Opioid Crisis Trends in Georgia: Using Data Management Systems to Better Inform Public Policy

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INTRODUCTION

The nationwide opioid epidemic is arguably the most consequential public health crisis of the new millennium. With over 47,000 deaths in 2017, fatal opioid overdoses claimed more lives than motor vehicle accidents or gun violence in the United States. The same year, Georgia recorded 1014 opioid overdose fatalities - the highest ever in the state's history. Unfortunately at this time, a dearth of medical and epidemiological literature exists analyzing the scope of the epidemic in Georgia. This presentation will investigate trends in fatal opioid overdoses in Georgia using a robust healthcare data management system: Center for Disease Control's (CDC) WONDER.

METHODOLOGY

Using CDC WONDER, a cohort of all fatal opioid overdoses (ICD Codes: X40-44, X60-64, X85, Y10-14, T40.0, T40.1, T40.2, T40.3, T40.4, T40.6) in Georgia from 1999 – 2017 was obtained (N=10,070). The group was then stratified by race (white, black, Asian/Pacific Islander, American Indian/Native Alaskan), sex, age, and overdosed opioid type (heroin, organic pharmaceutical opioids, methadone, non-tramadol synthetic opioids e.g. tramadol fentanyl, and other/unknown narcotics). Time series analyses were used to determine trends, two-sided Chi-square tests with statistical significance set to $p<0.05$ used to compare opioid mortality proportions from different years and mortalities between age groups. Lastly findings were correlated to geography to ascertain if urbanization was associated with opioid mortality.

RESULTS

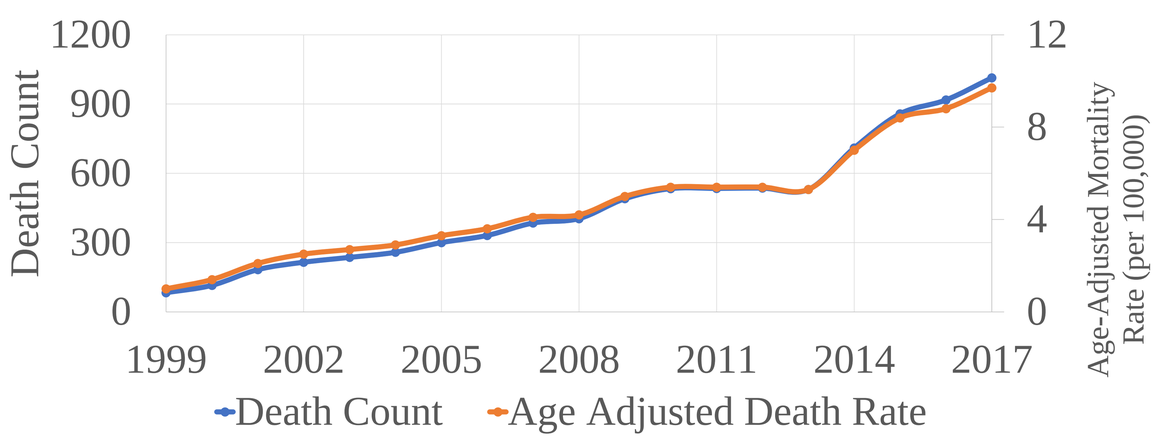

Figure 1: Absolute Deaths (left, blue) and Age-Adjusted Mortality Rates (right, orange) from Opioid Overdose in Georgia (1999-2017)

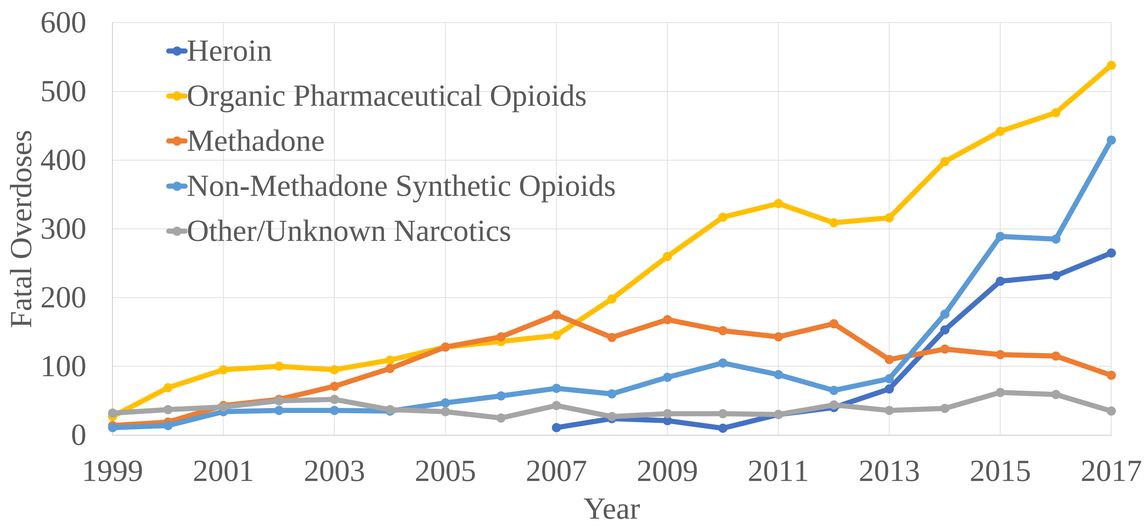

Figure 2: Trends in Fatal Overdose from Different Types of Opioids (1999-2017)

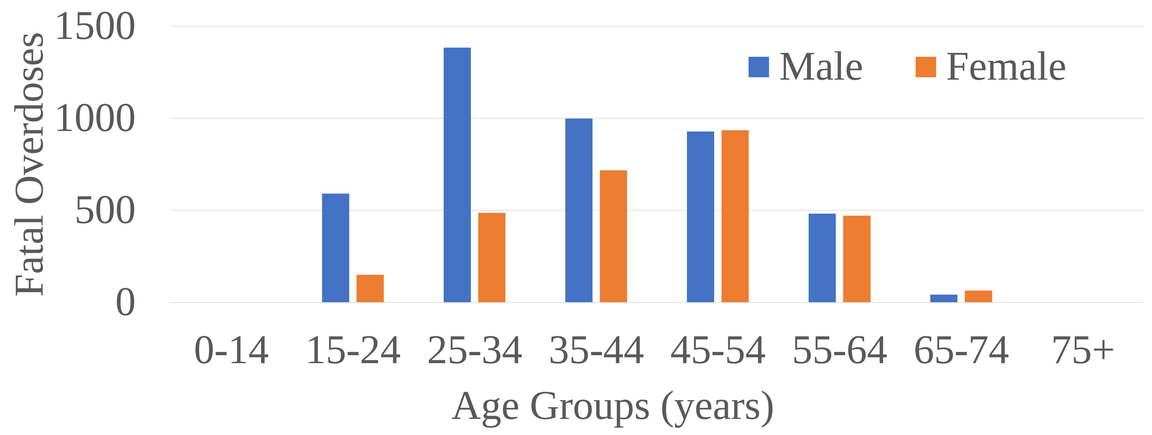

Figure 3: Fatal Opioid Overdoses by Age Group and Sex in Georgia (2010-2017)

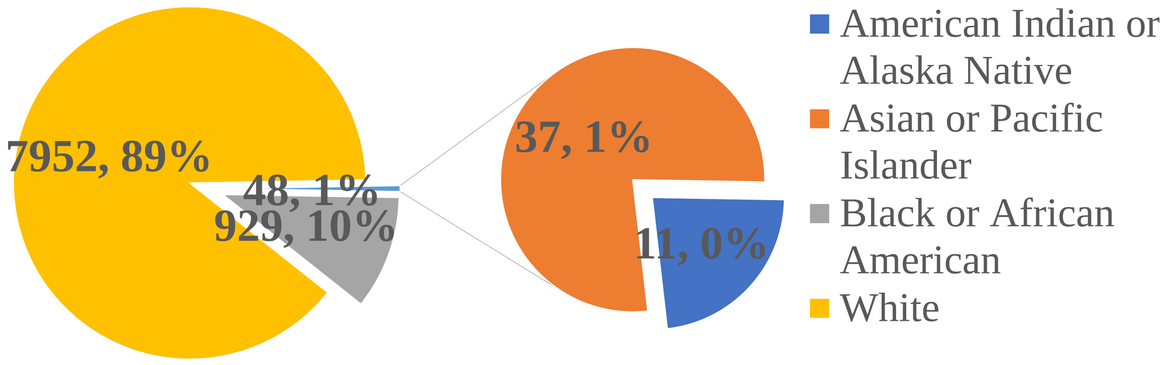

Figure 4: Fatal Opioid Overdoses by Race in Georgia (1999-2017)

Location	Deaths	Percent
Fulton County, GA	637	11%
Cobb County, GA	420	7%
Gwinnett County, GA	397	7%
DeKalb County, GA	272	5%
Cherokee County, GA	196	3%
Paulding County, GA	162	3%
Richmond County, GA	140	2%
Forsyth County, GA	136	2%
Chatham County, GA	134	2%
Clayton County, GA	133	2%

Figure 5: Fatal Opioid Overdoses by County in Georgia (2010-2017)

ANALYSIS

Approximately 1056 fatal opioid overdoses occurred in 2017, up 192% from 550 deaths in 2010. Fatal overdoses from heroin and synthetic accounted for only 2% and 17% of total deaths in 2010 but magnified to 20% and 32% by 2017 ($p<0.05$). Beginning 2013, heroin and synthetic opioids such as fentanyl together drove Georgia opioid mortality sharply higher. Among different age groups, Georgians aged 25-34yrs males experienced the highest mortalities compared to other females within the same age group ($p<0.05$) and to males and female in the 35-44yrs and 45-54yrs groups ($p<0.05$). Correlating fatalities to geography found urban areas in Atlanta, Augusta, and Savannah to have the highest mortality rates.

CONCLUSION

Georgians have experienced an unprecedented surge in mortality from opioid-related overdoses in recent years. With robust healthcare data management systems, however, new research endeavors are poised to generate more thorough epidemiological reports that will better inform local and state health policy.

REFERENCES
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3. CDC WONDER. CDC WONDER. https://wonder.cdc.gov/. Published 2019. Accessed March 1, 2019.