Epidemic Intelligence Service Program
Epidemiology Workforce Branch
Division of Scientific Education and Professional Development
Center for Surveillance, Epidemiology, and Laboratory Services
Office of Public Health Scientific Services
Centers for Disease Control and Prevention

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Disclaimer
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Training epidemiologists who work on the front lines of public health, with 149 current officers and 3,694 officers who have responded to domestic and international public health threats since 1951

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INTRODUCTION

This 2018 Annual Update provides an overview of the Epidemic Intelligence Service (EIS) program, a snapshot of the incoming class, host site assignments of the current classes, and main accomplishments of the most recent graduates. The incoming EIS Class of 2018 brings a balance of quantitative and clinical skills (page 5) that will allow them to thrive during the fellowship as they provide critical public health services. Current officers in the EIS Classes of 2016 and 2017 (page 6) respond to disease outbreaks and other public health threats while simultaneously improving their competencies and skills to make rapid, practical, and evidence-based decisions that protect our communities in the U.S. and around the world.

For the first time, this report highlights the work of our most recent graduates from the EIS Class of 2015. These officers made impressive contributions through their response to Zika virus, healthcare-associated infections, occupational and environmental exposures, and many other pressing public health problems, as well as through their evaluations of surveillance systems and analyses of public health data. The extensive scope of their investigations is shown in this update (pages 7-10). These graduates also made substantial contributions to public health literature, as evidenced by the publication listing based on their EIS work to-date (https://www.cdc.gov/eis/media-publications/publications.html). The majority of graduates from the EIS Class of 2015 continued their careers in public health, filling important public health positions at the federal, state and local levels (pages 11). We look forward to showcasing the accomplishments of the EIS Class of 2016 in next year’s EIS Annual Update.

As always, the success of our EIS officers is due, in large part, to the exceptional support from the staff of the Epidemiology Workforce Branch (page 3) and others in the Division of Scientific Education and Professional Development; representatives from each of CDC’s centers, institutes, and offices who participate on the EIS Action Council (page 4); and most importantly, the supervisors from the host sites who provide on-the-job training and mentorship during this two-year fellowship in applied epidemiology.
EIS OFFICERS...

Are physicians, doctoral scientists, veterinarians, nurses, and other health professionals.

Complete a 2-year, on-the-job training and service fellowship

Serve our country while learning applied epidemiology

Gain practical skills to become future public health leaders

CURRICULUM

EIS Officers gain new skills through didactic training (10%) and on-the-job training (90%)

Moving on to contribute to the public health workforce

While in their host assignments and on deployments, EIS officers receive on-the-job training as they

- Conduct or participate in field investigations
- Design, conduct, and interpret epidemiological analyses
- Evaluate public health surveillance systems
- Give public health talks about their work
- Give oral presentations to scientific audiences
- Write scientific manuscripts for peer-reviewed journals
- Write concise public health updates communicating timely information
- Write abstracts
- Communicate complex scientific concepts to lay audiences
- Provide service to the agency (e.g., health department or CDC)
OUR PEOPLE

FACES OF THE EPIDEMIOLOGY WORKFORCE BRANCH

Branch Leadership

CIO Liaisons

Epi-Aid Response

Field Support

Program Support
EAC MEMBERS FOR 2017–2018

The EIS Action Council (EAC) engages stakeholders to support critical EIS processes, such as selection, match, conference and supervision.

Eric Pevzner  
CSELS, Chair

Arlene Greenspan  
NCIPC, Co-chair

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CGH

Andrea Kim  
CGH

Jennifer Lind  
NCBDDD

Djenaba Joseph  
NCCDPHP

Suzanne Beavers  
NCEH/ATSDR

Elise Beltrami  
NCEZID

Scott Santibanez  
NCEZID

Alexa Oster  
NCHHSTP

Bob Kirkcaldy  
NCHHSTP

Kate Brett  
NCHS

Sam Posner  
NCIRD

Jannell Routh  
NCIRD

Christa Hale  
NIOSH

Cammie Menendez  
NIOSH

Randolph Daley  
OPHP

Jennifer Wright  
EIS Field Support Coordinator
SNAPSHOT OF THE EIS INCOMING CLASS OF 2018

The 66 EIS officers in the class of 2018 were selected from 489 applicants.

**Professional Backgrounds**

- **22 Physicians**
  - 12 with MPH (including 1 with additional master’s degree)
  - 6 with medical degree only
  - 3 with other master’s degree
  - 1 with PhD and other master’s degree

- **24 Nonclinical Doctoral Scientists**
  - 18 with MPH
  - 5 with other master’s degree
  - 1 with doctoral degree only

- **11 Veterinarians**
  - 10 with MPH
  - 1 with PhD

- **9 Other Healthcare Professionals (7 nurses, 1 physician assistant, 1 pharmacist)**
  - 4 with PhD or doctoral level other healthcare degree (including 3 with MPH, 1 with other master’s degree)
  - 3 with MPH (including 1 with other master’s degree)
  - 2 with other master’s degree

**Physician Specialties**
- Internal Medicine
- Pediatrics
- Emergency Medicine
- Infectious Diseases
- Preventive Medicine

**PhD Disciplines**
- Epidemiology
- Biostatistics
- Infectious Disease Epidemiology
- Behavioral Science and Health Education
- Environmental Health Sciences
- Occupational Health
- Global Health/International Health
- Anthropology
- Microbiology and Immunology
- Nursing
- Nutrition and Health Sciences
- Pharmacology
- Public Health
- Veterinary Science

**DID YOU KNOW?**
The EIS Class of 2018 includes 61 U.S. citizens, 2 U.S. permanent residents, and 3 citizens from other countries (Argentina, Australia, and India) contributing diverse skills, experiences, and cultural backgrounds to address broad public health workforce needs.

Data source: EIS application data
There are 149 officers in the 2016 and 2017 classes, combined. EIS officers are placed as ready-responders in host assignments at CDC, state and local health departments, and other federal agencies or nongovernmental public health organizations.

### Centers, Institute, and Offices Host Assignments

<table>
<thead>
<tr>
<th>Centers, Institute, and Offices</th>
<th>Class of 2016 (n = 78)</th>
<th>Class of 2017 (n = 71)</th>
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<tbody>
<tr>
<td>National Center for Emerging and Zoonotic Infectious Diseases (NCEZID)</td>
<td>13</td>
<td>18</td>
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<td>Center for Global Health (CGH)</td>
<td>11</td>
<td>10</td>
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<tr>
<td>National Center for HIV/AIDS, Viral Hepatitis, STD, and TB Prevention (NCHHSTP)</td>
<td>7</td>
<td>1</td>
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<tr>
<td>National Center for Chronic Disease Prevention and Health Promotion (NCCDPHP)</td>
<td>6</td>
<td>3</td>
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<tr>
<td>National Center for Immunization and Respiratory Diseases (NCIRD)</td>
<td>8</td>
<td>9</td>
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<tr>
<td>National Center for Environmental Health/Agency for Toxic Substances and Disease Registry (NCEH/ATSDR)</td>
<td>1</td>
<td>2</td>
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<tr>
<td>National Institute for Occupational Safety and Health (NIOSH)</td>
<td>3</td>
<td>3</td>
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<tr>
<td>National Center for Injury Prevention and Control (NCIPC)</td>
<td>2</td>
<td>1</td>
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<tr>
<td>National Center for Health Statistics (NCHS)</td>
<td>2</td>
<td>1</td>
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<tr>
<td>National Center on Birth Defects and Developmental Disabilities (NCBDDD)</td>
<td>2</td>
<td>1</td>
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<tr>
<td>Office of Public Health Preparedness and Response (OPPHR)</td>
<td>1</td>
<td>0</td>
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<tr>
<td>Center for Surveillance, Epidemiology and Laboratory Services (CSELS; field host assignments*; see map)</td>
<td>22</td>
<td>22</td>
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Data source: EIS match data
HIGHLIGHTS FROM THE MOST RECENT EIS GRADS:
FIELD INVESTIGATIONS  Class of 2015 (N=80)

**DOMESTIC DEPLOYMENTS**
42 U.S. States
4 U.S. Territories
District of Columbia

240 Deployments (Epi-Aids and others) to conduct field investigations addressing urgent public health needs*

**INTERNATIONAL DEPLOYMENTS**
25 Countries

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<thead>
<tr>
<th>Country</th>
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<tr>
<td>Angola</td>
<td>Ethiopia</td>
<td>Mexico</td>
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<td>Botswana</td>
<td>Georgia</td>
<td>Mongolia</td>
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<td>Brazil</td>
<td>Greece</td>
<td>Palau</td>
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<td>Cambodia</td>
<td>Guinea</td>
<td>Panama</td>
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<tr>
<td>Colombia</td>
<td>Haiti</td>
<td>Sierra Leone</td>
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<td>Democratic Republic of the Congo</td>
<td>India</td>
<td>Tanzania</td>
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<td>Democratic Republic of the Congo</td>
<td>Kenya</td>
<td>Uganda</td>
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<tr>
<td>Dominican Republic</td>
<td>Laos</td>
<td>Zambia</td>
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<td></td>
<td>Liberia</td>
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<td>Mali</td>
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Data source: EIS activity reports and Epi-Aid line list (number of Epi-Aids)

*A deployment to conduct a field investigation is defined here as participation by an EIS officer in a field investigation of a potentially serious public health problem that required a timely response and occupied at least 10 working days of the officer's time. These investigations include, but are not limited to, Epi-Aids and Health Hazard Evaluations. An Epi-Aid is one mechanism for public health authorities to request the short-term epidemiologic assistance of EIS officers to respond to an urgent public health problem. Health Hazard Evaluations are conducted by NIOSH. Multiple officers participating in the same investigation are counted as separate deployments. Numbers are based on Core Activity of Learning (CAL) 1 information from EIS officer activity reports. In topical categorizations, a single deployment might fit into more than one category.
3 deployments concerning water sanitation and hygiene projects
2 deployments concerning nutrition
3 deployments concerning walkability
10 deployments were to conduct investigations of clinical conditions or problems in populations without a specified suspected agent mortality, sepsis, gastrointestinal conditions, neurologic conditions, asthma, cancer, migrant health
3 deployments concerning suicide

186 deployments concerning infectious agents*

- 89 bacterial
- 79 viral
- 13 fungal
- 3 parasitic
- 3 not specified

Influenza 6
Ebola 7
Zika 25

Yellow fever 9
Measles 6

Syphilis 6
Legionellosis 7
Cholera 8

Health-care associated infections 29
Salmonella infection 15
Tuberculosis 7

Antimicrobial resistance 13
Escherichia coli infection 6

Measles 6
Tuberculosis 7
Cholera 8

11 deployments concerning substance use
Tobacco, cannabinoids, and betel nuts 2
Opioids 9

19 deployments concerning chemical exposures (occupational or nonoccupational)
arsenic, lead, other heavy metals, chloramine and others

26 deployments concerning occupational exposures (infectious and noninfectious)

6 deployments concerning exposures to severe weather floods, hurricanes, and drought

134 Epi-Aid deployments* by
69 EIS officers

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HIGHLIGHTS FROM THE MOST RECENT EIS GRADS: EPIDEMIOLOGICAL ANALYSES
Class of 2015 (N=80)

178 Projects involving epidemiologic data analysis*

DOMESTIC

INTERNATIONAL

76%
136

23%
42

SOURCE OF DATA USED IN PROJECTS

43 used field investigation data (could include a variety of sources)
Among those not using field investigation data (categories not mutually exclusive):

- 43 mentioned use of disease- or condition-specific surveillance
- 15 mentioned original data collection (other than for field investigation)
- 8 mentioned use of data from NHIS
- 6 mentioned analysis of mortality data (other than NVDRS)
- 4 mentioned use of data from NVDRS
- 63 mentioned use of another existing data source
- 4 did not specify the data source

ANALYTIC PROJECT TOPIC AREAS

115 infectious diseases
- 11 HIV
- 11 influenza or influenza-like illness
- 6 syphilis
- 6 Zika

9 substance use (tobacco, e-cigarettes, methamphetamine, and opioids)

5 physical activity

11 injuries (other than substance use) of which 6 concerned suicide

*Includes projects that involve planning, conducting and interpreting epidemiological analyses that go beyond descriptive analysis. Topic areas with 5 or more investigations are mentioned.
HIGHLIGHTS FROM THE MOST RECENT EIS GRADS: SURVEILLANCE EVALUATIONS

80 Surveillance system evaluations conducted and presented at an EIS course

LOCATION OF SURVEILLANCE SYSTEM

DOMESTIC

INTERNATIONAL

SURVEILLANCE EVALUATION TOPICS

All types of investigations and analyses

- 57 infectious diseases
- 7 chronic disease or disability
- 5 substance use
- 3 injury (other than substance use)
- 3 reproductive health
- 2 health-related behavior
- 1 environmental exposure
- 1 occupational safety
- 1 poisoning

Communicating findings for public health action

All types of investigations and analyses

- 164 ≥30 minute presentations reported (38 at Tuesday Morning Seminars)
- 213 5–15 minute presentations reported (84 at EIS conference)
- 116 publications in the MMWR*
- 104 publications in journals other than the MMWR*

* See list of publications as of March 3, 2018 at https://www.cdc.gov/eis/media-publications/publications.html

Data source: EIS activity reports
HIGHLIGHTS FROM THE MOST RECENT EIS GRADS: FIRST EMPLOYER AFTER EIS  
Class of 2015 (N=80)
READY FOR A LIFE-CHANGING CAREER EXPERIENCE?

Disease detectives serve on the front lines of public health both domestically and abroad

www.cdc.gov/EIS