



# Contributions of Scientist Officers to the 2019 Interagency Response to E-cigarette or Vaping Product Use-Associated Lung Injury

LT Kerui Xu, LT Marisa Hast, LCDR Colleen Scott, LCDR Iram Hassan  
Sponsored by the US Public Health Service Scientist Professional Advisory Committee



## BACKGROUND

- The U.S. Public Health Service (USPHS) Scientist Category was established in 1945 for doctoral-level officers with scientific training backgrounds
- In addition to research and dissemination of scientific findings, Scientist officers play key roles in outbreak and emergency responses
- In July 2019, there was an increase in severe pulmonary disease associated with e-cigarette products in the U.S.
- By August 27th, 215 possible cases of e-cigarette or vaping product use-associated lung injury (EVALI) had been reported to the Centers for Disease Control and Prevention (CDC) from 25 state health departments
- A massive public health response was undertaken by multiple federal agencies and numerous state and local health departments to provide public health guidance and mitigate the effects of the outbreak
- Scientist officers in USPHS provided significant support to the national response in prominent roles

## INTRODUCTION

- As of 2019, the Scientist Category included more than 300 officers working across 19 agencies
- Scientist officers work across 31 states and 14 countries

## METHODS

- As of March 31, 2020, 26 Scientists officers were identified to have participated in the EVALI response
- A questionnaire was drafted and sent to these officers inquiring about their time contributed, role in the response, and accomplishments
- Twenty-two Scientist officers from CDC and FDA responded to the survey for a response rate of 85%

## SPOTLIGHT ON SCIENTIST OFFICERS WORKING ON E-CIGARETTE OR VAPING PRODUCT USE-ASSOCIATED LUNG INJURY RESPONSE



**Scientist:** CAPT Aaron Fleischauer  
**Primary Discipline:** Epidemiology  
**Position:** Career Epidemiology Field Officer, Chief Science Officer  
**Assignment:** North Carolina Department of Public Health  
**Duty Station:** Raleigh, NC

**EVALI-related work:** CAPT Fleischauer has been a CDC Career Epidemiology Field Officer (CEFO) assigned to the North Carolina Department of Public Health since 2008. He led the state of North Carolina's response to EVALI during August through December 2019, contributing over 250 hours. CAPT Fleischauer coordinated the health department's response activities and supervised a multidisciplinary response team of epidemiologists, subject matter experts, health educators, and laboratory professionals. He also co-led the national Council of State and Territorial Epidemiologists EVALI workgroup. His work on the response was featured in two publications in the Morbidity and Mortality Weekly Report (MMWR).



**Scientist:** LCDR Jason Wilken  
**Primary Discipline:** Epidemiology  
**Position:** Career Epidemiology Field Officer, Center for Health Communities, Emergency Preparedness Team  
**Assignment:** California Department of Public Health  
**Duty Station:** Richmond, CA

**EVALI-related work:** LCDR Wilken has been a CDC CEFO assigned to the California Department of Public Health (CDPH) since 2014. He led CDPH's response from August 2019 through February 2020 and contributed more than 1,000 hours. LCDR Wilken managed 25 staff in roles including epidemiology and surveillance, clinical and public health messaging, clinical chart abstraction, and laboratory analysis. LCDR Wilken was instrumental in standing up the lab component of the response, which included toxicology work to identify unknown chemicals in vaping cartridges. He was the senior author on a publication in JAMA Internal Medicine and in MMWR.



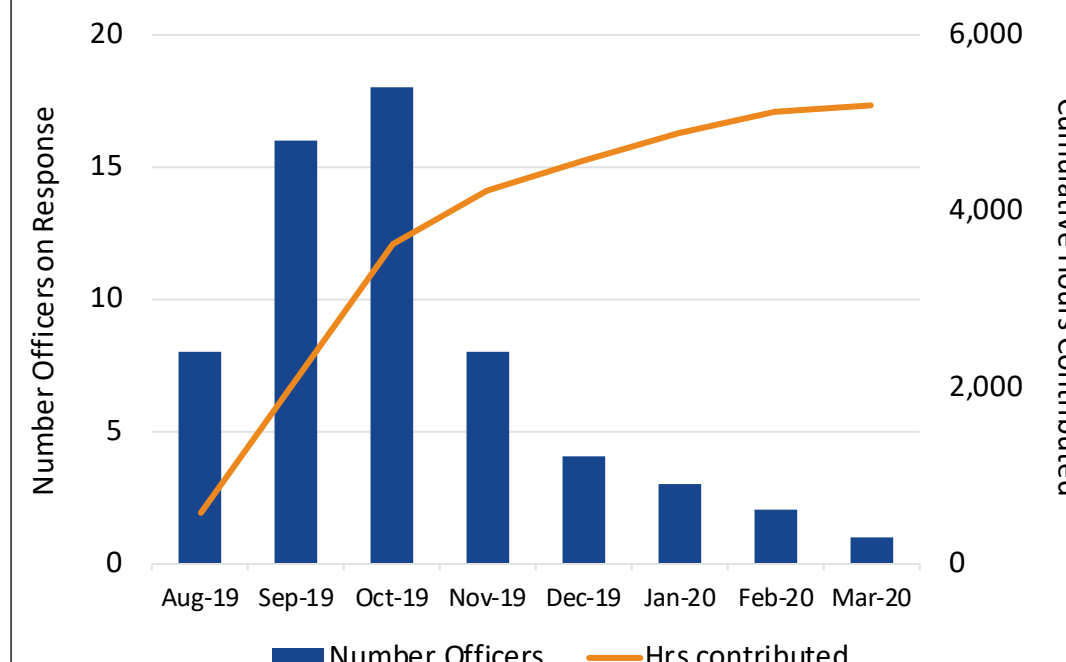
**Scientist:** LCDR Tyann Blessington  
**Primary Discipline:** Microbiology  
**Position:** Interdisciplinary Scientist  
**Assignment:** FDA Coordinated Outbreak Response and Evaluation Network, Center for Food Safety and Applied Nutrition  
**Duty Station:** College Park, MD

**EVALI-related work:** LCDR Blessington has worked at FDA for 5 years in the Coordinated Outbreak Response and Evaluation Network. She led the Situation Unit of the planning section in FDA's Incident Management Group (IMG), which consisted of subject matter experts from numerous FDA centers and offices, including laboratorians, epidemiologists, clinicians, consumer safety investigators, and other key staff. She served in this role in October and November 2019 and contributed more than 200 hours to the response. LCDR Blessington's responsibilities included development of internal FDA situation reports, documenting and recording IMG member activities, triaging questions and concerns. She helped organize meetings and contributed to development of messaging to describe operations, lab methods, and regulatory actions.

## QUESTIONNAIRE RESULTS

- From August 8, 2019–March 31, 2020, 22 Scientist officers contributed approximately 5,200 hours to the EVALI response (Figure 1), with a median of 230 hours and a maximum of 1100 hours
- Respondents largely served in leadership positions, including Chief Data Scientist, Chief Science Officer, Co-Lead of the Epidemiology and Surveillance Task Force, Situation Unit Lead, and state Incident Manager
- From August 2019–June 2020, scientist officers contributed to 16 publications related to the response, including two in The New England Journal of Medicine, one in JAMA Internal Medicine, and 13 in the Morbidity and Mortality Weekly Report.

Figure 1: Number of Deployed Scientist Officers and Cumulative Hours Contributed to EVALI Response by Month



## OFFICER IMPACT AND CONCLUSIONS

- Officers played integral roles in response activities, including describing the characteristics, exposures and patterns of e-cigarette use in patients with EVALI
- Officers helped to characterize the epidemiologic association of EVALI and tetrahydrocannabinol (THC)-containing products, including identifying vitamin E acetate to be a chemical of concern
- Scientist officers continue to play critical roles in many aspects of interagency outbreak investigations, including research, practice, communications, and dissemination

Contact information: LT Kerui Xu  
 CDC Division of Healthcare Quality Promotion  
 pgy5@cdc.gov, 404-498-2843

