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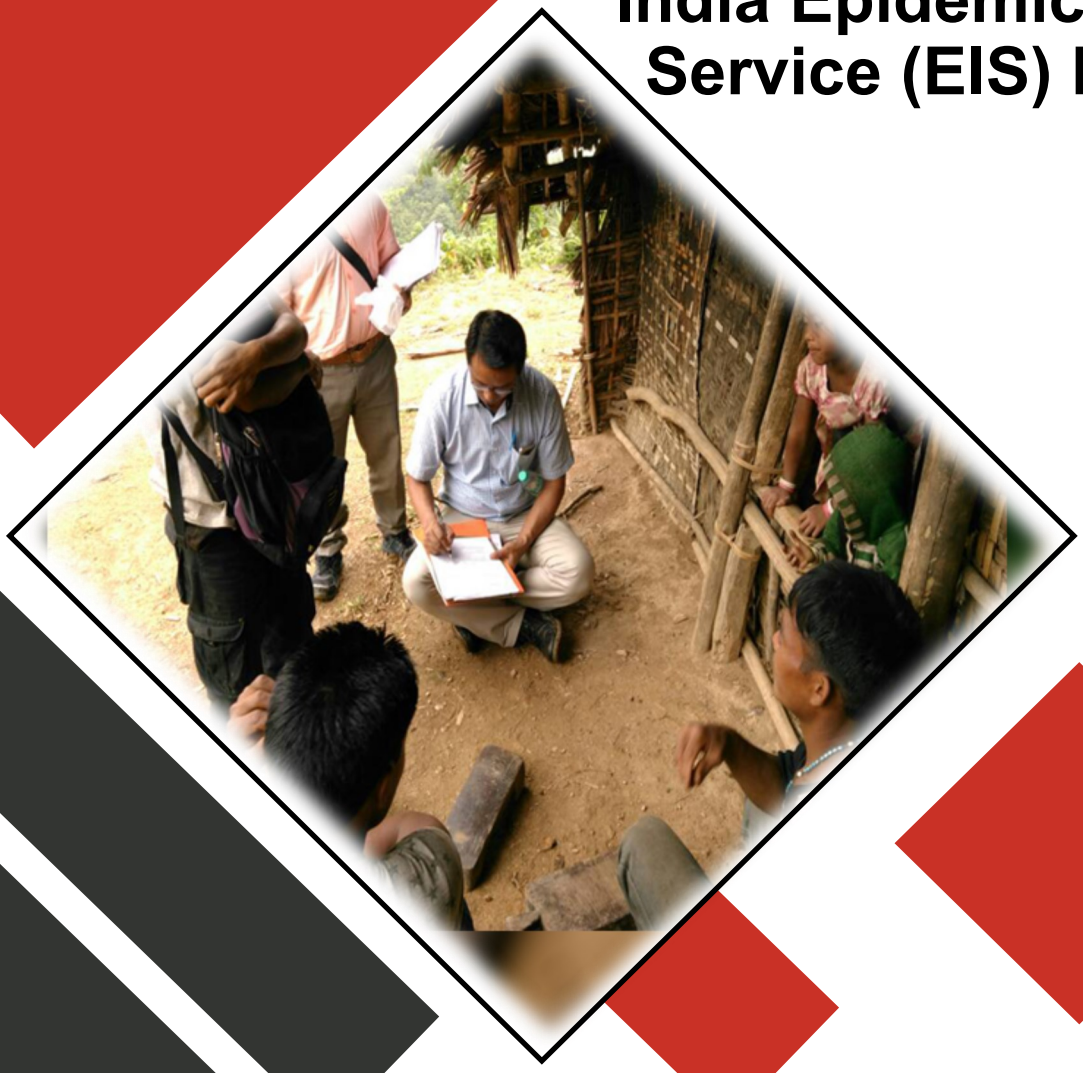
Compendium of India Epidemic Intelligence Service (EIS) Programme



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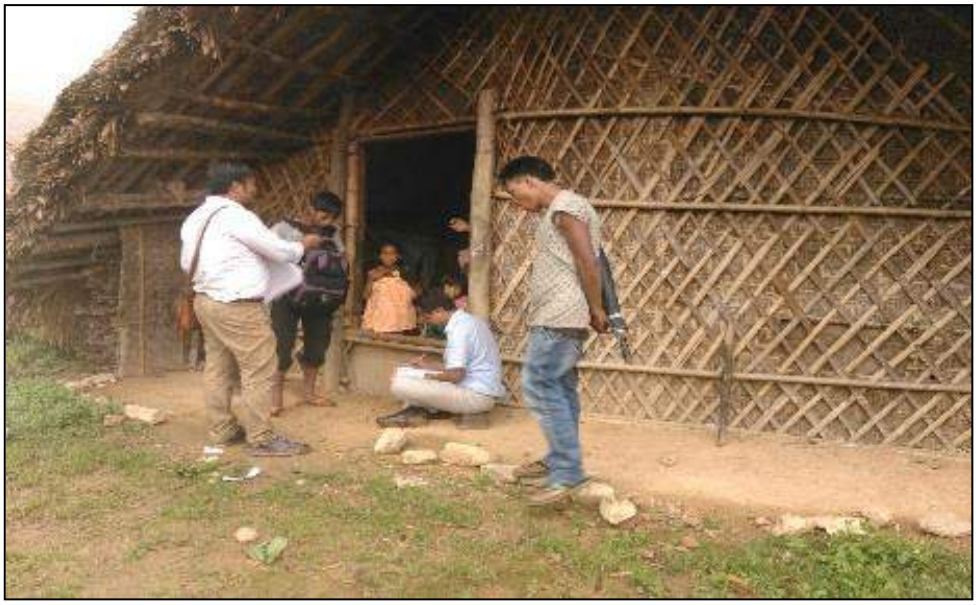
Contents

Executive summary

The India Epidemic Intelligence Service (EIS) training programme is a 2-year programme in applied epidemiology based at the National Centre for Disease Control (NCDC), Delhi. The programme is modeled after the EIS program at the US Centers for Disease Control and Prevention (CDC) and is implemented in collaboration with CDC. India EIS trains officers to develop public health skills while working with various public health agencies/programmes in the country. State and central public health agencies (or equivalent local autonomous bodies) forward the applications of their employees interested in this programme. If selected by the training programme, the state/central agencies excuse their public health employees from their duties for 2 years to undergo the training. Individual candidates can also apply as self-sponsored candidates. Selection is through a highly competitive process by a committee of experts.

Selected applicants become known as EIS officers during their training. EIS officers are assigned to a state/central public health agency for two years under the guidance of a mentor and supervisor. EIS officers provide service to their assigned agency while completing the Core Activities of Learning (CALs). Completion of all CALs is required for successful completion of the programme. CALs include field investigation such as outbreak investigations, evaluation of a surveillance system, in-depth epidemiologic data analysis, scientific abstracts, oral presentations, and manuscript writing. While the EIS officers spend most of their time working at their placement sites, short courses, weekly seminars, and an annual conference are also conducted. Officers are obligated to work in public health for a prescribed period of time after completion of the two-year training.



Background

The Government of India is committed to improving the health of its people. In support of this commitment, the Government established public health capacity development as a priority. To establish and enhance epidemiology capacity in the country, the National Centre for Disease Control (NCDC) has been mandated to develop and provide epidemiology expertise to the country. NCDC is the nodal agency for the Integrated Disease Surveillance Programme (IDSP) and is the leading agency for implementation of the International Health Regulations (IHR).

The India Epidemic Intelligence Service (EIS) training programme is a 2-year programme in applied epidemiology based at NCDC. The programme is modeled after the EIS program at the United States Centers for Disease Control and Prevention (CDC) and is implemented in collaboration with CDC. India EIS trains officers to develop public health skills while working with various Indian public health agencies/programmes. India EIS is a high quality, mentor-based field epidemiology training programme that is very different from the classroom teaching models. This programme provides not only epidemiologic services during the training but also builds national capacity and produce future leaders in epidemiology and public health practice. The India EIS programme is an example of centre-state partnership.

How can a state benefit from participating in the India EIS programme?

- States benefit by capitalizing on world-class training that equips their employee with fundamental epidemiological skills
- EIS officers return to their states, after two years, as highly skilled epidemiologists who can respond to public health emergencies (*e.g.* outbreaks, disaster response), strengthen surveillance, and improve public health programs
- An investment in EIS yields rich dividends as alumni will be able to lead public health programs and provide training and mentorship to other state public health personnel

India Epidemic Intelligence Service (EIS) programme

In India, there is a dedicated cadre of public health professionals in some states but many states lack applied epidemiological capacity. To address this need, NCDC launched the India EIS programme on October 4, 2012 in collaboration with US CDC. US CDC and NCDC designed the India EIS programme to be modeled after the EIS Programme in the United States. India EIS is a 2-year programme in *applied epidemiology* in which the officers develop their skills while working with various public health agencies/programmes in the country. The programme focuses on hands-on training in epidemiologic service for public health professionals. Trainees, called EIS Officers, engage in outbreak investigations, design and analyses of epidemiological studies, analysis and evaluation of surveillance data, scientific communication, and other activities in preparation for their careers as field epidemiologists.

Selection of qualified medical doctors is through a highly competitive process by a committee of experts. The selected EIS officers are assigned to a placement site for two years under the guidance of a supervisor and mentor. The officers who complete the programme benefit in terms of career opportunities and many play a leadership role in country's public health operations.

Extremely keen and enthusiastic candidates with an aptitude for public health are preferred. Websites of MOHFW and NCDC provide programme information, application process, and timelines for selection process.

Why should I apply for the India EIS programme?

- It is an on-the-job skill based training to groom public health professionals
- Training is competency-based through individual mentoring
- Officers obtain hands-on experience related to outbreak investigations, designing and analyzing epidemiological studies, evaluating surveillance systems, and developing scientific communication skills
- Graduates of the India EIS programme will be skilled and competitive for opportunities to become public health leaders within government of India, State health departments, International agencies (CDC, WHO etc.), medical colleges, schools of public health, and other reputed agencies and institutions

Who can apply?

Eligibility criteria

Regular employees of central/state health service or equivalent (local autonomous bodies) as well as self-sponsored candidates. The minimum essential qualifications are:

1. MD (Public Health/Preventive and Social Medicine/Community Medicine)
   OR
   MD (Clinical or Para-Clinical) with 2 years' experience (service)
   OR
   MBBS with Postgraduate Diploma in Clinical, Para-clinical, or Public Health with 3 years' of public health experience from any recognized institution
   OR
   MBBS from any recognized institution with five years minimum work experience in public health
2. Age: Not exceeding 45 years as of the last date of application
3. Government sponsored candidates should be presently working in central or state government/PSUs (*e.g.* ESI, railways, state or municipal corporations, local bodies, defence, para-military forces, medical colleges, autonomous bodies, etc.)

Government-sponsored candidates

Applicants working for state or central agencies need to initiate 'No Objection Certificate (NOC)' process from their sponsoring agency before applying. State and central government agencies will need to forward the agreement to release the employee to NCDC for the 2-year programme, if selected. The sponsoring authorities are requested to nominate only employees who are enthusiastic and can be released for the training. Nomination does not automatically guarantee selection for the programme. The decision to select candidates will rest with NCDC through a highly competitive process. Salary and other allowances during the training will be borne by the sponsoring authority. The sponsoring authority must also guarantee placement of the trainee after completion of the programme into a public health position suitable for a trained officer with applied epidemiology skills.

Self-sponsored candidates

Self-sponsored candidates do not require nominations. They may independently apply for a position. If selected, self-sponsored candidates will be paid an incentive by NCDC to support them through the training period.

Application process

Submitting an application

The applicant needs to submit the following by the designated deadline:

1. Complete application (available on NCDC website) including brief essay describing reasons for applying to India EIS programme
2. Curriculum vitae

Applications will be screened to ensure they meet eligibility criteria.

Interview and selection process

Competitive applicants will be invited for interviews. Applicants invited for interviews will be required to provide the following:

1. Proof of initiating NOC (government-sponsored candidates only)
2. Aadhar card
3. Original and self-attested copies of 10th, 12th, MBBS, and any other relevant degree
4. Experience certificate
5. Letters of recommendation
6. Other documents as prescribed

An independent selection committee, with representation from NCDC, CDC, and external agencies oversees the interview and selection process. The decision of the selection committee is reviewed and approved by the Director-NCDC.

The selection process will be based on merit. Reasonable efforts will be made to have equitable selection with representation of candidates from the Empowered Action Group (EAG) states.

Intake

At present NCDC has capacity for intake of a maximum of 25 candidates. This number is likely to increase with increase in availability of trained mentors and placement supervisors. Preference in selection will be given to government sponsored candidates. Allowances include the following:

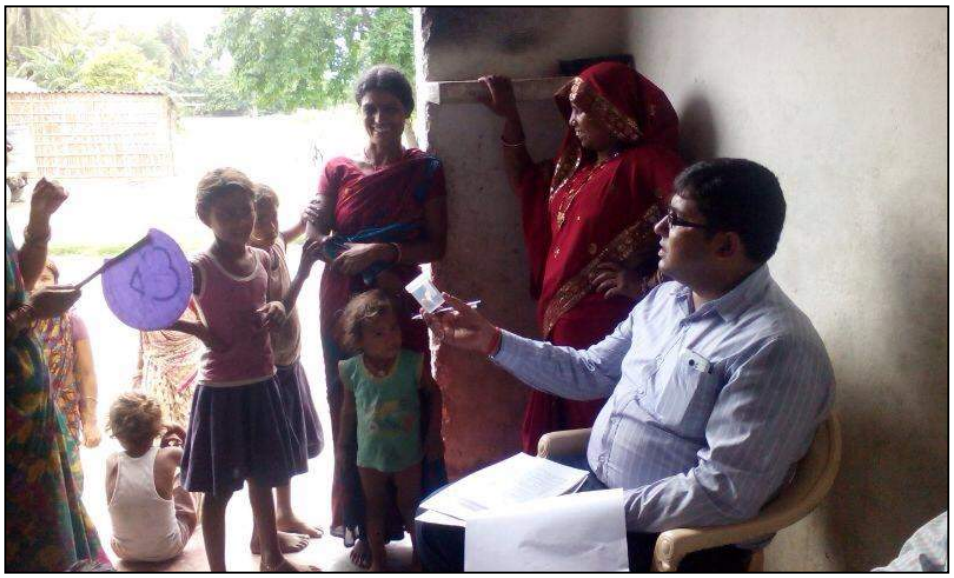
1. Rs. 45,000 monthly for honorarium (self-sponsored EIS officers only)
2. Rs. 20,000 monthly for housing allowance
3. Rs. 5000 monthly for local travel
4. Rs. 2000 monthly for internet use
5. Rs. 20,000 annually for textbooks, scientific journals, and course materials
6. Support for travel during field investigations
7. Laptops and USB dongle are provided to each EIS officer

Programme content

The India EIS training programme includes the following:

1. Classroom instruction through periodic didactic sessions and lectures to prepare the officers for their field duties
    - Four week introductory course
    - One week workshop where EIS Officers present their surveillance system evaluation
    - Three day workshop on scientific writing
    - Additional workshops as needed. Topics may include leadership skills, communication skills, advanced epidemiology, or other advanced public health topics.
2. Field assignments with mentorship
    - Surveillance system evaluation
    - Field investigations (*e.g.* outbreak investigations)
    - Analytical epidemiology study
3. Weekly seminars to provide a forum for additional instructions, practice presentation of an investigation or study, and team building

Note: During the 2-year training, officers will be placed in field to fulfill training requirements



Core Activities of Learning

The core activities of learning (CALs) are requirements the officers must complete for award of certificate. CALs include a combination of field epidemiological investigations and communications.

Field CALs

1. Surveillance data analysis
2. Surveillance system evaluation
3. Field investigations (*e.g.* outbreak investigations): minimum of three quality investigations
4. Epidemiological data analysis (primary data collection or secondary data analysis)

Scientific Communication CALs

1. Scientific abstract: EISO are required to submit an abstract to US EIS Conference and TEPHINET Conferences. EISOs are also encouraged to submit to national conferences (*e.g.* Indian Public Health Association, Indian Society of Malaria and Other Communicable Diseases). Only EISOs whose abstracts are accepted will be considered for support to attend that conference. In addition, EISOs will be required to present at Annual India EIS Conference.
2. First author scientific manuscript
3. Short oral presentation (5-10 minutes): India EIS conference is held annually to provide scientific presentation opportunity to EISO
4. Long oral presentation (30 minutes) for weekly seminar
5. Weekly seminar participation: seminars provide a forum for additional instructions, practice presentation of an investigation or study, and team building. At least 75% attendance is mandatory during the EIS training.

In addition to these CALs, EISOs will receive training in the following:

- Use of computer applications such as internet, Microsoft Office (Word, Excel, PowerPoint), EpiInfo, PubMed, etc.
- Role of the laboratory in epidemiology, including knowledge and skills for collection, transport, storage of clinical specimens, interpretation of laboratory reports, and use of laboratory information
- Ability to identify a public health emergency of international concern and adhere to the IHR requirements

Successful completion of CALs will be judged by the mentor/placement supervisor, EIS advisors, and Director NCDC

Potential placements and assignments

Potential placement sites are identified for each EISO. Criteria for assignments include:

1. Available resources for an officer to complete the CALs,
2. Access to surveillance and programme data,
3. A mentor who has time and expertise as well as an understanding of the goals of the India EIS Programme,
4. An enabling environment with adequate administrative support.

Placement sites will be selected by NCDC in consultation with CDC EIS Advisor. Placement sites may include national health programmes such as IDSP, relevant divisions of NCDC, Revised National Tuberculosis Control Programme (RNTCP), National AIDS Control Office (NACO), National Vector Borne Disease Control Programme (NVBDCP), National Programme for Prevention of Cancer, Diabetes, Cardiovascular Diseases, and Stroke (NPCDCS), Immunization programme, Indian Council of Medical Research (ICMR) institutes, and state health departments. EISOs will have a placement supervisor who is usually the chief of the programme/institute where the officer is placed. EISOs may get opportunities through their supervisor and placement site to provide service in times of emergency, disaster, outbreak or major public health event.

Training through mentorship

In addition to an assigned supervisor at the placement site, EISOs will also be assigned a mentor with extensive public health experience and technical expertise. The best way for officers to learn field epidemiology skills is through close mentorship while they conduct epidemiologic investigations and research in a public health setting. Mentors are responsible for guiding EISOs in completing CALs. Mentors provide technical guidance through one-to-one interaction on frequent and regular basis.

Annual EIS conference

The India EIS Programme will sponsor a conference or session at a conference each year. The India EIS Conference is an opportunity to showcase the achievements of the officers to the broader public health community. EIS officers will provide scientific presentations reflecting their field work over the previous year. Conference attendees include supervisors, mentors, and public health professionals from national programmes, state programmes, medical colleges, and international agencies.

Evaluation

Every 6 months, the mentor and supervisor will conduct a formal evaluation with the officer. The evaluation will assess the officer's progress towards the completion of the CALs, mentor's and supervisor's assessment of the officers proficiency in epidemiology skills, scientific communication skills, and professionalism. Alongside, the officers will share their satisfaction with the training, recommendations for improvement, and goals for the next 6 months. Terminal evaluations will be conducted by NCDC in consultation with CDC EIS Advisor to review overall CAL completion status of the trainee officer for award of certificate.

Certification

A certificate of completion will be awarded to the officers at the end of two years if they successfully complete all the CALs. The certificate is jointly signed by NCDC and US CDC. Enrollment into the programme alone does not qualify for certification.

Career path

India EIS graduates become highly competitive candidates for public health positions with state, national, and international institutions in India. EIS alumni currently serve in public health leadership positions in state governments, municipal corporations, WHO, CDC, and NGO. EIS alumni also continue to contribute to the India EIS Programme as mentors to future officers.

Sponsoring states or programmes decide on appropriate placements for their returning officers. Once the officers complete their training, they are typically placed in positions within their institutions to best utilize their applied epidemiology skills and to further develop them for future leadership roles.

Recognition for Diplomate of National Board (DNB-Field Epidemiology)

The National Board of Examinations (NBE) has confirmed that the 2-year training period for officers of the India EIS Programme will count towards eligibility to Diplomate of National Board (DNB) in Field Epidemiology.

Steps for Registration with NBE and Training Completion Certification

1. **Registration:** after enrolling into the India EIS Programme, interested candidates are required to register with NBE by completing the application form (Registration for DNB- Field Epidemiology (FE) Programme) and forwarding it through NCDC. After successfully submitting this application the candidates will receive a registration certificate from NBE.

2. **Training Completion Certificate:** registered candidates have to work in relevant public health activities/fields in their respective states/programmes. After completing the two years of training the candidates can apply for the Training Completion Certificate (as per NBE format) with NCDC. Based on the evidence provided by the candidates in support of the minimum of two years of work in public health field, NCDC will issue the Training Completion Certificate.

3. **NBE Eligibility Certificate:** after submission of the Training Completion Certificate, NBE will issue the final Eligibility Certificate to the candidates for appearing at the DNB-Field Epidemiology Final Examination.

4. Candidates must follow next steps as per the **Information Bulletin & Application Form for Diplomate of National Board, Final Examination–Broad Specialty** issued by the National Board of Examinations (NBE).

Achievements of India EIS programme

Publications by EIS Officers

Padda P., Singla N., Sarin R. (2018) Surveillance, Evaluation of Programmatic Management of Drug Resistant Tuberculosis (PMDT) at DR-TB Centre, NITRD, New Delhi. *Indian J Comm Health, 30*(1), 76-81.

Yadav, R., **Somashekar, D.**, Sodha, S., Laserson, K., Venkatesh, S., & Chauhan, H. (2018). Post-Flood Rapid Needs Assessment in Srinagar City, Jammu and Kashmir State, India, September, 2014. *Disaster Medicine and Public Health Preparedness,* 1-5.

Devi, N. P., Kumar, A. M. V., Chinnakali, P., Rajendran, M., **Valan, A. S.**, Rewari, B. B., & Swaminathan, S. (2017). Loss to follow-up among children in pre-ART care under the National AIDS Programme, Tamil Nadu, South India. *Public Health Action*, *7*(2), 90–94.

Goel, K. , Naithani, S. , Bhatt, D. , Khera, A. , Sharapov, U. M., Kriss, J. L., Goodson, J. L., Laserson, K. F., Goel, P. , Kumar, R. M. and Chauhan, L. S. (2017), The World Health Organization Measles Programmatic Risk Assessment Tool—Pilot Testing in India, 2014. Risk Analysis, 37: 1063-1071.

Shrivastava, A., Kumar, A., Thomas, J.D., Laserson, K.F., Bhushan, G., Carter, M.D., Chhabra, M., Mittal, V., Khare, S., Sejvar, J.J., Dwivedi, M., Isenberg, S.L., Johnson R, Pirkle JL, Sharer JD, Hall PL, ***Yadav R, Velayudhan A, Papanna M, Singh P, Somashekar D, Pradhan A, Goel K, Pandey R, Kumar M, Kumar S,*** *Chakrabarti A, Sivaperumal A, Kumar AR, Schier JG, Chang A, Graham LA, Mathews TP, Johnson D, Valentin L, Caldwell KL, Jarrett JM, Harden LA, Takeoka GR, Tong S, Queen K, Paden C, Whitney A, Haberling DL, Singh R, Singh RS, Earhart KC, Dhariwal AC, Chauhan LS, Venkatesh S, Srikantiah P* (2017). Association of acute toxic encephalopathy with litchi consumption in an outbreak in Muzaffarpur, India, 2014: a case-control study. The Lancet Global Health, 5(4), e458–e466.

Yadav, R., Swasticharan, L., & Garg, R. (2017). Compliance of Specific Provisions of Tobacco Control Law around Educational Institutions in Delhi, India. *International Journal of Preventive Medicine*, *8*, 62.

Yadav, R., Garg, R., Manoharan, N., Swasticharan, L., Julka, P. K., & Rath, G. K. (2016). Evaluation of Delhi Population Based Cancer Registry and Trends of Tobacco Related Cancers. *Asian Pacific Journal of Cancer Prevention, 17*(6), 2841-2846.

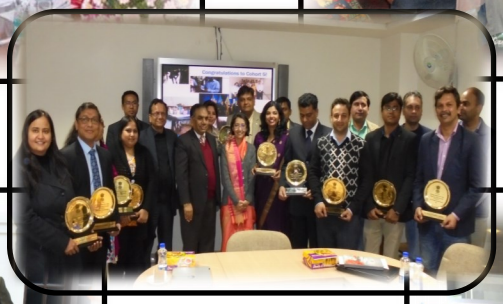
Dhanaraj, B., **Papanna, M. K.**, Adinarayanan, S., Vedachalam, C., Sundaram, V., Shanmugam, S., … Swaminathan, S. (2015). Prevalence and Risk Factors for Adult Pulmonary Tuberculosis in a Metropolitan City of South India. *PLoS ONE*, *10*(4), e0124260.

Kumar, T., Shrivastava, A., Kumar, A., Laserson, K. F., Narain, J. P., Venkatesh, S., … Averhoff, F. (2015). Viral Hepatitis Surveillance — India, 2011–2013. *MMWR. Morbidity and Mortality Weekly Report*, *64*(28), 758–762.

Shrivastava, A., Srikantiah, P., Kumar, A., Bhushan, G., **Goel, K.**, Kumar, S., … Chauhan, L. S. (2015). Outbreaks of Unexplained Neurologic Illness — Muzaffarpur, India, 2013–2014. *MMWR. Morbidity and Mortality Weekly Report*, *64*(3), 49–53.

Awards won at international conferences by EIS officers

- William H. Foege award for best oral presentation at the 67th Annual Epidemic Intelligence Service Conference at Atlanta, US (2017)
- William H. Foege award for best oral presentation at the 66th Annual Epidemic Intelligence Service Conference at Atlanta, US (2016)
- Best poster presentation at the 8th TEPHINET Global Conference in Mexico City, Mexico (2015)
- Third prize for oral presentation at the 8th TEPHINET Global Conference in Mexico City, Mexico (2015)



Former Cohorts (1-5 clockwise)