

## CURRENT UPDATES

## Developing public health capacities of Frontline Public Health Workforce in Uttarakhand

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### Article Cycle

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### Abstract

Recent COVID-19 pandemic has highlighted the importance of increase in the ability of public health workforce to detect and respond to the public health threats. For timely implementation of an adequate response and mitigation measure, the standardized and sustainable capacity building programme for frontline public health workforce is the need of hour. National Center for Disease Control (NCDC), Ministry of Health and Family Welfare, in partnership with U.S. Centers for Disease Control and Prevention (CDC), developed a three-month in-service Basic Epidemiology Training programme. This is a tailor-made programme for frontline public health workforce to strengthen epidemiological skills. This training was a practical interactive approach to field epidemiology for three months on the job training for frontline public health workforce that addressed the critical skills needed to conduct surveillance effectively at the local level while focusing on improving disease detection, reporting and feedback. The training also demonstrated the role of learning model in form of interaction between the mentor and the mentees. The importance of handhold support given by the mentors to the mentees in quality outbreak investigations and documentation.

### Keywords

Public Health Workforce; Frontline Epidemiology; Public Health Capacity Building; Response Measure; Outbreak Investigation

### Introduction

The COVID19 pandemic has highlighted the critical role of a trained frontline public health workforce to rapidly identify, respond, and manage epidemic-prone diseases. In 2012, NCDC and the US Centers for Disease Control and Prevention collaborated to launch the India Epidemic Intelligence Service (EIS) Programme. The India EIS Programme is a two-year non-degree field epidemiology training programme with a focus on epidemic investigation, public health surveillance, and applied research. The Ministry of Health and Family Welfare enhanced the EIS Programme in 2016 with the support of new cooperating institutions, using a multilevel field epidemiology training strategy for public health workforce

development in order to assist with the nation's significant training demands. To meet the target of one trained field epidemiologist per 200,000 people and the World Health Organization's (WHO) revised 2005 International Health Regulations and Global Health Security Agenda core public health capacity goals, three dedicated levels of training — advanced (for example, the EIS Programme), intermediate, and frontline — were planned. With a 3-month basic field epidemiology standardized curriculum and field projects, the Frontline programme concentrated on in-service training for district-level personnel.(1) Uttarakhand State is located in the Northern region of India. Around 70% part of the state is hilly and covered with forest which includes a big proportion of hard-to-reach areas. The state shares two international borders

and because of its varying topography, it is vulnerable to health impacts of various epidemic-prone communicable diseases. The State is also prone to public health impacts of various natural disasters.

The state has a total of 13 districts with fully functional district Integrated Disease Surveillance Programme (IDSP) Units and IDSP District Public Health laboratories (DPHL). The Frontline workforce available in IDSP District Units are District Surveillance Officer, Epidemiologist, Microbiologist and a Data Management Unit comprising of a Data Manager and a Data Entry Operator.

The public health impact of COVID-19 highlighted the role of a trained frontline Public Health workforce in response and mitigation of such pandemics. The state is vulnerable to annual outbreaks of Dengue, the occurrence of Japanese Encephalitis in specific pockets, Scrub Typhus in various areas, Water Borne diseases and after-effects of Disasters in hilly areas, etc.

With the objective of timely preparedness in form of skill-based capacity building of frontline Public Health workforce to deal with such emerging and re-emerging public health emergencies a pan-state capacity building of public health workforce working districts in basic epidemiology was conducted in the period.

Along with the capacity-building programme, for making it sustainable and continued activity a mentor-mentee process was also introduced for regular hand holding of the frontline public health workforce. The faculty from medical colleges were identified to get trained as mentors to supervise and monitor the public health efficiencies of district IDSP officials and to support State Surveillance Unit (SSU), IDSP Uttarakhand.

### **3x3 Basic Epidemiology Training for Frontline Public Health Workforce**

In collaboration with the U.S. Centers for Disease Control and Prevention (CDC), the National Center for Disease Control (NCDC), Ministry of Health and Family Welfare, conduct a three-month in-service Basic Epidemiology Training programme. This is a tailor-made programme for the frontline public health workforce to strengthen epidemiological skills.(2)

The training includes modules on emerging infectious diseases, communication and health promotion, international health regulation, basic computer applications, and field practise. It also covers modules on epidemiology principles, introduction to biostatistics, disease surveillance, outbreak investigation and response, role of the laboratories in public health, and emerging infectious diseases.(3) The design is rooted in the premise that better-trained health workers result in an improved public health system and increase the ability to detect and respond to threats.

This training focused on “learning by doing” in the field, learning about outbreak investigation, and conducting studies. The programme aimed to give basic epidemiology

skills for enabling enhanced disease response for better public health coverage. The duration of the course was three months with a contact session of 3 days per month. The assignments were mentor-supported and aimed at knowledge enhancement. The participants were at their place of posting and current job location throughout the training while conducting field assignments to reinforce the learning from classroom sessions.

### **Methodology**

With the completion of the Frontline Basic Epidemiology Training, Uttarakhand state became the pioneer state for Pan-State coverage of this training, imparted to the public health workforce of all the districts. The Frontline Basic Epidemiology Training was conducted from July to September 2021 in 3 contact sessions (1 contact session per month). The first contact session was held from 6th to 8th July 2021, second contact session from 5th to 7th August 2021, and third contact session from 10th to 11th August 2021. The workshop for mentors was conducted on 27th July 2021. A total of 35 personnel (28 participants and 7 mentors) were trained during the training, out of which 77% were male participants and 23% were female participants. 2 districts were allotted to each mentor.

As a result, after completion of training the smooth transition of conventional IDSP reporting system to a web-enabled real-time IT-based case-based reporting system of Integrated Health Information Platform (IHIP) was successfully done by district IDSP units.

Before the commencement of Frontline Basic Epidemiology Training, the reporting on IHIP under IDSP in the state was only 6%, 5%, and 2% in Syndromic, Presumptive, and Laboratory formats respectively in the month of July 2021, which has been remarkably increased up to 96%, 99% and 100% in Syndromic, Presumptive and Laboratory formats respectively in the month of July 2022. Similarly, the outbreak reporting and response through IHIP has also improved a lot. A total of 167 alerts (70 Event alerts and 97 Health condition alerts) has been generated on IHIP in the year 2022 (from January to August). Trained District IDSP officials responded quickly to the alerts, so out of total alerts generated, only 12 (7%) alerts were converted into outbreaks during the above period. Appropriate containment measures and public health actions were taken by trained Rapid Response Teams (RRTs) and all outbreaks were successfully mitigated.

### **Conclusion**

This training was a practical interactive approach to field epidemiology for three months on the job training for frontline public health workforce that addressed the essential capabilities required to efficiently carry out local surveillance while concentrating on enhancing disease detection, reporting, and feedback.(4)

The training also demonstrated the role of learning model in form of interaction between the mentor and the mentees. The importance of handhold support given by

the mentors to the mentors in quality outbreak investigations and documentation.

### Way Forward

The need for nations to engage in trained public health personnel has been reaffirmed by this epidemic and the diverse national reactions to it. We now know that data science and other disciplines, in addition to epidemiology, are essential components of modern field epidemiology training and that these skills and disciplines are important assets. (5)

Additionally, the FETP's tangible effects have been demonstrated. Therefore, it is imperative to develop mechanisms for sustainability of training skills developed through the capacity-building programme. The sustained and continued interaction between the mentors and mentees in understanding basics of epidemiology and surveillance activities. These models will demonstrate the best of its preparedness against any future pandemics.

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### References

1. Singh SK, Murhekar M, Gupta S, Minh NN, Sodha SV, Training Programme Working Group\*. Building public health capacity through India epidemic intelligence service and field epidemiology training programs in India. Indian J Public Health 2021;65, Suppl S1:1-4
2. Brochure: 3X3 BASIC Epidemiology Training for Frontline Public Health Workforce, A Practical, Interactive Approach to Field Epidemiology
3. World Health Organization. International Health Regulations 2005. 2nd ed. Geneva: World Health Organization; 2008. <https://www.who.int/publications/i/item/9789241580410>
4. World Health Organization. International Health Regulations (2005) Monitoring and Evaluation Framework, Joint External Evaluation Tool (JEE Tool) Reporting Template. Geneva: World Health Organization; 2016.
5. Martin R, Fall IS. Field Epidemiology Training Programs to accelerate public health workforce development and global health security. Int J Infect Dis. 2021;110(S1):S3-S5. doi:10.1016/j.ijid.2021.08.021.

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With regards,  
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