VDH VIRGINIA DEPARTMENT OF HEALTH

VIRGINIA EPIDEMIOLOGY SEMINAR

THE WESTIN
RICHMOND, VA

March 26, 2026

PUBLIC HEALTH PREPAREDNESS SUMMIT

Accreditation Statement

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Virginia Epidemiology Seminar Agenda

Thursday, March 26, 2026
The Westin
Richmond, VA

8:30 a.m. **Registration**

9:00 a.m. **Welcome**

9:05 a.m. **Opening Comments**
Laurie Forlano, DO, MPH,
Director, Office of Epidemiology

SESSION 1
Moderator – Melissa Viray, MD
Deputy Director, Richmond and Henrico Health Districts

9:20 a.m. **When Two Mosquito-Borne Viruses Collide: An Unprecedented West Nile and La Crosse Coinfection in a Non-Traveling Adult in the Fairfax Health District, 2025**
Chtaura Jackson, MPH, MS, Environmental Epidemiologist
Fairfax County Health Department

By the end of this session, the participant will be able to:

- *Define the epidemiological, laboratory, and surveillance thresholds necessary to classify La Crosse virus as locally endemic in a jurisdiction that has not previously confirmed local transmission.*
- *Analyze how case investigations, confirmatory testing, and vector surveillance data are synthesized to differentiate between isolated or anomalous detections and evidence of sustained local transmission.*
- *Translate these determinations into public health actions, including decisions regarding surveillance intensification, ecological and wildlife assessments, and clinician outreach.*

9:40 a.m. ***Burkholderia pseudomallei* Infection Associated with Travel to the Philippines, Central Virginia Health District, April 2025**
Cali Anderson, MPH, Senior Epidemiologist
Central Virginia Health District and
Paige Bordwine, MPH, CIC, MT(ASCP), Southwest Regional Epidemiologist, Office of Epidemiology, Virginia Department of Health

By the end of this session, the participant will be able to:

- *Describe the incidence of Melioidosis in the United States.*
- *Identify the transmission routes of Burkholderia pseudomallei and which areas of the world it is endemic.*
- *Explain the exposure risk for laboratory personnel to B. pseudomallei and the associated monitoring period.*

10:00 a.m. **When Alarm Bells Ring: Interpreting Wastewater Surveillance Signal for H5 Infected Wildlife**
Michelle Yancey, MPH, PhD, Wastewater Surveillance Data Manager
Office of Environmental Health Services, Virginia Department of Health

By the end of this session, the participant will be able to:

- *Introduce current VDH wastewater surveillance methods for Flu A.*
- *Describe the double alert events of June 2025 for positive Flu A/H5.*
- *Share collaboration efforts of interdepartmental and interagency stakeholders to interpret alert signal.*

10:20 - 10:35 a.m. **Break and Networking**

SESSION 2
Moderator – E. Katrina Saphrey, MPH, CIC
Epidemiologist Senior, Crater Health District

10:35 a.m. **One Case, High Consequences: The Measles Multiplier — A Multi-Jurisdictional Response in the Eastern Region, September 2025**
Brittany Kendall, MPH, CHES, CIC, Deputy Regional Epidemiologist
Office of Epidemiology, Virginia Department of Health and
Ashley Caesar, MPH, MHI, Epidemiologist
Virginia Beach Department of Public Health

By the end of this session, the participant will be able to:

- *Describe the roles of LHD teams, hospital/healthcare, and central office, partners in a large measles response.*
- *Describe the benefits of partner communication and collaboration for disease control and prevention.*
- *Recognize and list at least 3 of the tools, resources, and prior experience that are impactful for preparation and facilitation of measles investigations and response.*

10:55 a.m. **If It's Not One Thing, It's Another: A Multi-Source Respiratory Outbreak at a Private School in Virginia, October-November 2025**
Stephanie Neal, MPH, CIC, District Epidemiologist Jr.
Lord Fairfax Health Department

By the end of this session, the participant will be able to:

- *Summarize the importance of clinical testing in identifying etiological agents in respiratory outbreaks.*
- *Explain the value of community partner and health department collaboration during a respiratory outbreak response.*
- *Describe respiratory illness infection control best practices for boarding schools.*

11:15 a.m. **Visualizing a High-Risk Syphilis Network Using Partner Services and Social Network Analysis - Southwest Virginia, 2025**

Courtney Gonzalez, MPH, CHES, Disease Intervention Specialist
Office of Epidemiology, Virginia Department of Health and
Danesha Alam-Richardson, BS, Disease Intervention Specialist
Office of Epidemiology, Virginia Department of Health

By the end of this session, the participant will be able to:

- *Describe the role of disease intervention specialists (DIS) and partner services in the investigation of syphilis cases.*
- *Apply social network visualization concepts to understand the scope and complexity of partner networks.*
- *Identify the strengths and limitations of partner services in capturing complex partner relationships.*

11:35 a.m. **An Evaluation of *Candida auris* Transmission Between Healthcare Facilities**

Eboni Bassett, MPH, Deputy Epidemiologist
Crater Health District

By the end of this session, the participant will be able to:

- *Describe how Candida auris' virulence and environmental persistence attributes to challenges during outbreaks.*
- *Analyze surveillance data to identify potential clusters of Candida auris in conjunction with genomic epidemiology to provide evidence of epidemiologic linkages.*
- *Evaluate infection prevention and control practices and recommend strategies for the improvement of cleaning and disinfection to prevent the spread of Candida auris.*

11:55 – 1:00 p.m. **Lunch and Networking**

SESSION 3

Moderator – Kenesha Smith Barber, MSPH, PhD
Community Health Improvement Epidemiology Manager, Office of Family Health Services, Virginia Department of Health

1:05 p.m. **Understanding COPD Burden in Virginia: Patterns, Disparities, and Public Health Implications**

Francis Adams, MPH, Epidemiologist
Office of Family Health Services, Virginia Department of Health

By the end of this session, the participant will be able to:

- *Describe the burden of COPD morbidity and mortality in Virginia from 2016-2023, including hospitalization and mortality trends across demographic groups.*
- *Highlight disparities in COPD outcomes by sex, age, race, and socioeconomic status.*
- *Examine geographic variability and potential influences such as healthcare access and environmental exposures.*

1:25 p.m. **Assessing Local Needs to Support Maternal Health-Related Emergency Preparedness Efforts in Virginia**

Juliana Keeney, MPH, CSTE Applied Epidemiology Fellow
Office of Family Health Services, Virginia Department of Health

By the end of this session, the participant will be able to:

- *Describe the methodology used to estimate locality-level pregnancy burden in Virginia.*
- *Identify geographic patterns of maternal vulnerability, pregnancy estimates, and major disaster declarations.*
- *Explain how various data sources can be used to inform maternal health-focused emergency preparedness and resource allocation.*

1:45 p.m. **Examining Drug Overdose Deaths Without Opioid Involvement Among Virginians, 2019-2023**

Lauren Yerkes, MPH, CPH, Injury and Violence Prevention Senior Epidemiologist
Office of Family Health Services, Virginia Department of Health

By the end of this session, the participant will be able to:

- *Describe temporal trends in non-opioid drug overdose deaths among Virginians over time.*
- *Characterize demographic and geographic differences in non-opioid drug overdose outcomes by age, sex, race/ethnicity, and urban-rural classification to identify populations of greatest impact.*
- *Examine differences in intent between non-opioid and opioid-related drug overdose deaths to inform focused prevention and intervention strategies.*

2:05 – 2:20 p.m. **Break and Networking**

SESSION 4

Moderator – Amanda Woods, MS
Chemical Emergency Preparedness and Response Lead Scientist
Division of Consolidated Laboratory Services, Virginia Department of General Services

2:20 p.m. **When the Workforce Is Tired: Designing Programs That Support People and Practice**

Ginger Vanhoozer, MPH, BSN, RN, CIC, AL-CIP, HAI/AR Education and Training Specialist
Office of Epidemiology, Virginia Department of Health

By the end of this session, the participant will be able to:

- *Select one strategy to create a more positive tone for a meeting or training.*
- *Evaluate a support resource to determine if it is practical, high-value, and likely to be used by your target audience.*
- *Incorporate one simple celebration or recognition practice into an existing meeting or training.*

2:40 p.m. **Disrupting Syphilis Transmission through Hyper-Localized At-Home Testing Initiatives in a High-Burden Health District, Crater Health District, Virginia**

Tia Sanchez, BA, STI Health Education Senior
Crater Health District

By the end of this session, the participant will be able to:

- *Describe the local epidemiologic burden.*
- *Explain the outreach intervention.*
- *Apply lessons learned to practice.*

3:00 p.m. **Linking Emergency Medical Services and Emergency Department Data for Heat-Related Illness Surveillance, Virginia, 2024-2025**

Daisy Banta, MPH, Senior Epidemiologist
Office of Emergency Medical Services, Virginia Department of Health

By the end of this session, the participant will be able to:

- *Explain the methods of probabilistic record linkage, including data quality considerations and fuzzy matching techniques, for public health surveillance applications.*
- *Interpret linked EMS and ED data to distinguish overlapping and unique heat-related illness (HRI) events and assess the completeness of syndromic surveillance systems.*
- *Describe how integrated EMS-ED surveillance can strengthen heat preparedness planning, resource allocation, and public health response during extreme heat events.*

3:20 p.m.	**Voting for People's Choice Award**
3:30 p.m.	**Closing Remarks** **Grayson B. Miller, Jr., MD Award Presentation** **Diane Woolard, PhD., Award Presentation** **People's Choice Award Presentation** Brandy Darby, DVM, MPH, DACVPM Director, Division of Surveillance and Investigation, Office of Epidemiology Virginia Department of Health
3:40 p.m.	**Adjourn**

ABSTRACT
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When Two Mosquito-Borne Viruses Collide: An Unprecedented West Nile and La Crosse Coinfection in a Non-Traveling Adult in the Fairfax Health District, 2025

Presenter: Chtaura Jackson, MPH, MS, Environmental Epidemiologist, Fairfax County Health Department

Background: West Nile Virus (WNV) remains the most common endemic mosquito-borne infection in Virginia, with 264 statewide cases and 68 cases in the Fairfax Health District (FHD) from 1999 to 2024. La Crosse Virus (LACV), though endemic in parts of the Midwest and Appalachia, is rarely reported in Virginia adults and has never been identified as locally acquired in the FHD, where only two travel-associated cases have been documented. Coinfections involving arboviruses transmitted by different mosquito species are rare. In 2025, the Fairfax County Health Department (FCHD) investigated a case of concurrent WNV and LACV infection in an adult with no recent travel, suggesting local exposure.

Methods: In September 2025, FCHD's Environmental Epidemiology Program investigated a 65-year-old male who presented to a local emergency department with systemic and neurologic symptoms. Clinical findings, laboratory results, and exposure history were obtained through chart review and interviews. Diagnostics included WNV IgM and LACV IgG/IgM serology, with confirmatory testing conducted at the Centers for Disease Control and Prevention (CDC) using Plaque Reduction Neutralization Tests (PRNT). Epidemiologic assessment focused on travel history, mosquito exposure, and alternative sources of infection. Additionally, FCHD's Disease Carrying Insect Program (DCIP) tested 338 local mosquito pools for LACV.

Results: The patient met clinical criteria for both neuroinvasive WNV and LACV. CDC confirmatory testing verified infection for both WNV (1:80 PRNT) and LACV (1:640 PRNT). The patient reported no travel outside the FHD and heavy mosquito activity near his residence; no alternative exposures were identified. All 338 mosquito pools tested negative for LACV. Confirmatory case investigations of WNV and LACV were submitted separately and accepted as surveillance cases by CDC.

Conclusion: True coinfection is unlikely in this scenario. However, factors including negative environmental findings, absence of travel, and confirmatory laboratory results make definitive interpretation challenging. This rare case of WNV–LACV coinfection underscores the need for clinicians to consider multiple arboviral etiologies during mosquito season and to pursue timely diagnostic testing for patients with neurologic illness (systemic symptoms may or may not be present). The case underscores the importance of comprehensive mosquito surveillance, trapping, species identification, and testing for a wide range of arboviruses, as well as ecological and wildlife monitoring for early detection and risk assessment. FCHD will continue mosquito surveillance and laboratory testing for WNV, LACV, and St. Louis Encephalitis Virus and will support healthcare providers in ordering appropriate diagnostic tests to strengthen case detection and public health response.

Authors: Jackson, C. and Buck, A.

***Burkholderia pseudomallei* Infection Associated with Travel to the Philippines, Central Virginia Health District, April 2025.**

Presenters: Cali Anderson, MPH, Senior Epidemiologist, Central Virginia Health District and Paige Bordwine, MPH, CIC, MT(ASCP), Southwest Regional Epidemiologist, Office of Epidemiology, Virginia Department of Health

Background: Melioidosis is caused by the bacterium *Burkholderia pseudomallei* and is a rare infection in Virginia. In the United States, the annual incidence is approximately 12 cases, with an estimated 165,000 cases each year globally and 89,000 deaths. Southeast Asia and northern Australia are considered endemic for melioidosis, with most U.S. cases linked to international travel. Transmission most often occurs through inhalation of contaminated water droplets or dust, contact with contaminated soil through breaks in the skin, or ingestion of soil-contaminated food or water. Melioidosis is considered a select agent and is rapidly notifiable in the U.S.

Methods: Epidemiology received a call from the Lynchburg General Hospital Microbiology laboratory on the morning of April 18, 2025 with report of a tissue biopsy sample of which *B. pseudomallei* could not be ruled out. The sample was rushed to DCLS and was presumptively positive that same evening. Epidemiology contacted the patient and conducted contact tracing for potentially-exposed laboratory personnel.

Results: Interview with the case patient revealed that the individual had traveled to the Philippines over spring break and worked at a youth camp, where he fell while playing games and struck/lacerated his face in a "mud put." The patient has a history of Crohn's Disease and was on an immunosuppressant, thus increasing his risk of infection. Following diagnosis, the patient returned to his home state where he received intensive IV therapy for up to 14 days followed by several months of oral eradication therapy. All exposed laboratory personnel were provided with PEP and monitored serologically for six weeks. No additional cases developed.

Conclusion: Melioidosis is a severe disease associated with high mortality, and swift public health action is needed to limit additional exposures, particularly in the healthcare/laboratory setting, and ensure that bioterrorism is not suspected. Public health investigations for melioidosis are often labor-intensive and can last up to several months after identification of a case to monitor treatment and known exposures.

When Alarm Bells Ring: Interpreting Wastewater Surveillance for H5 Infected Wildlife

Presenter: Michelle Yancey, MPH, PhD, Wastewater Surveillance Data Manager, Division of Onsite Water and Wastewater Services, Office of Environmental Health Services

Background: The Virginia Department of Health (VDH) Wastewater Surveillance Program (WSP) has been collecting weekly wastewater surveillance (WWS) samples from partnered wastewater treatment plants (WWTP) for influenza A virus (Flu A) since March 2023. In June of 2025, two alert events were triggered: 1) WSP's Alexandria site presented with sustained Flu A positivity, resulting in a warning to their assigned epidemiologists (June 11th), and 2) the CDC notified the WSP of an H5 Flu A detection at the WastewaterSCAN site of Little Falls Run (LFR) (June 12th). This double alert event was the first time Virginia WWS identified H5, leading to an interagency and interdepartmental assessment for investigation and response.

Methods: This use case outlines how Virginia WWS alert systems initiated collaborative insights and action between the: CDC, VDH WSP, VDH Office of Epidemiology (OEPI), Virginia Department of Wildlife Resources (DWR), Virginia Department of Agriculture and Consumer Services (VDACS), and local WWTP. Progression through the CDC's jurisdictional H5 checklist for Flu A/H5 WWS detection helped guide investigation and initial inferences into the H5 virus origin within the first week. The following month witnessed a contextualizing second LFR detection and H5 retrospective testing of WSP samples.

Results: It was concluded that LFR's H5 signal was most likely from wild birds. This was reasoned because: 1) OEPI had not revealed any heightened human H5/Flu A risk, 2) DWR reported a multitude of H5 bird detections in the region, 3) there were visibly large agricultural fields near the WTTP open treatment tanks, and 4) repeat testing did not show sustained signal. Later, retrospective testing confirmed that much of the sustained Alexandria Flu A positivity signal was from H5. Also, correlation testing between the Alexandria H5 viral load and local rainfall revealed moderate correlation ($R=0.33$, $p=0.07$, $n=30$), supporting probable environmental input.

Conclusion: While not yet well understood, agricultural and environmental input into sewage may contribute to WWS alert detection. This use case demonstrated not only that environmental H5 input can be detected, but that inferences of H5 may be gleaned from Flu A wastewater signal alone. It demonstrates the interconnectedness of environment and people, as well as the dynamic participation required of many interdisciplinary sectors when interpreting a WWS warning.

One Case, High Consequences: The Measles Multiplier — A Multi-Jurisdictional Response in the Eastern Region, September 2025

Presenters: Brittany Kendall, MPH, CHES, CIC, Deputy Regional Epidemiologist, Office of Epidemiology, Virginia Department of Health and Ashley Caesar, MPH, MHI, Epidemiologist, Virginia Beach Department of Public Health

Background: The presentation will explore the investigation and response to a measles case with international exposure in a Virginia Beach resident that involved exposures in a school, pediatric urgent care (UC), pharmacy, and a pediatric emergency department (ED)/acute care hospital, resulting in a large number of identified contacts. On the morning of September 2nd, 2025, the Virginia Beach Department of Public Health (VBDPH) epidemiology team received notification from the Eastern Regional Epidemiologist of a suspect case of measles. The last confirmed case of measles in the Eastern Region was in May of 2011.

Methods: Consultation with hospital infection prevention (IP) by the regional epidemiologist prompted laboratory testing for measles performed by the Division of Consolidated Laboratory Services (DCLS). A preemptive epidemiological investigation for suspect measles was initiated by the VBDPH epidemiology team to establish a timeline of places and modes of travel prior to onset, an account of illness presentation, and identification of possible exposure locations.

Post confirmation, subsequent investigations in collaboration with VBDPH epidemiology team, the hospital, and Deputy Regional Epidemiologist determined the nature and duration of exposure, identified contacts, assessed immunity, and necessity of post exposure prophylaxis (PEP). Information obtained was used for notification and public health follow up. Initial notifications and PEP recommendations for those exposed in the UC and ED/hospital were the responsibility of the hospital. Identified contacts received follow-up by their respective district of residence across the region and state with assistance from central office staff.

Results: The case was a Virginia Beach resident between the ages of 5-10 years old, residing with immediate family. Onset of illness began with a fever on August 26th after attending school. Between August 27th and 28th the case was seen at the pediatric UC, received PCR positive results for strep, and visited the pharmacy for antibiotics. Due to persistent symptoms and onset of rash, the case was seen in the ER on August 30th, with a differential of Kawasaki disease and positive mononucleosis spot test, resulting in being admitted without precautions. On the evening of September 1st, a conversation with parents revealed international travel prior to illness onset. When coupled with lack of immunity to measles and progressing symptomology measles was suspected prompting placement of airborne precautions. Exposure investigations revealed a substantial number of contacts with the heaviest burden for notification on VBDPH as the majority of exposure locations were within the district. Remaining contacts from the ED and hospital were evenly distributed across the region from each district with approximately 10 patient contacts located outside the region or state.

Conclusion: This single case of measles resulted in a large response with over 1,900 contacts requiring coordination from a multitude of partners in the Eastern Region and across the state. It is important to realize the impact that some diseases, even suspect, can have and how proper prioritization and preparation are beneficial to the response.

If It's Not One Thing It's Another: A Multi-Source Respiratory Outbreak at a Private School in Virginia, October – November, 2025

Presenter: Stephanie Neal, MPH, CIC, District Epidemiologist Jr., Lord Fairfax Health Department

Background: In October 2025, the Lord Fairfax Health District (LFHD) received report from a local emergency department that 3 students from Private School A were evaluated for multifocal pneumonia. Private School A was contacted, and a school nurse reported that there were 10 students recently diagnosed with strep throat after a positive rapid group a strep (GAS) test in addition to the 3 students with pneumonia. LFHD initiated an investigation to identify other possible etiologic agents of illness and prevent further transmission.

Methods: Testing of symptomatic students and staff was performed in various clinical settings as well as through public health. The school clinic conducted rapid GAS and COVID testing as clinically indicated. The school also collected specimens on students who did not require emergency care, and LFHD facilitated Respiratory Virus Panel Testing at the Division of Consolidated Laboratory Services (DCLS). Students seen at healthcare facilities had various tests conducted that at a minimum included a Respiratory Viral Panel and a Mycoplasma pneumoniae PCR test. A medical record review was performed for all cases that required a healthcare visit during the outbreak investigation. A site visit was conducted at the school, and infection control recommendations were made based on observations and information communicated by school leadership.

Results: Between October 7th and November 13th, 2025, there were 68 cases of respiratory illness among students (n=205) and staff (n=88) at Private School A. 19.1% (n=13) were diagnosed with pneumonia, 13.2% (n=9) with strep throat and 11.8% (n=8) with pneumonia and strep throat. Of those tested: 8 were positive for *M. pneumoniae*, 4 for *Human Rhinovirus/Enterovirus*, and 3 for *Parainfluenza 2*. A small number of students were positive for multiple organisms: 3 tested positive for GAS and *M. pneumoniae*, 1 for GAS and *Parainfluenza 2*, and 1 for *Human Rhinovirus/Enterovirus* in October and *M. Pneumoniae* in November. Five cases (4 students, 1 staff) were hospitalized. Based on LFHD recommendations, the school took numerous steps to reduce transmission including: canceling indoor gatherings, universal masking, increased environmental cleaning, and social distancing.

Conclusion: *M. pneumoniae* and GAS are common causes of respiratory illness among children, easily spreading in dormitory settings. Outbreaks with multiple etiologic agents can be complicated as the guidance needed can vary depending on the organism. However, collaboration between community and public health partners, along with the school's strong adherence to infection control practices, were key to the success of the outbreak response.

Visualizing a High-Risk Syphilis Network Using Partner Services and Social Network Analysis - Southwest Virginia, 2025

Presenters: Courtney Gonzalez, MPH, CHES, Disease Intervention Specialist, Office of Epidemiology, Virginia Department of Health and Danesha Alam-Richardson, BS, Disease Intervention Specialist, Office of Epidemiology, Virginia Department of Health

Background: Syphilis rates are rising nationally and in Virginia, where early syphilis cases increased by 43% from 2020 to 2024. Networks among individuals with overlapping risk factors—such as substance use and incarceration—pose challenges for disease control. A network investigation was initiated following identification of an index patient with early syphilis. The investigation revealed complex social and behavioral dynamics that complicated timeline reconstruction and source-spread assessment.

Methods: This descriptive epidemiologic investigation examined syphilis within a high-risk social network. Disease Intervention Specialists (DIS) conducted partner services interviews and re-interviews to identify sexual, needle-sharing, and social contacts. Visual Case Analysis (VCA) was attempted to assess transmission patterns but was limited by incomplete timelines and partner identification. Social network mapping was used to visualize relational complexity and network structure.

Results: The investigation identified a social network of 50 individuals, of whom 25 were confirmed infected, including eight infected referrals identified through partner services. Ten DIS contributed to the investigation. Co-infections included Hepatitis C (n=9), Hepatitis A (n=1), and prior HIV (n=2). Documented behavioral risk factors included drug use (n=21), injection drug use (n=7), and transactional sex (n=4).

Twenty individuals were incarcerated during the investigation period, including 13 who were infected; an additional 12 individuals self-reported incarceration within the prior 12 months. The index patient initially named one partner who was confirmed positive. Re-interview elicited five additional partners, including a previously investigated case that expanded the network through additional named partners and social contacts. Network visualization demonstrated dense interconnections, overlapping partnerships, family members sharing partners, and indirect social links.

Conclusion: This investigation highlights the complexity of syphilis transmission within a densely connected high-risk network. Partner services identified eight infected referrals, and social network visualization provided clearer understanding of network size, interconnectedness, and contextual risk factors. Although limitations constrained definitive source-spread determination, integrating partner services with network mapping offers a practical approach to characterizing transmission environments in similar settings.

Authors: Courtney Gonzalez, Jessica Gasvoda, Danesha Alam-Richardson, Nortrivah Hill

An Evaluation of *Candida auris* Transmission Between Healthcare Facilities

Presenters: Eboni Bassett, MPH, Deputy Epidemiologist, Crater Health District

Background: In 2025, fourteen patients were identified to be hospitalized in Hospital A in the Crater Health District (CHD) with *Candida auris (C. auris). C. auris* is an emerging fungal pathogen that causes nosocomial infections in healthcare settings. Eight of these patients were identified to be positive upon admission by a downstream Long Term Acute Care Hospital (LTACH) in another heath district (LTACH A). The virulence of *C. auris* in susceptible hosts, combined with its environmental persistence, and the complexity of inter-facility patient movement, increases the difficulty of tracking the source exposure, prompting a cluster investigation.

Methods: The Genomics Epidemiology Program reviewed *C. auris* data from LTACH A, who were conducting monthly point prevalence surveys (PPS) and admission screenings, initially identifying the upstream cluster at Hospital A. They also identified a Long-Term Care Facility (LTCF) in CHD as another potential exposure location (LTCF A). A thorough bed traceback analysis was conducted to determine patient room assignments, clinical services rendered, and the utilization of indwelling devices and invasive procedures performed during the admission in question. Data was aggregated by shared epidemiologic characteristics to identify spatial-temporal clusters and common points of exposure. A site visit was conducted at Hospital A and LTCF A to identify possible gaps in infection prevention and control practices.

Results: Fourteen positive patients were hospitalized at Hospital A during the time in question and were transferred to other facilities within the Central region. There was significant overlap with second floor Med-Surg, Intensive Care Unit (ICU), dialysis, wound and respiratory care patients with *C. auris* at Hospital A. The retrospective review identified patient 0, an individual admitted to the ICU immediately preceding the identified cluster's admissions, serving as the primary lead for the investigation. Over a seven-week period, six of the fourteen patients were admitted to the ICU at Hospital A. Four of the six (67%) patients admitted to the ICU had overlapped stays. Five of the six patients (83%) had received mechanical ventilation or trach care. Four patients were discharged directly to LTACH A. Whole genome sequencing (WGS) was requested to support the epidemiologic evidence between cases. Admission to the ICU was the main risk factor identified. During the site visit at Hospital A, all the surfaces swabbed with the Adenosine Triphosphate (ATP) machine in the ICU had readings above the normal range of biologic activity considered clean. During a site visit at LTCF A, poor environmental service (EVS) practices were observed, and high ATP machine readings were documented.

Conclusion: The investigation confirmed a small but significant outbreak of *C. auris* that may not have been identified without access to genomic epidemiology. Expanding surveillance in downstream facilities uncover transmission in upstream facilities. This investigation exposes the need for improved surveillance methodology for field staff to identify overlapping exposures in a timelier manner. To mitigate the spread of *Candida auris,* we must prioritize the re-education of non-clinical and clinical staff on infection prevention procedures and improve the transparency of patient status during discharge to facilitate appropriate precautions at downstream facilities. Targeted screening in high-risk acute care settings could prove beneficial, especially during regional increases in prevalence.

Understanding COPD Burden in Virginia: Patterns, Disparities, and Public Health Implications

Presenter: Francis Adams, MPH, Epidemiologist, Office of Family Health Services, Virginia Department of Health

Background: Chronic obstructive pulmonary disease (COPD) is a leading cause of morbidity and mortality in the United States and Virginia. It disproportionately affects older adults and populations with a history of smoking or exposure to environmental pollutants. Despite national declines in smoking prevalence, COPD remains a significant public health concern, with persistent disparities by age, sex, race, and geography. This analysis aimed to assess trends in COPD hospitalizations and mortality in Virginia from 2016 to 2023.

Methods: This retrospective analysis used hospitalization and mortality data from Virginia health information datasets. COPD cases were identified using ICD-10-CM codes J40–J44. Hospitalizations included individuals aged 25 and older with a primary diagnosis of COPD. Mortality data included cases where COPD was listed as the underlying cause of death. Rates were age-adjusted using the U.S. 2000 standard population and stratified by sex and race. Regression modeling was used to explore the relationship between COPD prevalence and mortality.

Results: Between 2016 and 2023, an average of 10,238 individuals were hospitalized annually for COPD in Virginia. Hospitalization rates peaked in 2017 and declined steadily through 2021. Mortality rates remained stable, averaging around 50 per 100,000. Females consistently had higher hospitalization rates than males, accounting for 56.7% to 59.4% of cases. Crude rates showed the highest burden among those aged 85+, but age-adjusted rates shifted the burden to the 45–64 and 65–84 age groups. By race and ethnicity Black, non-Hispanic individuals experiencing a disproportionately high burden of hospitalizations compared with other racial and ethnic groups Urban areas showed stable, low rates, while rural counties exhibited significant variability. Regression analysis revealed that areas with higher COPD prevalence had lower mortality, suggesting better disease recognition and management.

Conclusion: COPD hospitalization rates in Virginia have declined, but mortality remains steady, highlighting the need for improved disease management. Persistent disparities by age, sex, race, and geography underscore systemic inequities in healthcare access and outcomes. The inverse relationship between prevalence and mortality suggests that early diagnosis and comprehensive care can reduce fatal outcomes. Public health efforts should focus on enhancing surveillance, promoting equitable access to care, and refining predictive models better to address the burden of COPD across diverse populations.

Assessing Local Needs to Support Maternal Health-Related Emergency Preparedness Efforts in Virginia

Presenter: Juliana Keeney, MPH, CSTE Applied Epidemiology Fellow, Office of Family Health Services, Virginia Department of Health

Background: Pregnant people have historically been classified as vulnerable during natural disasters, but limited data exist to guide emergency preparation for such events. Although Virginia is not usually impacted by extreme disasters, it is prone to severe weather events that require emergency response. This study estimated the number of pregnant people in Virginia localities and overlayed maternal vulnerability index scores to identify areas that may be at higher need for maternal health-related emergency response planning during disasters.

Methods: Virginia vital statistics data (live births, fetal deaths, and induced terminations of pregnancies) from 2023 were used to estimate the number of pregnant people (n=71,974), following CDC-developed pregnancy estimates methodology. Each outcome was multiplied by the proportion of the year a person was pregnant, using constants from the methodology, then added to find estimates for each locality. A high pregnancy estimate was defined as an estimate at/above the 90th percentile. Disaster declarations by incident category and regional impacts were identified using the Disaster Declarations dataset from FEMA. The Surgo Health Maternal Vulnerability Index was used to assess maternal vulnerability for each Virginia locality (n=133). High maternal vulnerability was defined as scores of ≥60.

Results: Six types of disasters impacted Virginia localities from 2017 to 2026 including hurricanes (n=133, 100%), tropical storms (n=37, 28%), severe ice storms (n=33, 25%), snowstorms (n=28, 21%), severe winter storms (n=133, 100%), and floods (n=36, 27%).

Virginia maternal vulnerability scores ranged from 0 to 83.7 (mean = 38). Virginia pregnancy estimates ranged from 10 to 9,329 (mean = 541). Of 133 localities, 14 (10%) were considered to have high pregnancy estimates, accounting for 42,038 (58%) pregnancies in 2023. Thirteen of the 14 (93%) high pregnancy estimate localities were ranked as having very low to moderate vulnerability, with scores ranging from 0.3 to 56**.**

Twenty-four (18%) localities were ranked as having high maternal vulnerability. Of these, 13 (54%) had pregnancy estimates of ≤200 people. The low pregnancy estimate-high vulnerability localities were mostly bordering Kentucky and North Carolina and classified as rural (n=18; 75%). Norfolk City, classified as urban, was the only high pregnancy estimate-high maternal vulnerability locality (score of 63).

Conclusion: Findings underscore the importance of incorporating maternal and child health (MCH)-related data into emergency preparedness planning, including special emphasis on areas that may need additional support. This tool can be used to estimate resource allocation specific to the MCH population and their needs.

Examining Drug Overdose Deaths Without Opioid Involvement Among Virginians, 2019-2023

Presenter: Lauren Yerkes, MPH, CPH, Injury and Violence Prevention Senior Epidemiologist, Office of Family Health Services, Virginia Department of Health

Background: Preventing drug overdose deaths remains a public health priority. Although over 80% of drug overdose deaths among Virginians involve opioids, less is known about drug overdose deaths without opioid involvement. This study examines associations between demographics, rurality, and intent among Virginians who died from non-opioid drug overdoses from 2019 to 2023.

Methods: Death certificates of Virginians from 2019 to 2023 with an underlying cause of death with International Classification of Diseases, 10th version (ICD-10) code of X40-X44, X60-X64, X85, Y10-Y14 were analyzed to capture total number of drug overdose deaths (n=11,320); in the analysis, non-opioid drug overdose deaths were defined as those without ICD-10 code T40.0, T40.1, T40.2, T40.3, T40.4, or T40.6 as multiple cause of death (n=1,809). Multivariable logistic regression models assessed relationships between demographics (sex, age, race/ethnicity), rurality (rural or urban), and intent (suicide, homicide, unintentional, undetermined) for non-opioid drug overdose deaths.

Results: Of Virginians who died of non-opioid drug overdose, most were male (59%), White (71%), older than 45 years (60%), from urban localities (75%), and died due to an unintentional event (77%). Drug classes most frequently involved in a non-opioid drug overdose death were stimulants (e.g., methamphetamine, 32%; cocaine, 28%) and non-benzodiazepine antidepressants (13%).

Females had 27% higher odds of dying of a non-opioid drug overdose than males [adjusted odds ratio (aOR)= 1.27, 95% confidence interval (CI): 1.13-1.42]. Asian Virginians had twice the odds of dying of a non-opioid drug overdose than White Virginians (aOR= 2.08, 95% CI: 1.29-3.34). Virginians 45 years and older had 2.13 times the odds of dying of a non-opioid drug overdose than those younger than 45 years (95% CI: 1.90-2.37), and rural Virginians had 1.95 times the odds of dying of a non-opioid drug overdose than urban Virginians (95% CI: 1.70-2.22). Virginians had over 13 times the odds of dying of a non-opioid drug overdose due to suicide than those who died due to an unintentional event (aOR=13.43, 95% CI: 11.01-16.39).

Conclusion: About one in six drug overdose deaths among Virginians did not involve opioids. Female sex, Asian race, older age, rural locality, and suicidal intent were associated with higher odds of dying of a non-opioid drug overdose. Development and implementation of drug overdose prevention strategies should account for non-opioid use among populations to improve drug-related health outcomes.

Authors: Lauren Yerkes, MPH, CPH; Lori Beck, MPH; Julia Mogren, MPH, CHES

When the Workforce Is Tired: Designing Programs That Support People and Practice

Presenter: Ginger Vanhoozer, MPH, BSN, RN, CIC, AL-CIP, HAI/AR Education and Training Specialist, Office of Epidemiology, Virginia Department of Health

Background: Public health agencies are operating under sustained workforce strain driven by pandemic recovery, funding reductions, expanding scope of work, and rising burnout. While meetings and training remain essential, they are often designed primarily for information transfer rather than connection, reflection, or practical integration into daily work. Supporting workforce engagement and resilience without increasing time burden requires a shift in how routine learning spaces are designed. This includes not only applying workplace learning principles, but also deliberately setting a positive tone, establishing a predictable pace, focusing on easy-to-implement deliverables, and creating space to recognize progress and celebrate success. When learning environments are designed with these elements in mind, meetings and trainings can function as supports for performance and well-being.

Methods: This presentation draws on descriptive implementation and evaluation data from three workforce-focused initiatives developed by the Virginia Department of Health Healthcare-Associated Infections and Antimicrobial Resistance Program: *Cuppa Tea with an IP*, a weekly 20-minute virtual learning series; *The Learning Lounge*, a twice-monthly peer-facilitated forum focused on reflection, professional development skills, and well-being; and the *Infection Preventionist Mentorship Program*, developed in partnership with the Association for Professionals in Infection Control and Epidemiology (APIC) Virginia Chapter. These initiatives employ workplace learning strategies grounded on mentorship, peer exchange, applied tools/learning projects, and guided reflection, to provide participants with adaptable frameworks to implement within their organizations.

Results: Since launch in 2023, *Cuppa Tea with an IP* has reached more than 6,000 total attendances across health departments, healthcare facilities, EMS, and partner organizations, with 93% of respondents saying they are somewhat or very likely to apply session content to practice. Evaluation of The Learning Lounge demonstrated strong perceived impact on workforce well-being, with 88% of respondents reporting that participation contributed positively to their well-being and resilience at work. Evaluation results demonstrate that the Infection Preventionist Mentorship Program effectively supported professional development, with 94% of participants reporting that it met their expectations, and 75% noting a moderate to substantial impact on organizational infection prevention goals.

Conclusions: These findings illustrate that workforce support does not require additional meetings or training time, but rather a redesign of how existing learning spaces are structured and facilitated. By intentionally designing for tone, pace, practical application, and celebration, routine trainings and meetings can support engagement and professional resilience. This design-centered approach offers adaptable strategies that public health and healthcare educators can use to strengthen workforce sustainability during periods of ongoing strain.

Authors: Ginger Vanhoozer and Dr. Angela Spleen

Disrupting Syphilis Transmission through Hyper-Localized At-Home Testing Initiatives in a High-Burden Health District, Crater Health District, Virginia

Presenter: Tia Sanchez, BPA, STI Health Education Senior, Crater Health District

Background: Syphilis continues to pose a critical public health challenge across the Commonwealth and Crater Health District (CHD), which includes the cities of Emporia, Hopewell, and Petersburg and the counties of Dinwiddie, Greensville, Prince George, Surry, and Sussex. Petersburg faces a particularly acute burden: its 2024 syphilis rate of 225.2 per 100,000 is nearly 3.5 times higher than the statewide average of 64.4 per 100,000 people. Virginia also reported 35 congenital syphilis cases in 2024, the highest number in more than three decades. These outcomes are exacerbated by systemic factors including housing instability, substance use disorder, and co-occurring infections, along with structural barriers such as limited transportation and social stigma. Significant gaps in primary care utilization and provider education further hinder effective screening and treatment.

Methods: To support equitable health outcomes and disrupt transmission, a shift towards hyper-localized community outreach was identified as essential given the clinical gaps and socioeconomic barriers. Upon analysis of Sexually Transmitted Infections (STI) testing practices of the district, low-income housing communities were found to have significant screening disparities. This prompted the creation of an At-Home Rapid Syphilis Test Kit pilot project to be distributed through a small-scale resource fair. In August 2025, we launched the pilot phase with 20 kits supplied by the Virginia Department of Health (VDH) Central Office to begin localized distribution efforts. Upon receipt of additional kits, community outreach locations expanded to local health department STI clinics, recovery centers, bus stops, hotels and motels, libraries, barbershops, soup kitchens, and college events. Each kit included a one-page information sheet outlining syphilis symptoms, guidance for both positive and negative results, and direct contact information for the Disease Intervention Specialist.

Results: During the resource fair at the low-income housing complex in Petersburg, 20 kits were distributed and three individuals reported reactive results (15% positivity). Between launch and December 31, 2025, a total of 128 at-home test kits were distributed to 94 individuals. Most recipients were Black/African American (85%), and 62% identified as male. Ages ranged from 19 to 78 years (mean age 44). Thirty-two recipients (34%) were women of child-bearing age (15–44 years), directly supporting congenital syphilis prevention through proactive community outreach. Two additional reactive results were later reported, for a total of five individuals linked to confirmatory testing, treatment, and partner services

Conclusion: This project shows that expanding testing beyond traditional clinic settings can identify previously undetected infections and improve continuity of care in high-burden communities. Moving forward, the district aims to scale up screening efforts and implement focused provider education to mitigate syphilis transmission and eliminate congenital syphilis throughout the region.

Linking Emergency Medical Services and Emergency Department Data for Heat-Related Illness Surveillance, Virginia, 2024-2025

Presenter: Daisy Banta, MPH, Senior Epidemiologist, Office of Emergency Medical Services

Background: Heat-related illness (HRI) is a leading cause of weather-related morbidity and death. As extreme heat events become more frequent and severe, monitoring real-time HRI trends is increasingly critical. Virginia collects timely HRI data from emergency medical services (EMS) encounters and emergency department (ED) visits, but it is unclear how much these datasets overlap. We linked EMS and ED HRI data to better understand HRI burden in Virginia and gain insights from integrating data sources.

Methods: This retrospective observational linkage study analyzed HRI EMS encounters from the Virginia Prehospital Information Bridge and HRI ED visits from Virginia ESSENCE during May–September 2024–2025. EMS encounters and ED visits were identified using system-specific HRI case definitions. We developed a probabilistic linkage protocol using patient demographics (name, birthdate, ZIP code) and encounter information (facility, arrival date/time). Match accuracy was evaluated, and linkage rates were compared across patient demographics, encounter information, and EMS case definition criteria. Linked records were classified as exact deterministic matches or fuzzy probabilistic matches. We compared patient ZIP code from the ED record and incident location from the EMS encounter.

Results: Among 5,104 EMS HRI encounters transported to Virginia EDs, 2,499 initial matches were identified. After excluding 485 demographic matches with discrepant encounter information, nine duplicate matches, and 18 incorrect fuzzy matches, the final dataset included 1,987 (38.9%) EMS HRI encounters successfully linked to ED HRI records. Linkage rates varied by hospital, incident location, patient age and gender, and EMS case definition criteria. Patient complaint key terms (67.7%) and provider primary impression (58.7%) had the highest linkage sensitivity. Of linked records, 360 (18.1%) were fuzzy matches. Integration of EMS and ED data revealed that 64% (1,275) of HRI incidents occurred outside the patient's ZIP code.

Conclusion: Despite all EMS records indicating transport to an ED, fewer than 40% of EMS HRI encounters linked to an ED HRI visit. Possible reasons for unmatched records include limitations in linkage methodology, data quality, or case definition differences. Probabilistic linkage captured additional matches beyond deterministic methods, with high completeness of matching variables. Remaining unmatched records therefore likely reflect differences in EMS and ED case definitions rather than linkage failure, suggesting the two systems capture overlapping and distinct HRI events. Reliance on one data source likely underestimates HRI burden; integrating prehospital and hospital data enhances situational awareness, improves geographic targeting, and strengthens public health response during heat events.

Authors: Daisy Banta, MPH; Meredith Davis, MPH; Alexandra Baldwin, MPH

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Special thanks to Donald Moore for coordinating the 2026 Virginia Epidemiology Seminar and ensuring the event's approval for CME.

Awards

The People's Choice Award

You will have the opportunity to vote on the presentations. Please go to the link when provided on your phone or computer and choose the one presentation from the day that you think was the best overall. You can only choose one presentation.

Diane Woolard, PhD Award

Dr. Diane Woolard received her undergraduate degree from James Madison University, her MPH from the University of Texas, and her PhD from the Medical College of Virginia. She served as the Director of the Division of Surveillance and Investigation within the Virginia Department of Health's (VDH) Office of Epidemiology in Richmond from 1985-2018, then returned to work part-time at VDH from 2020-2022 to support the public health response to the COVID-19 pandemic. Throughout her tenure at VDH, Dr. Woolard provided calm, sound leadership related to countless disease surveillance initiatives, outbreak investigations, and emergency responses in applied public health epidemiology. A teacher and mentor, she led by example and had a strong commitment to training future epidemiologists to communicate scientific information clearly, apply proper methods, and work with partners and with integrity. The Diane Woolard award is presented to the recipient who best demonstrates collaboration with public health partners, information sharing, and leadership in public health.

Grayson B. Miller, Jr., MD Award

Dr. Miller received his undergraduate degree from Duke University in North Carolina and his medical degree from the Medical College of Virginia. He became certified in internal medicine and infectious diseases. He was an officer with CDC's Epidemic Intelligence Service from 1974-1976, stationed at the Pennsylvania Health Department. He served as the State Epidemiologist for Virginia from 1977-1997 and was the director of the Crater Health District from 1997-2002. After his retirement in 2002, he came back into the VDH central office as a part-time medical consultant with Emergency Preparedness and Response, the Office of Epidemiology and Community Health Services until he decided to fully retire in 2006. Dr. Miller set an example for the epidemiologists who followed him, demonstrating how to focus on using the proper scientific methods while also understanding the practical realities of the context of each unique situation. He taught by example, demonstrating the importance of working collaboratively and with a sense of humor. The Grayson B. Miller award is presented to the recipient who best demonstrates dedication to the field of public health practice, use of epidemiologic methods, and advancements in knowledge of public health.