyzed these 90 referred cases using data from inpatient records and referral slips between December 11, 2023, and January 24, 2024. The study examined demographics, symptoms, co-morbidities, treatments, laboratory results, and reasons for referral. The peak referral period was December 17-21, 2023, accounting for 47% (43/90) of cases. More than half of the referred cases were males aged 30-60 years, primarily urban residents. Fourteen cases tested positive for cholera, and less than half had documented drinking water sources. Common symptoms included loose stools (97%) and vomiting (89%), with some cases presenting with fever (10%) and myalgia (8%). However, 73% of cases lacked information on co-morbidities. Around 40% of referred cases had

septicaemia, with the highest leukocyte count at 24,750. Nearly half exhibited acute kidney injury (AKI) characterized by pre-renal azotemia, with urea levels reaching 250 mg/dL and creatinine levels at 8.9. Over half showed electrolyte imbalances. On December 16, rectal swab cultures from the District Public Health Laboratory indicated multi-antibiotic resistance (MAR), including resistance to commonly recommended antibiotics like doxycycline and azithromycin. Consequently, physicians initially used antibiotics from the WHO's 'Watch' category in most referred cases but likely adjusted their treatment after subsequent reports showed no resistance to these antibiotics. Hypovolemic shock was the primary reason for referral in 30% of cases, followed by AKI in 28%. For 7% of cases, referral reasons were unclear. AKI (36%) and hypovolemic shock (30%) were most common in adults aged 31-45 years. The study highlights the importance of recording key epidemiological factors and co-morbidities in severe cases to better manage complications. Revising antibiotic protocols based on culture sensitivity, especially in cases involving multi-antibiotic-resistant *V. cholerae*, is crucial for distinguishing between AKI caused by severe ADD/cholera and nephrotoxicity from antibiotics.



Investigation of Acute Jaundice outbreak - hepatitis A and leptospirosis, Goalpara district, Assam, March 2024

Contributed by: Dr Antesh Verma¹, Dr Michi Monya², Dr Nivethitha N Krishnan³, Dr Tanzin Dikid⁴, Dr Sanket Kulkarni⁵, Dr Sushma Choudhary⁶

¹⁻²EIS officer, NCDC; ³Consultant, SAFETYNET; ⁴⁻⁵Joint Director, NCDC; ⁶Program Advisor

On March 5, 2024, the District Surveillance Unit of IDSP in Goalpara district, Assam, issued an early warning signal about a clustering of acute jaundice cases in one of the district's blocks. To address this outbreak, an investigation was launched to confirm and characterize the cases by analyzing their time, place, and demographic patterns.

A thorough review of past surveillance data was conducted, and a line list of cases from the district surveillance office indicated positivity for hepatitis A and leptospirosis. Suspected cases were defined as those with fever or myalgia lasting more than five days, or jaundice for less than four weeks, in residents of Agia block from November 1, 2023, to April 16, 2024. Suspected deaths were defined as fatalities occurring among these suspected cases. Confirmation of hepatitis A and leptospirosis was established through positive IgM ELISA tests. A house-to-house survey was carried out using a semi-structured questionnaire to gather sociodemographic, clinical, and exposure information from the affected individuals.

Blood and water samples were collected for testing. Blood and urine samples from animals of leptospirosis-positive cases, along with water samples from their wells, were analyzed for leptospira at the National Institute for Veterinary Epidemiology and Disease Informatics (NIVEDI), Bangalore. The review of data revealed an increase in cases beyond the expected threshold, indicating an outbreak. A total of 129 suspected cases and 10 suspected deaths were identified, with a notable spike in cases during March 2024. The outbreak primarily affected three sub-center areas, including one mountainous region (Nolonga-pahar). Among the 120 interviewed suspected cases, 23 were confirmed to have hepatitis A, while 11 were confirmed with leptospirosis, with some having mixed infections.

The median age of hepatitis A cases was 28 years, and for leptospirosis cases, it was 40 years. Both conditions equally affected males and females, with a majority of the cases being farmers. Common symptoms included fever and jaundice in hepatitis A cases, and headache and myalgia in leptospirosis cases. Higher hospitalization rates were observed among mixed cases (55%), and many individuals initially sought treatment from traditional healers. Analysis of water sources revealed that individual Kachha wells were the most common drinking water source among the cases, none of which met sanitary requirements. Most cases used single pits for sewage disposal, with a third of cases having their sewage disposal within 15 meters of their water sources. In Nolonga-pahar, a waterfall served as the primary drinking water source, and the surrounding area showed open defecation practices. Many hepatitis A (70%) and leptospirosis (73%) cases did not treat their water before consumption. Additionally, 64% of leptospirosis cases had a history of handling animals, and 82% reported rodent sightings near their homes.

The majority of deaths occurred between November 2023 and January 2024, with most deaths occurring in one sub-center area. The median age of the deceased was 31 years, with 90% being farmers and 40% having comorbid conditions. Many of the deceased had been involved in paddy cultivation shortly before falling ill.

Laboratory tests showed that 40% (86/216) of well water samples were positive for fecal contamination, and 95% (18/19) tested positive for leptospira. Four out of eleven bovine urine samples were also found positive for leptospira.

This outbreak of hepatitis A and leptospirosis was traced to fecal contamination of drinking water sources and contact with infected livestock. The findings underscore the need for improved water and sewage management, better hygiene practices, and timely medical intervention. Immediate recommendations include community education on hygiene, boiling and chlorination of drinking water, and prompt medical treatment for jaundice. Long-term recommendations focus on providing safe drinking water, improving sewage disposal practices, and educating villagers on public health engineering practices.

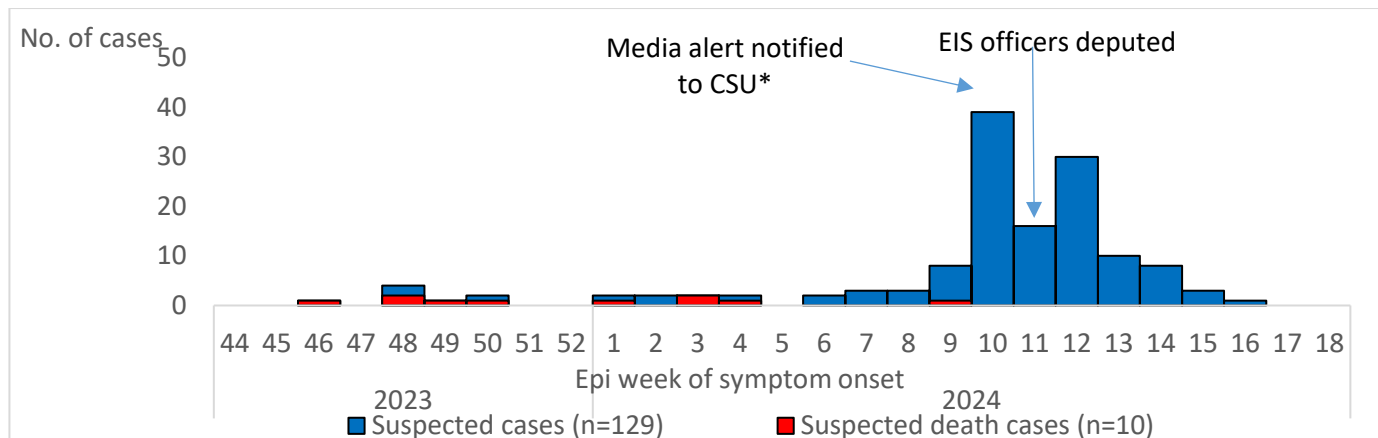


Fig2: Time distribution of suspected cases (n=129) and suspected death cases (n=10), Agia block, March 2024

Malaria Outbreak Investigation in Gadchiroli, Maharashtra, December 2023-January 2024

Contributed by: Dr Mahendra Jagtap¹, Dr Mehrunissa Raje², Dr Radhakishan Pawar³, Dr Kalpana Barua⁴, Dr Mini Tanwar⁵

¹State Entomologist, Maharashtra, ²Scientist G, NIV Pune, ³Joint Director, Health Services, (M/F/WBD) Pune, ⁴Former Additional Director & Scientist V, NVBDCP, ⁵Consultant Epidemiologist, CSU-IDSP

Background:

Malaria is a severe threat to public health globally. Malaria is a vector borne disease and the prominent causative agents are malarial parasites *Plasmodium vivax* and *Plasmodium falciparum* where *Anopheles spp.* mosquitoes are serving as vectors. In the Maharashtra state of India, Vidarbha region is sensitive for Malaria and Gadchiroli is a hotspot for malaria cases. Gadchiroli district is covered with forests and hills with tropical climatic conditions, paddy fields, large proportion of rural and tribal population, etc., which are also some major contributing factors for malaria prevalence in this area.

In December 2023 post-monsoon, moderate temperatures and intermittent rains resulted in malaria cases. In Aheri block, village Botlacheru under subcentre Velgur, PHC Alapalli, cases having high-grade fever with unconsciousness were observed. Another outbreak was reported from village Katezari falling under subcentre Katezari, PHC Murumgaon, cases with high fever, chills, body-ache, etc symptoms were reported.

The District Surveillance Unit received reports regarding few cases of malaria in the Aheri and Dhanora blocks of Gadchiroli. A District level Rapid Response Team (RRT) was deployed and investigated the outbreak.

Methodology:

A Rapid Response Team reached the malaria-affected Katezari village, PHC Murumgaon on 27/12/2023 and in village Botlacheru under Alapalli PHC on 29/12/2023. An epidemiological investigation was done for the identified malaria cases.

Field Visit: The RRT visited both the affected villages namely Katezari and Botlacheru. Katezari village with 76 houses having population of 460 whereas Botlacheru is a village with 158 houses comprising population of 618 houses. RRT members collected detailed case histories of the patients. The RRT started an active case search by implementing fever survey in the Katezari and Botlacheru village. Fever survey was carried out for continuous 16 days in Katezari village and 14 days in Botlacheru village. In Katezari village all 76 houses were screened for 16 days whereas in Botlacheru village, 33 houses were visited for the fever survey.

Laboratory Investigation:

In the fever survey, 17 fever cases were observed in the Katezari village and three fever cases in Botlacheru village were observed. To achieve maximum possible screening of malaria, a total of 385 samples were tested from Katezari village. Out of 385 tests, 324 test were performed by RDK method and 61 samples were tested by microscopic examination for malarial parasite in the blood smear under 100X power.

In Botlacheru village, 70 RDK tests were performed and 121 blood smears were collected and tested under 100X power microscopically.

Results:

Descriptive epidemiology and lab findings for Katezari village:

- The total population of the Katezari is 460, out of which, 6 patients were found malaria positive with attack rate of 1.3%.
- All the six cases were *Plasmodium falciparum* positive by RDK.
- Median age of cases = 26.5 years with a range of 2-40 years)
- The male and female both were equally found to be affected and observed rate was 50% for each gender.
- 2 cases were below 10 years of age.
- A two-year-old female was also reported with CFR of 16.6%

Descriptive epidemiology and lab findings for Botlacheru village:

- The total population of the Botlacheru is 618, out of which, 2 cases were found malaria positive with attack rate of 0.32%.
- One cases was found to be *Plasmodium falciparum* positive by microscopy whereas another was observed to be *Plasmodium vivax* positive by RDK method.
- The age group range was between 2-30 years
- Only females were affected
- One case was below 10 years of age while the other was a child under 5 years of age
- Both the cases were under 10 years of age and both were female.
- Both cases required hospital admission. A death of 30-year-old female tested positive for *Plasmodium falciparum* was also reported on 29th December 2023 at GMC Chandrapur.

Public Health Actions:

- District malaria officials were informed immediately.
- An epidemiological survey was carried out immediately. Fever survey and other necessary preventive and curative measures were taken.
- Entomological vector management activities like fogging, container surveys, breeding site identification and their enumeration, source

reduction, etc. were taken promptly as preventive and curative measures. Patients who were severely sick were referred to PHC.

- IEC activities regarding vector borne diseases especially malaria were carried out.
 - Health Education regarding malaria and its symptoms was provided to the community in the affected area Community sensitization on timely visiting health facility for fever or other malaria symptoms was done.
- A complete radical treatment and follow ups on 7,14, 21 and 28 days were taken for malaria positive patients by was done by the local health staff of the concerned PHC.
- Community awareness and health education about malaria was given by peripheral health team.

Short term Recommendations:

- Continued community awareness regarding preventive measures, health education and prompt treatment seeking behaviour towards malaria should be undertaken by the ASHA and Health assistants.
- Special efforts should be taken to ensure completion of malaria positive patient's radical treatment and timely follow ups by ASHA to prevent further transmission.

Long term Recommendations:

Training and deployment of staff and further scaling up the community based diagnostic testing and treatment.

1. Implementation of IEC strategy to spread awareness among gram panchayat, community leaders, school children and housewives should be implemented regularly.
2. Identification and elimination of foci through active and passive surveillance with rapid response and treatment.
3. Entomological surveillance should be carried out before and during monsoon season immensely.
4. High alert for malaria should be issued by the district health authorities with copy to the district and gram panchayat during monsoon season to ensure preparedness and high index of suspicion.

National Centre for Disease Control hosts first National Public Health India Conference

Contributed by: Rameshwar Sorokhaibam¹, Sanket Kulkarni², Ankur Garg³, Devang Jariwala⁴, Monil Singhai⁵, Sandhya Kabra⁶

¹⁻²Joint Director, NCDC; ³Deputy Director, NCDC; ⁴Assistant Director, NCDC; ⁵Joint Director, NCDC; ⁶Additional Director, NCDC

National Public Health India Conference (NPHICON) was an initiative taken for the first time by National Centre for Disease Control under Directorate General of Health Services, Ministry of Health & Family Welfare. It was held during 23rd - 25th February 2024 at NCDC, Delhi. The event was inaugurated by the Hon'ble, Union Minister of State for Health & Family Welfare, (Prof. SP Singh Baghel) in the presence of Member Niti Ayog (Prof. V.K Paul), Secretary of Health & Family Welfare (Shri. Apurva Chandra), Director General of Health Services (Prof. Atul Goel), Additional Secretary, Health & Family Welfare (Smt. L.S. Changsan) and WHO Representative to India (Dr. Rodericco H. Offrin).

The conference received an overwhelming registering response of around 800 delegates but about 400 delegates (grass-root level to highest level of planning) from multi-sectoral areas got participated to exchange and engage on the theme of "Health Initiatives towards India's Goal for a developed Nation". The theme was supported by engaging in seven subthemes which brought out recommendations which are quite relevant to the present public health concerns in the country. Apart from plenary speakers on key thematic areas related to the present public health concern in the country, there were keynote speakers and invited speakers in each session and the platform provided opportunities to 35 selected delegates for oral presentations and another 150 selected delegates for poster presentation in NPHICON-2024 based on the themes from different departments and cross cutting sectors. The abstracts of their work were also e-published.

Key recommendations coming out from the conference were quite relevant in addressing the present concerns in the country. The foremost subtheme of 'Recent Public Health Initiatives in India' brought out that the campaign mode initiatives taken for Ayushman Bharat, PMJAY, Tuberculosis, Non-Communicable Diseases etc.

are effective designs to foster focus and considerable outreach to the under-served regions of country. The second emphasised that the application of the latest advance tools and technologies for Public Health Surveillance and Response in the management of huge data and its analysis such as IHIP, Environmental and Genomic surveillance would enlighten policy makers for taking timely decisions, but the quality and security of these applications must be thoroughly maintained. The third highlighted that National/Regional/ State Public Health Organizations would need to influence the thinking of public towards primordial and primary prevention by adopting one Health Approach towards Human Health through collaboration with Animal Husbandry, Wildlife, AMR, Climate Change, IMD, FSSAI. Also, human health may be looked at as one health rather than dividing it into specialties and subspecialties. The fourth was emphasising on concerning diseases towards elimination in India such as vaccine preventable diseases (Polio, MMR) and vector borne diseases and suggested that the effective modalities such as fortification of food, mass drug administration, chemoprophylaxis, immune-prophylaxis etc. must be effectively evaluated when marching towards targeted disease elimination goals. We may examine universal fortification minutely before bringing it into practice. The fifth which was on Implementation of International Health Regulations in India including Global Health Security etc. reiterated the crucial need for a coordinated approach from different stakeholders within & outside Point of entries (POE) for effective implementation of IHR. A public health emergency contingency plan (PHECP) must be developed, maintained and mock-drilled from time to time in designated POE for responding to events. The sixth subtheme focussing more on machine learning, research integrity and ethical concerns concluded that research & publications in medicine should align with patient care and with utmost integrity and

ethics. Scientific discoveries need to come back to Institutions in form of cost-effective and indigenous counter measures which can strengthen health care delivery. The last subtheme was a panel discussion from among the public health experts in the country on the Current Curriculum in Medical Education to Public Health Implementation in India –Barriers and Opportunities which strongly suggested that the Curriculum in Medicine should be shortened so that it is relevant, practical and sensitive to primary clinical practice and public health needs of the country. Further focus should be on quality from now on.

NCDC through this conference has attempted to build partnerships with all concerned stake holders from program implementers, academia, States & Union Territories, other cross-cutting departments & ministries which could strengthen the platform to address in those concerning health issues in the country. It also hopes that we can contribute in synergy towards a healthy nation through engagement and dialogue to reflect on lessons learnt and action towards building resilient public health care system.

Honourable Health and Family Welfare Minister lays foundation stone of NCDC Branches and 3 Laboratories

Contributed by: Dr. Anubhav Srivastava¹

¹Deputy Director, NCDC

National Centre for Disease Control (NCDC) is the nodal agency in the country for disease surveillance facilitating prevention and control of communicable diseases with its headquarters at Delhi. To upgrade and strengthen the public health infrastructure and to deal with certain situations i.e. increase in population, emerging and re-emerging communicable/infectious diseases, natural and other disasters, outbreak/s, epidemic etc., NCDC has, inter alia, been mandated to administer the Central Sector component of Prime Minister's Ayushman Bharat Health Infrastructure Mission (PM-ABHIM), namely, “Strengthening Surveillance of Infectious diseases and Outbreak Response” which has six components as under:.

- Strengthening of Laboratory: 10 Biosafety level-3 (BSL-3) and 1 BSL-4 laboratory

- Establishment and Strengthening of Regional-National Centres for Disease Control (R-NCDC) - 5 in number
- Establishment of Metropolitan Public Health Surveillance Units (MSUs) -20 in number
- Strengthening of Surveillance through 30 NCDC branches
- NCDC Strengthening and Upgradation

Expansion of IHIP The component, “Strengthening of Surveillance” entails establishment of 30 branches (including strengthening of 8 existing branches) of NCDC in all the States/UTs.

Strengthening Government of India’s commitment towards disease containment, Honourable Union Minister of Health and Family Welfare Dr. Mansukh Mandaviya laid the foundation stone for NCDC Regional Branch in Assam, State branches in 6 States (Haryana, Tamil Nadu, Karnataka, Odisha, West Bengal and Mizoram) and BSL-3 labs in 2 States (Himachal Pradesh and Jharkhand) virtually at the National Centre for Disease Control (NCDC) on 2 January 2024 virtually. He also inaugurated a temporary NCDC Regional branch in Bhopal, Madhya Pradesh. These new NCDC branches and BSL-3 labs will strengthen the country’s capacity for pandemic preparedness and disease surveillance with One Health approach. He also dedicated Auditorium and Library block as a part of Upgraded NCDC, Delhi to the nation and released several technical documents.

Prof. S P Singh Baghel, Union Minister of State for Health and Family Welfare; Shri Keshab Mahanta, Health Minister, Assam; Shri Anil Vij, Health Minister, Haryana and Members of Parliament from six states – Smt. Aparajita Sarangi (Odisha), Shri Kartikeya Sharma (Haryana), Shri D V Sadananda Gowda (Karnataka), Shri Suresh Kumar Kashyap (Himachal Pradesh), Smt. Queen Oja (Assam) and Dr. Nishikant Dubey (Jharkhand) attended the event. Shri Hemanga Thakuria, Member of Legislative Assembly, Assam also joined the occasion.

During the occasion Hon’ble HFM applauded NCDC for its contributions during COVID-19 pandemic and informed that a forward-looking strategy has been envisaged for the NCDC's evolution through which it is planned to establish 30 NCDC state branches, 5 NCDC regional branches

and 10 BSL-3 laboratories in phase-wise manner for decentralizing the presence of NCDC. He also commended the efforts of state governments for taking these initiatives forward and emphasized the need for collective and collaborative efforts between the Centre and States to enhance the country's capacity in tackling future Pandemics.

He also released following technical documents on the occasion: IDSP, NCDC Digital release-“Community reporting tool on IHIP”, Climate Change and Health: Driving Local Action. A Collection of Case Studies on Adaptation and Mitigation Measures Implemented in Public

Health Sector in India, 2023, Report of the First Multicentric Point Prevalence Survey of Antibiotic Use at 20 NAC-NET Sites, Outbreak Investigation Manual for Medical Officers, Vision document of Centre for One Health, National Strategic Plan: Malaria Elimination-2023-27 Dr Rajiv Bahl, Secretary, Dept. of Health Research and DG, ICMR; Dr Atul Goel, DGHS and Director, NCDC; Smt. L.S. Changsan, Additional Secretary and Mission Director (NHM), Health Ministry; Smt. Roli Singh, Additional Secretary, Health Ministry; Shri Rajiv Manjhi, Joint Secretary, MoHFW and senior officials from the Union Health Ministry and NCDC were present on the occasion.



NCDC Varanasi monitors Mass Drug Administration for filaria in Varanasi

Contributed by: Dr. PK Singh¹

¹Medical Officer & OIC, NCDC, Varanasi

NCDC Varanasi branch conducted pre, concurrent & post Mass Drug Administration (MDA) monitoring activities in and around Varanasi district.

Dr. Zari Anjum, Specialist Gr.-III (PH) attended virtually an orientation meeting on 29.01.2024 regarding Filaria MDA supervisory visits wherein the programme officers from NCVBDC shared the details and reporting formats. She visited Cholaapur block on 06.02.2024 on account of reviewing preparedness for upcoming MDA in Varanasi and attended meeting with Addl. DMO & DMO on pre-MDA preparedness monitoring at District level as a part of the programme. Meeting was also conducted for MOIC, ASHAs & ANMs. Also visited few nearby villages and Wellness centre, Dharsauna. Feedback reviews were given to DMO on the same day. Reports made for the same and mailed to NCVBDC and NCDC.

She also visited Jaitpura along with PATH Team to monitor preparedness for the MDA programme wherein OIC Jaitpura conducted and facilitated the meeting with the health workers. Doubts were

cleared by NCDC team and PATH team for a successful implementation of program. She visited Cholaapur block again on 15.02.2024 for concurrent MDA monitoring program wherein three villages were visited and house to house checking and monitoring was done and formats filled. She, along with the central team that visited Varanasi for post MDA activities monitoring, attended a meeting in BHU, Varanasi with Prof. & HoD Dr. Ravi Shankar and Dr. Sangeeta Kansal of Community Medicine Deptt., BHU regarding enhancing the collaboration with medical colleges in the government programmes.

Dr. PK Singh, MO & OIC visited Jaunpur along with the central team on 05.03.2024 and attended a meeting held there at O/o CMO, Jaunpur wherein ACDMO & DMO were debriefed about the findings of the field visit in Jaunpur district in relation to post MDA monitoring. He also attended a meeting with the Asstt. Professors of Dr. Uma Nath Singh Autonomous Medical College, Jaunpur

Dr. PK Singh, MO & OIC and Dr. Zari Anjum, Specialist Gr.-III (PH) made visits to Hajipur and Dehipur in Cholaapur block and Rasoolpura in Jaitpura block on 13.03.2024 & 14.03.2024 in respect to post MDA monitoring and findings were debriefed to MOIC Cholaapur block.



Filaria Free India

Serious Disease Easily Preventable



Protect yourself & community
Take DEC & Albendazole once a year

- During Anti-Filaria week (14-20 December, 2015), Health Workers will provide the tablets free of cost at your homes
- Everyone except children below 2 years, pregnant women and seriously ill patients should take the medicine

Help in reducing Filaria risk in the country

Remember- These medicines kill intestinal worms also

National Vector Borne Disease Control Programme
Directorate General of Health Services
Ministry of Health & Family Welfare
Government of India. www.nvbdc.gov.in
www.mohfw.nic.in / www.pmindia.gov.in / www.mygov.in



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Global Disease Alert

Contributed by: NFP IHR Secretariat, Division of Public Health Preparedness & NCD

Influenza A (H1N1) variant virus – Brazil

7 February 2024

On 16 January 2024, Brazil notified the World Health Organization (WHO) of a laboratory-confirmed human infection with swine-origin influenza A(H1N1) variant (v) virus, in the municipality of Toledo, State of Paraná. Local and national health authorities have introduced a series of public health measures to address respiratory infections in the region. These measures include conducting epidemiological investigations, monitoring influenza-like illness (ILI) and severe acute respiratory infections (SARI) in nearby municipalities within the same health region, and analyzing trends of respiratory viruses, particularly influenza.¹

Avian Influenza A (H5N1) – Cambodia

8 February 2024

Between 26 and 28 January 2024, the Cambodia National Focal Point (NFP) for the International Health Regulations (IHR) notified the World Health Organization (WHO) of two confirmed cases of human infection with avian influenza A(H5N1) virus. These cases were reported from Kampong Trabek district, Prey Veng province, and Puok district, Siem Reap province, Cambodia. The Cambodia Ministry of Health's national and sub-national rapid response teams, with support from the Ministry of Agriculture, Forestry and Fisheries, and the Ministry of Environment, have been actively investigating the avian influenza outbreak in the Prey Veng and Siem Reap Provinces. Poultry samples have been collected and testing is ongoing.²

Western Equine Encephalitis - Uruguay

8 February 2024

On 30 January 2024, the International Health Regulations National Focal Point (IHR NFP) of Uruguay notified the World Health Organization (WHO) of a human case of western equine encephalitis (WEE) virus infection. The patient is a 42-year-old from a rural area in the Department of San Jose, in southern Uruguay. Local and national health authorities have implemented public health measures based on the recently published PAHO/WHO recommendations, with an inter-institutional and comprehensive approach between animal health, human health and environmental health (One Health).³

Influenza A(H1N1) variant virus – Spain

9 February 2024

On 29 January 2024, the Spanish health authorities notified the World Health Organization (WHO) of a laboratory confirmed human case of infection with swine-origin influenza A(H1N1) variant (v) virus, in the province of Lleida (Cataluña autonomous community), Spain. Epidemiological investigations were initiated by public health authorities in Catalonia. No secondary cases were identified among the three close family contacts. None of the other farm workers have reported symptoms to date, and follow-up of these workers has been completed.⁴

Avian Influenza A(H10N5) and Influenza A(H3N2) coinfection – China

13 February 2024

On 27 January 2024, the National Health Commission of the People's Republic of China notified the World Health Organization (WHO) of one confirmed case of human coinfection with avian influenza A(H10N5) virus

¹ [Influenza A \(H1N1\) variant virus \(who.int\)](https://www.who.int/news/item/16-01-2024-brazil-notifies-who-of-laboratory-confirmed-human-infection-with-swine-origin-influenza-a(h1n1)-variant-v-virus)

² [Avian Influenza A \(H5N1\) - Cambodia \(who.int\)](https://www.who.int/news/item/26-01-2024-cambodia-notifies-who-of-two-confirmed-cases-of-human-infection-with-avian-influenza-a(h5n1)-virus)

³ [Western Equine Encephalitis – Uruguay \(who.int\)](https://www.who.int/news/item/30-01-2024-uruguay-notifies-who-of-a-human-case-of-western-equine-encephalitis-virus-infection)

⁴ [Influenza A\(H1N1\) variant virus - Spain \(who.int\)](https://www.who.int/news/item/29-01-2024-spain-notifies-who-of-a-laboratory-confirmed-human-case-of-infection-with-swine-origin-influenza-a(h1n1)-variant-v-virus)

⁵ [Avian Influenza A\(H10N5\) and Influenza A\(H3N2\) coinfection \(who.int\)](https://www.who.int/news/item/27-01-2024-china-notifies-who-of-one-confirmed-case-of-human-coinfection-with-avian-influenza-a(h10n5)-virus)

and seasonal influenza A(H3N2) virus. The case occurred in a female farmer over 60 years of age, with a history of chronic comorbidities, from Xuancheng Prefecture, Anhui Province. The Chinese government has implemented a range of monitoring, prevention, and control measures in response to a health threat. These measures include conducting risk assessments, enhancing syndromic surveillance in local healthcare facilities, and conducting thorough epidemiological investigations, including contact tracing and monitoring. Retrospective screening, case finding, environmental sampling, and testing have been conducted to identify potential sources of infection.⁵

Middle East Respiratory Syndrome Coronavirus - Kingdom of Saudi Arabia

16 February 2024

This is the bi-annual update on the Middle East Respiratory Syndrome Coronavirus (MERS-CoV) infections reported to the World Health Organization (WHO) from the Kingdom of Saudi Arabia (KSA). From 13 August 2023 to 1 February 2024, four laboratory-confirmed cases of MERS-CoV, including two deaths, were reported to WHO by the Ministry of Health of the KSA. Follow-up of the close contacts was conducted by the MoH for all four cases, and no secondary cases were identified. For the two cases reporting direct and indirect contact with camels, the Ministry of Agriculture was informed, and an investigation of camels was conducted.⁶

Nipah virus infection – Bangladesh

27 February 2024

Since 1 January and as of 9 February 2024, two laboratory-confirmed cases of NiV have been reported from the Dhaka division of Bangladesh. Both cases have died. The government of Bangladesh, in collaboration with the World Health Organization (WHO), has initiated a comprehensive public health response to address health challenges. This includes nationwide awareness campaigns using various media platforms and distribution of educational materials in endemic districts. Risk communication efforts involve engaging diverse stakeholders such as government officials, healthcare professionals, religious leaders, and farmers. WHO is actively supporting surveillance enhancement, infection prevention and control (IPC), risk communication, and ensuring prompt diagnosis and treatment of infected individuals. Additionally, One Health Partners have been involved and sensitized to address the intersection of human, animal, and environmental health concerns.⁷

Psittacosis – European region

5 March 2024

In February 2024, Austria, Denmark, Germany, Sweden and The Netherlands reported an increase in psittacosis cases observed in 2023 and at the beginning of 2024, particularly marked since November-December 2023. Five deaths were also reported. Epidemiological investigations were implemented to identify potential exposure and clusters of cases. National surveillance systems are closely monitoring the situation, including laboratory analysis of samples from wild birds submitted for avian influenza testing to verify the prevalence of *C. psittaci* among wild birds.⁸

⁶ [Middle East Respiratory Syndrome Coronavirus \(who.int\)](https://www.who.int/news-room/fact-sheets/mers-cov)

⁷ [Nipah virus infection - Bangladesh \(who.int\)](https://www.who.int/news-room/fact-sheets/nipah-virus)

⁸ [Psittacosis – European region \(who.int\)](https://www.who.int/news-room/fact-sheets/psittacosis)



Ministry of Health and Family Welfare
Government of India

India Epidemic Intelligence Service Programme

- 1** NCDC conducts India EIS programme in technical collaboration with US, CDC
- 2** Field based, hands on training
- 3** Close mentoring from an experienced professional
- 4** Opportunity to earn a Master in Applied Epidemiology degree after successful training completion

Who can join the India EIS programme?



MD
Community
Medicine
Or
equivalent



MD
Clinical
Or
Para Clinical



MBBS
and
Diploma
with
3 years'
experience



MBBS
With
5 years'
experience



BDS/BVSc
with
Master in Public
Health (MPH)
and
3 years'
experience



AGE limit
Not exceeding
45 years



Government
sponsored
candidates
require
nomination
from
organization
Self-sponsored
candidates
can
apply
directly

For more information and prescribed application form, please visit <https://ncdc.mohfw.gov.in/>
Contact : 011-23990213 Email: eisc11.2024@gmail.com

Why sponsor an officer from your State?

Prevent: Officers learn systematic programme evaluation to identify implementation challenges and the root cause for public health issues

Detect: Officers return with stronger surveillance and data analysis skills for early outbreak detection

Respond: Build a workforce trained to handle public health emergencies

EIS officer contribute to change



- Design and implement epidemiological studies to address public health problems and inform policy decisions
- Respond to outbreaks in real time and contribute to public health actions
- Evaluate and improve disease surveillance systems
- Effective public health communication with policy makers and community leaders
- Opportunity to co-author scientific manuscripts leading to public health impact

Since 2012, **72** EIS officers have been trained who have investigated more than **195** outbreaks in **29** states, led **88** surveillance evaluations and published **65** manuscripts



National Centre for Disease Control, Delhi
and
HNB Uttarakhand Medical Education University, Dehradun
in collaboration with
US Centers for Disease Control and Prevention, Atlanta



National Centre for Disease Control

Directorate General of Health Services
Ministry of Health and Family Welfare
Govt. of India

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National Centre for Disease Control reposted

Ministry of Health @MoHFW_INDIA · Jan 2
Union Health Minister Dr @mansukhmandviya inaugurated the upgraded NCDC (Delhi) today in the presence of MoS (Health) Prof @spsinghbaghelpr

A pivotal step towards enhancing healthcare infrastructure in the country.



3 30 75 15K

National Centre for Disease Control reposted

Office of SP Singh Baghel @mos_fahd_pr · Jan 2
आज माननीय केंद्रीय राज्यमंत्री जी, माननीय स्वास्थ्य मंत्री श्री @mansukhmandviya जी के साथ एनसीडीसी दिल्ली के उन्नयन के उद्घाटन, एनसीडीसी क्षेत्रीय शाखा, 6 राज्य शाखाएं, 2 बीएसएल 3 प्रयोगशालाएं के शिलान्यास और एक अस्थाई क्षेत्रीय शाखा के उद्घाटन के वक्त उपस्थित रहे।
@MoHFW_INDIA



Ministry of Health and others

8 32 5.4K

National Centre for Disease Control @NCDCMoHFW · Feb 23
Hon'ble MoS @spsinghbaghelpr inaugurates #NPHICON2024, this 3 day conference organised by @NCDCMoHFW, delving into Health Initiatives for India's journey to becoming a developed nation. Join the conversation and let's pave the way for a healthier, brighter future! #HealthForAll



11 25 1.8K

National Centre for Disease Control @NCDCMoHFW · Mar 22
Congratulations to the EIS team of NCDC for their well-deserved award win at IPHACON-2024. NCDC strives for high quality epi field service for the community. #IndiaEIS #IPHACON2024 @MoHFW_INDIA



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