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For over 20 years, the U.S. Centers for Disease Control and Prevention (CDC) has experienced a highly successful technical collaboration with the Government of India (Gol), Ministry of Health and Family Welfare (MoHFW) to address India's public health priorities. As new health threats emerge (e.g., the novel coronavirus COVID-19) CDC and national partners are well-placed to leverage past successful initiatives and rapidly respond to new public health challenges.



CDC supports the world's largest nationwide behavioral sentinel surveillance, and integrated biological and behavioral surveillance among key populations.



Helped over 6,000 persons with HIV in care but not on treatment start life-saving ART.



Improved infection prevention and control at 50 hospitals led by the All India Institute for Medical Sciences.



Acute febrile illness (AFI) and acute encephalitis syndrome (AES) surveillance efforts across 13 high burden states produced datadriven change in national policy to adopt algorithmic testing for AFI/AES cases which translated into early diagnosis and better treatment outcomes of patients.



In collaboration with local agencies, CDC established single window HIV and TB services and trained over 500 staff for TB prevention, intensive HIV/TB case finding, and efficient and early diagnosis.



CDC's advanced molecular diagnostic trainings helped the National Institute of Virology led influenza laboratory network scale up PCR based SARS-Cov2 testing in India.



Integrated Lab Strengthening Initiative streamlined specimen transfer systems, reorganized laboratory facilities, and built laboratory workers' capacity to inform scale up of integrated public health labs at district and block levels across India.



Antimicrobial resistance (AMR) and healthcare-associated infection surveillance has been strengthened across 25 states to help India to detect and respond to emerging threats in healthcare.



The India Epidemic Intelligence Service (EIS) has trained 64 officers since 2012. Moving forward, CDC is collaborating with institutions to meet India's target for one epidemiologist per 200,000 people.



CDC provided TB prevention, treatment adherence and home-based psycho-social counselling services for multi-drug resistant (MDR) TB patients registered in 10 Mumbai wards.



CDC's lab system strengthening under PEPFAR improved laboratory quality toward ISO accreditation for HIV reference labs, and at over 5000 HIV testing sites, leading to timely diagnosis of HIV.



Collaboration between CDC and All India Institute of Medical Sciences, New Delhi determines the disease and economic burden of influenza and other respiratory viruses in India, evaluates the effectiveness of influenza vaccines, and identifies optimal timing for influenza vaccination.

## **Strengthening Public Health Systems**

CDC provides technical assistance to strengthen public health systems to prevent, detect, and respond to emerging infectious diseases (such as COVID-19) with a focus on real time disease surveillance, laboratory systems and diagnostics, workforce development, and emergency management. Efforts include developing an Integrated Laboratory Strengthening Initiative; strengthening surveillance for antimicrobial resistance (AMR), Acute Febrile Illness (AFI) and Acute Encephalitis Syndrome (AES); and training over 8,000 workers involved in COVID-19 diagnostic testing and sample collection.

## **HIV/AIDS**

As a key implementer of the U.S. President's Emergency Plan for AIDS Relief (PEPFAR), CDC works with the National AIDS Control Organization (NACO) to implement evidence-based, high impact, sustainable interventions in prevention, testing, linkage to treatment, retention, and viral load suppression to reach people at risk of HIV and people living with HIV, including key populations. CDC supported treatment optimization, and successfully demonstrated differentiated service delivery models such as multi-month dispensation, later adopted by NACO across the country through the network of 540 Anti-Retroviral Therapy Centers (ARTC).

## **Tuberculosis**

TB is found in every country in the world and kills more people than any other infectious disease. CDC provided technical support to the Municipal Corporation of Greater Mumbai to implement multi- disciplinary Airborne Infection Control (AIC) units across 10 wards. Based on the Mumbai experience, the national TB program has planned expansion in 9 states and later nationwide in collaboration with other stakeholders. CDC also helped strengthen National TB Elimination Program (NTEP) laboratory capacity through national implementation of external quality assessment (EQA) of the rapid molecular based TB testing known as cartridge based nucleic acid assay (CBNAAT), and accreditation of national and intermediate level reference TB laboratories. In collaboration with the National TB Elimination Program (NTEP) and NACP, co-located HIV and TB services (single window) in an antiretroviral treatment center, which involved the training of staff from over 530 antiretroviral centers for TB prevention, intensive HIV/TB case finding, efficient and early diagnosis through timely referral to CBNAAT, and provision of HIV and TB treatment.

## Field Epidemiology Training Program

FETP strengthens the capacity of the public health workforce to detect, respond, and control disease outbreaks at the source. CDC India continues to support advanced, intermediate and frontline FETP programs, provide mentorship for outbreak investigations, surveillance evaluations, COVID-19 activities, and regular remote training. The Frontline program has trained 273 medical and surveillance officers in basic field epidemiology. EIS officers have been on the frontlines of India's response to several public health threats.

#### Influenza

Influenza viruses change constantly and require continued vigilance. CDC has been helping India prepare for pandemics in alignment with India's Pandemic Influenza Preparedness and Response Plan, through laboratory strengthening, clinicians' training on appropriate case management and infection control. Many of these activities, originally developed and implemented during the 2009 influenza A/H1N1 pandemic, are directly relevant to the current COVID-19 pandemic. The influenza surveillance has allowed India to detect influenza seasonal peaks during monsoons and understand the seasonality of influenza in tropical countries and guide the appropriate timing for influenza vaccination.

#### **Emergency Management**

In support of the Government of India, state disaster management agencies, and United Nations agencies, CDC has provided support for the following emergency management activities:

- CDC conducted online trainings for 1200 medical officers, nursing staff, and paramedical staff on "Preparedness for Biological Disasters with special reference to COVID-19" across the 12 national battalion units of India's National Disaster Response Force and Regional Response Centres.
- CDC supported four senior staff across agencies from the Government of India to attend a 4-month fellowship in leadership training on Public Health Emergency Management (PHEM) principles at CDC-HQ in Atlanta.
- In partnership with the National Institute of Health and Family Welfare (NIHFW), and in close collaboration with National Centers for Disease Control (NCDC) and National Disaster Management Authority (NDMA), CDC has conducted nine Rapid Response Team (RRT) trainings and trained a total of 209 master trainers from 23 States and Union Territories
- CDC collaborated with MoHFW and WHO to train a total of 1200 Point of Entry (POE) officials (including airport handlers, immigration, and law-enforcement staff) on managing public health emergencies.

## **Vaccine Preventable Diseases**

CDC supports efforts to eradicate or control vaccine-preventable diseases in India through the Universal Immunization Program. Since the mid 1990's, CDC has helped strengthen epidemiology and laboratory methods, routine immunization services, training methods, data systems, case-based disease surveillance, and outbreak preparedness and response. CDC support to the National Public Health Surveillance Project strengthened implementation of polio and measles vaccination campaigns, outbreak response activities, and surveillance.

10 U.S. Assignees 30 Locally Employed

**CDC STAFF** 



# AT A GLANCE

Population: > 1.36 billion Per capita income: : > \$6,000 Life expectancy: F 70 / M 68 years Infant mortality rate: 33/1,000 live births

Sources: World Bank 2019 Population Reference Bureau

# TOP 10 CAUSES OF DEATH

- 1. Heart disease
- 2. Chronic obstructive pulmonary disease (COPD)
- 3. Stroke
- 4. Diarrheal diseases
- 5. Lower respiratory infection
- 6. Tuberculosis
- 7. Neonatal disorders
- 8. Asthma
- 9. Diabetes
- 10. Chronic kidney disease

Source: GBD Compare





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