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Let the Sun Shine:
Using Data to Weather the Storms

2018 CSTE Annual CONFERENCE

RWJF AWARD

CSTE AWARD IN ADDRESSING RACIAL AND ETHNIC DISPARITIES

This is the eleventh annual presentation of the "Robert Wood Johnson Foundation (RWJF) National Award for Outstanding Epidemiology Practice in Addressing Racial and Ethnic Disparities" by the Council of State and Territorial Epidemiologists (CSTE). This award was established to recognize an individual presenter at the CSTE Annual Conference whose professional work advances public health knowledge through epidemiology and applied research in racial and ethnic disparities and improves public health practice through effective use of data and epidemiology.

There were 1,015 abstracts submitted for participation in the 2018 CSTE Annual Conference. In total, 16 abstracts were considered for the award. Of those abstracts that met the criteria for consideration, five finalists were chosen.

CSTE Health Disparities Subcommittee co-leads, Duc Vugia and Jim Hadler convened a panel of judges to select the five finalists from abstracts submitted to the CSTE Annual Conference Planning Committee. Judges used the following criteria for selecting the award recipient:

- Impact of work to the field of eliminating health disparities
- Contribution/Translation to practice
- Policy Implications for evoking long term change in eliminating and preventing health disparities
- Quality of poster or breakout session presentation

CSTE will present one of the finalists a plaque to commemorate this eleventh annual award together with an honorarium valued at $1,000. The award will be presented on Tuesday, June 12th at the CSTE President's Banquet. Presentations are indicated on the program agenda with double asterisks (**).

ABSTRACT REVIEW COMMITTEE

CSTE is appreciative of the review committee who volunteer their time to make this award a reality. The role of the review committee is to review and score the eligible abstracts submitted to the CSTE Annual Conference Planning Committee and review and score the finalist presentations for the RWJF Award winner. If you are interested in participating on this committee, please contact the CSTE national office. The 2018 RWJF Award Review Committee consists of the following professionals:

Duc J. Vugia, MD, MPH is Chief of the Infectious Diseases Branch at the California Department of Public Health.

James L. Hadler, MD, MPH is a consultant to the Connecticut Emerging Infections Program and to the NYC Department of Health.

Elizabeth L. Lewis-Michl, Ph.D., is Director of the Division of Environmental Health Assessment in the Center for Environmental Health at the New York State Department of Health.

Khosrow Heidari, is a Senior Epidemiologist in the Bureau of Drug Control at the South Carolina Department of Health and Environmental Control.

Robert Graff, PhD, is the Chronic Disease Epidemiology and Surveillance Director at the Idaho Department of Health and Welfare Division of Public Health.

ERIKA CATHEY, MPH

Florida Department of Health

Erika Cathey is a Biological Scientist at the Florida Department of Health in Okaloosa County, Florida. After completing her Master of Public Health (MPH) degree at the University of West Florida, Mrs. Cathey served as a Florida Epidemic Intelligence Service Fellow (EIS) from 2013-2015 where she conducted a ten-year retrospective study of *Vibrio vulnificus* infections and managed data for a large tuberculosis contact investigation involving two hospitals. Her research interests include infant and maternal health, health disparities, and infectious disease. Prior to her epidemiology career, Mrs. Cathey served as a Hospital Corpsman in the U.S. Navy.

#9313 Using Community-Level Data to Reveal Disparities in Infant Mortality Rates, Okaloosa County, 2004-2016 **

SESSION Chronic Disease/MCH/Oral Health II-
Breakout Session: Health Equity & Disparities in MCH

PRESENTATION **June 12 - 4:44 PM**

Abstract

BACKGROUND

Infant mortality rates (IMR) are often used as indicators of the health of a population. Disparities in IMR between racial and/or ethnic groups can indicate underlying structural and social inequities. The aim of this study was to identify communities within Okaloosa County with high IMRs and racial disparities, determine whether infant deaths in those areas were preventable, and highlight areas for targeted intervention to reduce infant mortality and improve health equity.

METHODS

Linked births to infant deaths records for Okaloosa County from 2004-2016 were requested from the Florida Bureau of Vital Statistics. Deaths were stratified by race, categorized as preventable (accidental deaths and homicides) or non-preventable (natural causes), and mapped using ArcGIS. Census tracts based on mother's residence were combined to represent communities which share similar socioeconomic features. Birth and death certificate variables were analyzed to describe risk factors for infant death. Analysis was performed using SAS 9.4. Unadjusted relative risk ratios and 95% confidence intervals were calculated using Open Epi.

RESULTS

A total of 34,986 births and 198 infant deaths were analyzed. The IMR for this cohort was 5.7 deaths per 1,000 live births, below the Healthy People 2020 goal of 6.0. Infants born to Black mothers in Okaloosa County were significantly more likely to die before their first birthday (RR=2.8, 95% CI: 2.01-3.89) than infants born to White mothers. The IMR in one community was significantly higher than other communities (IMR=7.6, RR=1.4, 95% CI: 1.01-1.89) with a high Black-White IMR ratio (RR=3.75, 95% CI: 2.13-6.61). Analysis of preventable deaths revealed clusters in the same community: 8 (40%) of 20 sleep-related deaths and 6 (86%) of 7 infant homicides occurred within the identified community during the study period. Risk factors for infant death in these communities included the birth mother having less than a high school education (RR=2.1, 95% CI: 1.16-3.82) and not having a birth father listed on the infant's birth certificate (RR=2.8, 95% CI: 2.06-3.95).

CONCLUSIONS

A county IMR is a useful benchmark for comparing the health of a county with the state and nation; however, this study demonstrates that a comprehensive, sub-county level analysis of IMR and racial disparities can help counties target areas to direct resources to communities with the greatest need. Identifying clusters of preventable infant death and risk factors for death within communities provides county leadership the ability to plan strategic interventions to efficiently reduce infant mortality and increase health equity.

RWJF FINALIST

NATALIE E. DEMETER, MPH

CDC/CSTE Applied Epidemiology Fellowship Program, California Department of Public Health

Natalie Demeter is an epidemiology fellow at the California Department of Public Health (CDPH) as part of the Applied Epidemiology Fellowship Program administered by the Council of State and Territorial Epidemiologists (CSTE) and funded through the Centers for Disease Control and Prevention (CDC). She is placed with the Occupational Health Branch and the Environmental Health Investigations Branch at CDPH. She has conducted work in occupational, environmental, and injury epidemiology, including examining racial disparities among asthma outcomes, workplace violence among healthcare workers, and conducting occupational fatality investigations. Natalie received her MPH in epidemiology from the UCLA Fielding School of Public Health.

#8969 Racial Disparities in Asthma Outcomes in California, 2005-2015 **

SESSION Cross Cutting - Lightning Session: Health Disparities and Vulnerable Populations

PRESENTATION **June 11 - 2:10 PM**

Abstract

BACKGROUND

Racial disparities exist in asthma prevalence in the United States and have been targeted for interventions to reduce preventable asthma-related outcomes (e.g. emergency department (ED) visits and hospitalizations). Evidence suggests that ED visits and hospitalizations are indicators for uncontrolled asthma. The objective of this analysis is to describe racial disparities in asthma outcomes in California (CA) using population-based rates and at-risk rates (rates of asthma outcomes only among those who reported having asthma). By removing the effect of differences in asthma prevalence between racial/ethnic groups, at-risk rates can identify racial disparities in asthma control.

METHODS:

Counts of asthma-related ED visits and hospitalizations were obtained from the California Office of Statewide Health Planning and Development for 2005–2015. Estimates of active asthma prevalence for the same years from the California Health Interview Survey were used as denominators to calculate annual statewide at-risk rates and 95% confidence intervals (CIs). For comparison, annual statewide population estimates from 2005–2015 from the California Department of Finance were used to calculate population-based rates. The racial/ethnic groups examined across all datasets included non-Hispanic white (white), non-Hispanic black (black), and Hispanic.

RESULTS:

For each year within the study period, blacks had the highest prevalence of active asthma (range 108–156 per 1,000), followed by whites (range 77–96 per 1,000), and then Hispanics (range 60–78 per 1,000). Across all races, at-risk rates for asthma hospitalizations ranged from 8.2 (95% CI 7.5–8.9) to 12.3 (95% CI 11.5–13.1) per 1,000 asthmatics. At-risk rates for ED visits ranged from 53.5 (95% CI 51.1–55.9) to 63.4 (95% CI 59.4–67.4) per 1,000 asthmatics. Among all racial/ethnic groups and across all years, blacks had the highest population-based rates and at-risk rates for both hospitalizations and ED visits. For hospitalizations, whites had higher population-based rates than Hispanics, but Hispanics had higher at-risk rates than whites across all years. For ED visits, both population-based and at-risk rates for Hispanics were higher than for whites during the entire study period.

CONCLUSIONS:

In general, higher at-risk rates for severe asthma outcomes among black and Hispanic Californians indicate racial disparities in asthma control. Interestingly, higher at-risk hospitalization rates, coupled with lower population-based rates, for Hispanics compared to whites suggest higher rates of uncontrolled asthma despite lower asthma prevalence. Utilizing at-risk rates in asthma surveillance can identify racial disparities in preventable asthma outcomes and may help target interventions among those with higher rates of severe asthma outcomes.

RWJF FINALIST

JUNWEI JIANG, MPH

Florida Department of Health

Junwei Jiang currently serves as the Emergency Medical Services (EMS) Epidemiologist in the Florida Department of Health, Bureau of Emergency Medical Oversight. His major responsibility is to perform statistical analyses on various health topics by using the EMS, Vital Statistics, Emergency Department (ED) and In-Patient data as well as related cross-linked data sets. He received a Master of Public Health (MPH) degree majoring in Epidemiology from Tulane University in New Orleans in 2013, prior to joining Florida Department of Health.

#10210 Racial Differences on the Identification of Stroke during EMS Service in Florida **

SESSION Chronic Disease / MCH / Oral Health - Poster Board #213

PRESENTATION **June 13 - 10:00 AM**

Abstract

BACKGROUND

Every year more than 795,000 people in the United States have a stroke and it kills nearly 130,000 Americans. Stroke is the fifth leading cause of death and a leading cause of disability in Florida. Moreover, the risk of having a stroke varies with race and ethnicity. Risk of having a first stroke is nearly twice as high for Blacks than for Whites, and Blacks are more likely to die following a stroke than are Whites. Hispanics' risk for stroke falls between that of Whites and Blacks. As stroke is an acute and severe medical condition which require urgent intervention, a quick and accurate diagnosis/recognition plays a crucial role in the treatment of stroke, especially among the minority population. In this study, we investigate the racial/ethnic disparities on the identification stroke during emergency medical services (EMS).

METHODS

EMS data from 2010 to 2014 was selected and linked to the hospital discharge data (ED and in-patient) using a pre-determined matching algorithm (Social Security number and date of admission were included). Cases were determined as 'confirmed stroke' with any of the diagnosed codes indicated "ICD-9-CM (International Classification of Diseases, Ninth Revision, Clinical Modification): 434.91- Cerebral infarction due to unspecified occlusion or stenosis of unspecified cerebral artery". EMS primary/secondary impression indicated 'stroke', as well as activation of stroke alert was used to define a EMS stroke diagnosis. Multivariate regression was performed to establish the association between race/ethnicity and stroke identification. Age and sex were added as potential confounders.

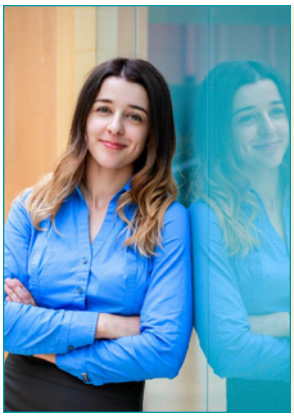
RESULTS

5,025,408 records with both EMS and hospital information were available for analysis. This is roughly 50% of the EMS records for that time. Among these cases, 50,742 were confirmed as stroke (ICD-9-CM: 434.91) and were treated and transported by EMS; approximately 62.4% Whites, 14.7% Blacks, 8.6% Hispanics and 14.4% other races. Of all these cases, 38.35% were identified as stroke by EMS. After controlling sex and age for confounding effects, Whites (40.43%) were more likely to be accurately recognized as stroke compared to Blacks (34.45%, OR=0.768, CI:0.726-0.812, P<0.0001), Hispanics (31.44% OR=0.678, CI:0.632-0.728, P<0.0001) and other races (38.70%, OR=0.932, CI:0.883-0.984, P<0.0105).

CONCLUSIONS

Racial/ethnic disparities exist in the EMS stroke case diagnosis. Even though, Blacks and Hispanics often have poor outcomes from stroke when compared to Whites, quick recognitions during emergency medical service are lower than for Whites. Interventions are needed to diminish disparities and increase health equity.

RWJF FINALIST



CHRISTINA JESSICA MRUKOWICZ, MPH

Maricopa County Department of Public Health

Christina Mrukowicz is the Health Economics Epidemiologist at the Maricopa County Department of Public Health located in Phoenix, Arizona. Some of her projects have included cost analyses based on hospitalization data, analyzing maternal health outcomes, and compiling trends on child maltreatment. Prior to holding this position she graduated from the University of Michigan with a Master's in Public Health in Epidemiology, where she also worked with a team that was evaluating Medicaid expansion in the state of Michigan. In her spare time she enjoys hiking, biking, and reading.

#9897 Emergency Department Use in Maricopa County Suggests Racial and Ethnic Disparities in Access to Primary Care **

SESSION Cross Cutting - Lightning Session: Health Disparities and Vulnerable Populations

PRESENTATION **June 11 - 2:05 PM**

Abstract

BACKGROUND

Primary care access and utilization are linked to better health outcomes, yet racial and ethnic disparities in access to primary care have led to poorer health outcomes for minority groups that rely more on Emergency Departments (ED) for usual care. Health insurance coverage can lead to increased utilization of the ED as opposed to increased use of primary and preventative care. Arizona expanded Medicaid under the ACA in 2014, but did not include any specific provisions for linking enrollees to primary care. Therefore, this study examines whether ED utilization for health conditions that are treatable in primary care settings changed before and after Medicaid expansion in Maricopa County, AZ and whether racial and ethnic disparities in utilization changed as a result.

METHODS

We utilized the New York University ED Visit Classification algorithm to calculate the frequency of ED visits for primary care treatable (PCT) conditions. These are conditions that, according to emergency medicine physicians, did not require care within 12 hours and could have been provided safely in a non-ED setting. We analyzed data on all ED visits in Maricopa County, AZ from 2010 through 2016. Population-standardized ED visit rates were calculated for non-Hispanic-white, non-Hispanic-black, and Hispanic populations. We then calculated rate ratios for non-Hispanic-black vs. non-Hispanic-white populations and for Hispanic vs. non-Hispanic-white populations for both 2010 and 2016, pre- and post-Medicaid expansion.

RESULTS

Total PCT ED utilization increased by 15.6% post-Medicaid expansion ($p<.001$) and also increased for each of the race/ethnicity groups. The Hispanic vs. non-Hispanic-white rate ratio did not change significantly after Medicaid expansion (1.24 in 2010; 1.24 in 2016; $p=0.75$). The non-Hispanic-black vs. non-Hispanic-white rate ratio for PCT ED visits decreased between 2010 and 2016; however, the disparity remained as blacks are still more than twice as likely as whites to use the ED for PCT conditions (2.40 in 2010; 2.28 in 2016; $p=.0002$).

CONCLUSIONS

PCT ED utilization increased significantly post-Medicaid expansion across all race/ethnicity groups. However, racial/ethnic disparities remain; Blacks are more than twice as likely and Hispanics are 25% more likely than whites to seek care for PCT conditions in the ED. Our findings demonstrate a need to address barriers to primary care utilization in addition to ensuring access to health insurance for all racial/ethnic groups, as this might help to narrow gaps in health disparities and outcomes.

RWJF FINALIST

TAMARA SONIA RUSHOVICH, MPH

Chicago Department of Public Health

Tamara Rushovich is an epidemiologist at the Chicago Department of Public Health (CDPH) with a focus on substance use and behavioral health epidemiology. Tamara began her tenure at CDPH as a Class XIII SAMHSA/CSTE Applied Epidemiology Fellow where she conducted a Behavioral Health Services Capacity Assessment and spearheaded the analysis of medical examiner records to better understand opioid overdose deaths in Chicago. As a CDPH employee, she has continued to delve into the analysis of opioid overdose data, including partnering with neighboring jurisdictions to describe the regional epidemic. She also leads the evaluation team of the trauma informed transformation project at CDPH and oversees the hospital discharge datasets. In her free time, Tamara enjoys exploring Chicago by bike and through its amazing food!

#10028 Opioid Overdose Deaths in Chicago: An Investigation into the Role of Race, Place, and Economic Hardship **

SESSION Substance Use - Lightning Session: Riding the Waves of Drug Overdose Data

PRESENTATION **June 11 - 2:30 PM**

Abstract

BACKGROUND

Understanding the epidemiology of opioid-related overdose deaths has direct implications on communications, funding, and interventions. According to CDC, the national rate of overdose death involving opioids was higher among non-Hispanic (NH)-Whites than NH-Blacks and Hispanics for all categories of opioids. This study aimed to elucidate the unique characteristics of the opioid epidemic in Chicago by examining the race-ethnicity, socioeconomic conditions, and residence location of the decedent.

METHODS

This descriptive study reviewed medical examiner records for all 741 individuals who experienced a fatal opioid-related overdose in Chicago in 2016. Demographic information, address of residence, and type of opioid contributing to the death were utilized. Level of economic hardship, a standardized index developed by the Nelson A. Rockefeller Institute of Government, was calculated for each individual based on the decedent's location of death. Age-adjusted rates of opioid-related overdose death were calculated city-wide by race-ethnicity, opioid type, and community level economic hardship. Deaths were stratified by address of residence (residence in Chicago compared to residence in adjacent suburban Cook County).

RESULTS

In 2016, the rate of fatal opioid-related overdose in Chicago was higher among NH-Blacks (39.3 per 100,000) compared to NH-Whites (25.1 per 100,000) and Hispanics (16.5 per 100,000) and higher in communities with high economic hardship (44.1 per 100,000) compared to medium (21.0 per 100,000) and low (16.4 per 100,000) economic hardship. The rate of overdose deaths involving opioid pain relievers (e.g. oxycodone, hydrocodone) was highest among NH-Whites, while the rates involving heroin, fentanyl, or methadone were all highest among NH-Blacks. The majority (52%) of Chicago residents who died of an opioid-related overdose were NH-Black, while the majority (59%) of suburban Cook County residents who died of an opioid-related overdose in Chicago were NH-White (59%).

CONCLUSIONS

The differences in demographic groups experiencing high rates of opioid-related overdose death in Chicago compared to the U.S. overall support the need for and use of local data when determining policy directions and response efforts. The multi-jurisdictional dynamic of the epidemic underscores the importance of collaboration across agencies. Highlighting the severe impact on the African American community and communities experiencing high economic hardship in Chicago can better inform public perception and support the inclusion of this community in prevention, intervention and treatment decisions.