CSTE 2021 ANNUAL CONFERENCE

VIRTUAL CONFERENCE

JUNE 13 – 17

#CSTE2021

csteconference.org

BUILDING BRIDGES TO HEALTH

CSTE PRESIDENTIAL PRIORITIES AWARD

Established in 2018, the CSTE President sets forth a list of Presidential Priorities. These are key areas impacting the field of applied epidemiology that the organization, Executive Director, and the Executive Board work to advance during the year. Presidential Priorities change from year-to-year based on the current CSTE President. The Presidential Priorities Award is given by the CSTE President at the end of their term to recognize an individual member whose professional work advances the current Presidential Priorities. The award is typically given at the CSTE annual conference.

The 2020-2021 CSTE president is Sherri L. Davidson, PhD, MPH, Alabama State Epidemiologist and the Presidential Priorities criteria for consideration and selection are as follows:

CRITERIA FOR CONSIDERATION

1. The abstract must contribute to the **overall Presidential Priority** and in support of the Strategic Goal(s): **Demonstrating improved public health effectiveness by bridging connections**.
2. The abstract must exemplify a partnership between surveillance systems, data sources, and/or colleagues.
3. The project should contribute to improved public health partnerships and connections that are new efforts.

CRITERIA FOR SELECTING THE AWARD RECIPIENT

- Project, surveillance or outbreak response must show collaboration between states and data must be used to support this partnership.
- Presenter/presenters must be from a state, territorial, tribal, or local health department; federal employees are not eligible.
- Abstract must be selected to present an oral presentation; roundtable, poster, and late-breaker abstracts are not eligible.

CSTE PRESIDENTIAL PRIORITIES
AWARD FINALIST

PRESENTER

SUZANNE N. GIBBONS-BURGENER
Wisconsin Department of Health Services

#14536 Histoplasmosis Outbreak Linked to Island with Abundance of Waterbirds in Door County, Wisconsin**

SESSION Infectious Disease I - Steeling the Spotlight from COVID-19: Emerging and Miscellaneous Infectious Diseases

PRESENTATION **June 15 - 1:00pm**

ABSTRACT

BACKGROUND

Histoplasmosis is an environmentally acquired fungal infection commonly associated with soil contaminated with bat or bird droppings. During May 2019, Door County Public Health (DCPH) in Wisconsin received a report of *Histoplasma* infections in two residents. Both patients reported going to an island in Door County with an abundant waterbird population. The Wisconsin Division of Public Health (DPH), Centers for Disease Control and Prevention (CDC), and DCPH conducted an investigation to confirm the source of the outbreak, find other exposed individuals, and provide recommendations to prevent additional cases of histoplasmosis.

METHODS

DCPH conducted routine histoplasmosis case follow-up interviews which identified additional visitors to the island and potential sites of exposure on the island. A structured questionnaire was used to assess specific activities and factors that may increase a person's risk of becoming ill. DPH and CDC collected soil samples from the island. DNA from the soil samples was extracted and tested using *Histoplasma*-specific qPCR targeting the 100 kDa protein. Geographical coordinates were collected with each sample, and QGIS analysis was utilized to determine the presence of clustering patterns associated with positive samples. Serologic testing was offered to visitors of the island to assess immune response to *Histoplasma* exposure.

RESULTS

Case follow-up revealed that both patients had common exposures on an island in Door County, which led to an outbreak investigation. Among the ten people who visited the island during 2019, two met the CSTE/CDC surveillance case definition for confirmed histoplasmosis and one met the possible case definition. Based on interviews from 8 people, activities involving soil disruption and handling bird nesting material were associated with developing clinical illness, particularly in persons with limited previous environmental exposure. *Histoplasma capsulatum* DNA was detected in soil sampled from 34 (61%) of 56 collection sites on the island including sites where soil disruption was reported. Serologic testing did not indicate recent, active infection among asymptomatic individuals.

CONCLUSIONS

Environmental testing from sites where soil disruption occurred confirmed the hypothesis generated by the epidemiologic investigation. Though *H. capsulatum* is present throughout the Americas, to our knowledge this is the first published report with detection of *H. capsulatum* DNA in soil associated with illness in the United States. Findings from the epidemiologic and environmental investigations support the evidence-based public health response to increase awareness and prevention of histoplasmosis among residents, travelers and healthcare professionals in Door County and areas with similar habitats.

CSTE PRESIDENTIAL PRIORITIES
AWARD FINALIST

PRESENTER

AHMED ISMAIL
Kansas Department of Health and Environment

#14590 Burden of Lung Cancer in Kansas**

SESSION Chronic Disease / MCH / Oral Health II [on-demand] - Examining Disease Burden

PRESENTATION **June 15 - 1:30pm**

ABSTRACT

BACKGROUND

Lung cancer is the leading cause of cancer death and the second most common cancer diagnosed among both men and women in the US. The aim of this study was to examine the lung cancer screening prevalence, 5-year incidence and mortality, trend of the annual incidence and mortality, and 5-year relative survival rates in Kansas.

METHODS

SAS 9.4 complex survey procedures were used to calculate the prevalence of lung cancer screening using 2019 Kansas Behavioral Risk Factor Surveillance System (KS BRFSS) according to the United State Preventive Services (USPSTF) Guidelines. The guidelines recommend annual screening with low-dose computed tomography of adults 55-80 years who have a 30 pack-year smoking history and currently smoke or have quit smoking within the past 15 years. In addition, both Kansas Cancer Registry (KCR) and Kansas Vital Statistics (KVS) data were analyzed using SAS 9.4 SQL and Standard Rate procedures to calculate lung cancer incidence, mortality, and 5-year relative survival rates.

RESULTS

In 2019, 13.5% of Kansas adults received screening for lung cancer according to the USPSTF guidelines. The 5-year lung cancer overall incidence, late-stage incidence, and mortality rates in Kansas were 57.5, 42.0, and 42.6 per 100,000 persons, respectively. The lung cancer overall incidence, late-stage incidence, and mortality rates were significantly higher among male (66.6, 49.4, 51.6), black (71.1, 51.9, 51.6), and non-Hispanic (57.2, 41.9, 41.6) populations compared with female (50.8, 36.2, 35.7), White (57.0, 41.6, 35.7), and Hispanic (23.6, 18.6, 18.0) populations, per 100,000 persons, respectively. The trend analysis of the annual lung cancer overall incidence, late-stage incidence, and mortality rates showed significant annual decrease of 1.4%, 1.0%, and 2.8%, respectively, over the years from 2005 to 2017. The overall 5-year relative survival rate of lung cancer in Kansas was 18.7%. The rate was significantly higher among females (21.8%) compared with males (16.0%). Finally, the survival rate deteriorated with the severity of lung cancer stage and with increasing age of cancer cases.

CONCLUSIONS

About 1 in 7 Kansans were screened for lung cancer according to USPSTF guidelines and less than 1 in 5 lung cancer cases survived for 5 years. In addition, there is a disparity in population lung cancer indicators among male, black, urban, and non-Hispanic populations. There is a need in Kansas for enhanced lung cancer screening and treatment strategies to promote early detection and survival among lung cancer cases, especially among groups showing disparities.

CSTE PRESIDENTIAL PRIORITIES
AWARD FINALIST

PRESENTER

SUJATA JOSHI
Northwest Portland Area Indian Health Board

#14078 Assessing Misclassification of American Indian/Alaska Native People in Washington's Syndromic Surveillance Data*,**

SESSION Surveillance / Informatics II - Traversing the SyS-pension Bridge: Syndromic Surveillance Efforts in Detection, Reporting, and Analysis

PRESENTATION **June 14 - 1:10pm**

ABSTRACT

BACKGROUND

American Indian/Alaska Native (AI/AN) people are often misclassified as White or other races in public health data, resulting in the underestimation of disease burden and health care utilization in this population. Probabilistic linkages with tribal registries are an effective tool for addressing AI/AN misclassification in surveillance datasets, but to date have not been applied to syndromic surveillance data. In this study, we assessed the effect of AI/AN misclassification in Washington hospital visits by linking the Northwest Tribal Registry with four months of hospital visits captured in the State of Washington's syndromic surveillance program (Rapid Health Information NetwOrk (RHINO)).

METHODS

We used Match*Pro to conduct a probabilistic linkage between the Northwest Tribal Registry (a demographic dataset of AI/AN patients registered at Indian Health Service, tribal, and urban Indian clinics in Idaho, Oregon, and Washington; N = 259,281) and an extract of personal identifiers for visits between 5/15 and 9/19/2020 in Washington's RHINO system (N = 1,428,289). The datasets were matched using patient name, date of birth, sex, and zip code. After identifying matched records between the two datasets, we merged the results with a dataset of de-identified hospital visits between 5/15 and 9/15/2020. We analyzed this dataset to assess the effect of AI/AN misclassification on counts and rates for overall hospital visits and visits for selected CC and DD categories.

RESULTS

The linkage identified 9,443 misclassified records (i.e., records that matched with the tribal registry but had no indication of AI/AN race in the visit record). The majority (73.6%) of misclassified records were originally coded as White. During 5/15 to 9/15, misclassification underestimated the total visit count and rate for AI/AN in Washington by 36.6%. The effect of misclassification on counts for specific CC and DD categories varied. The percent changes in counts due to misclassification were lower for coronavirus diagnosis (17.6%), COVID-like illness (20.1%), and alcohol related visits (20.1%), and higher for suicidal ideation (38.8%), traffic-related (42.8%), and disaster-related mental health visits (46.5%).

CONCLUSIONS

Our findings indicate that over one-quarter of AI/AN hospital visits in Washington may be undercounted due to misclassified race information in the patient's medical record. Our findings contribute to the body of knowledge of misclassification of AI/AN people in health datasets, and can help inform the interpretation of syndromic surveillance data findings for the AI/AN population in Washington. These findings will be used to inform race/ethnicity data quality improvement efforts in Washington State and nationally.

CSTE PRESIDENTIAL PRIORITIES
AWARD FINALIST

PRESENTER

BRYANT THOMAS KARRAS
Washington State Department of Health

#14943 Western States Learning Collaborative Pact for COVID-19 Exposure Notification Express**

SESSION Cross Cutting – A Real-Time Unveiling of the Effects of being Exposed and Vulnerable during COVID-19

PRESENTATION **June 14 - 1:10pm**

ABSTRACT

BACKGROUND

Privacy-preserving Bluetooth-based exposure notification (EN) technologies have been developed by Google and Apple to supplement and enhance conventional contact tracing efforts by: improving timeliness, alerting close contacts of COVID-19 cases, and expediting delivery of information and recommendations to close contacts of COVID-19 cases. The opportunity to bring EN to public health response in the US has presented challenges to states due to lack of data supporting the effectiveness of such tools for pandemic control and a lack of best practices related to implementation of such programs within state public health agencies.

METHODS

In the Summer of 2020, the Western States of Washington, Oregon, California and Colorado began meeting weekly, effectively forming an EN learning collaborative to share data and information related to: 1) political decision-making around adoption of EN; 2) university launches and testing risk model settings; 3) statewide rollout planning; 4) metrics and dashboards; 5) multi language communication strategies; and 6) lessons learned and evaluation.

RESULTS

The participating Western states engaged in collaborative discussion and decision-making regarding selection of an EN tool, system configuration, launch timing, pilot testing, marketing and sharing of lessons learned during weekly meetings. Each state offered valuable perspectives to assist the others in their various stages of adoption. For example, Oregon served a coordinating function for the collaborative. Washington modeled community advisory committee oversight and a focus on equity & accessibility. Colorado offered critical lessons learned having been first of our group to launch and first to adopt a bulk texting of EN verification codes to positive cases. California shared valuable lessons learned as first to pilot test the EN system and first to launch a dedicated hotline to avoid burdening their local health jurisdictions. In this presentation, we report on the highest priority lessons learned through the EN Western States Collaborative and the benefits of interstate collaboration to launching an innovation during the COVID-19 public health emergency. After launching: CO Exposure Notifications "addyourphone" has had over 1.4 million activations; WANotify over 1.6 million; and CANotify over 8 Million.

CONCLUSIONS

Lack of evidence-based best practices and/or federal guidelines for implementation of novel smartphone-based Bluetooth EN technology for COVID-19 response resulted in grassroots organization of Western states into a Bluetooth EN learning collaborative. The result was improved confidence in each states' deployment, aligned strategies and plans, and a model of interstate support and collaboration for a high profile and priority public health response.

CSTE PRESIDENTIAL PRIORITIES
AWARD FINALIST

PRESENTER

RANY OCTARIA
Vanderbilt University, Tennessee Department of Health

#14711 Data-Driven Daily COVID-19 Potential Cluster Detection in Tennessee: Leveraging Geographic Information System and Automated Programming**

SESSION Surveillance / Informatics II - Public Health on the Case: Using Informatics to Detect COVID-19 in High Priority Settings

PRESENTATION **June 16 - 1:00pm**

ABSTRACT

BACKGROUND

In January 2020, the Tennessee Department of Health (TDH) established an Incident Command Structure (ICS) to monitor and support the COVID-19 response. The ICS Operations branch included a data stewards (DS) team to analyze and distribute COVID-19 data and a cluster team to manage the tracking and follow-up of COVID-19 clusters after receiving notification from Metro and regional health departments. A cluster was defined as two or more epidemiologically linked cases that are not household contacts. With thousands of new cases reported statewide daily, it became unsustainable to rely only on manual identification and notification of clusters. To complement the cluster detection effort, DS used data-driven approaches to identify potential facility-based clusters.

METHODS

Addresses of COVID-19 cases were geocoded daily using a task scheduled Python script and a TDH-hosted Tennessee locator in ArcGIS. The resulted coordinates were assigned into standardized addresses. A SAS program generated a line list of daily new cases, counts the number of new cases for each address and cross-referenced them to the database of registered long-term care facilities (LTCF) and state-run correctional facilities. Potential clusters were identified when two or more new cases were reported in an address registered to an LTCF or correctional facility, or if reported by laboratories only conducting testing for correctional facilities. To capture other facility types, addresses with five or more new cases were tentatively flagged for manual confirmation using internet searches. The SAS program compared the daily list of potential clusters with recently identified clusters and removed addresses which were flagged in the last 30 days from new cluster output. Automated emails listing the potential clusters were sent to the cluster team for follow up with a regional point of contact.

RESULTS

The cluster detection procedure has been employed and undergone gradual improvements since July 2020. During a 45-day period from November 6 to December 21, 2020, the cluster detection procedure accounted for 40% (235 of 582 total) of the new clusters identified by all methods. Seventy-nine (34%) out of 235 of the clusters identified by data-driven process were manually confirmed using internet searches.

CONCLUSIONS

This semi-automated data driven COVID-19 cluster detection process reduced the burden of manual cluster identification in Tennessee. We continue to improve the procedure to increase efficiency while maintaining accuracy.