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Abstract: 250 words or less, up to 5 search terms

Background:hello

Methods:

Results:

Conclusions:

Key words: Butler County, Overdose, Opioid, Death, Ohio

Introduction

From 1999-2017, almost 400,000 people died from an overdose involving any opioid, including prescription and illicit opioids **1**. In 2016, Ohio had the second highest rate of drug overdose deaths **2**. Out of 88 counties in Ohio, Butler County, had the third largest rate of drug overdose deaths **3**. This article highlights the development of a data visualization application designed to provide public access to this crucial information about Butler County in a more user friendly manner. The Butler County Overdose Deaths application is an interactive application that enables users to analyze the overdose deaths data for Butler County, Ohio. By publicizing this data, the Bulter County community and other communities can be more knowledgeable

of this epidemic.

The Butler County Overdose Deaths application was created as a result of an undergraduate senior capstone project. In April 2018, the two students, Bri Clements and Katherine Shockey, released the first version of the application with the help of their faculty sponsor, John Bailer. A year later, the application was enhanced in its second version by three students (Rachael Lewis, Lulu Liu, and Alison Tuiyott) in their undergraduate senior capstone project sponsored by the same faculty, John Bailer.

Data visualization is defined as graphical representations of information and data. Data visualization tools provide an accessible way to see and understand trends, outliers, and patterns in data **4**. Using the application, users can explore the demographics (gender, race/ethnicity, and age range) associated with the type of drug found in the decedent, or a person who has died. Users can also analyze annual trends in types of drugs and categories of drugs found in decedents. The application also contains location information: a map of Butler County displaying the relative address of each overdose incident, annual trends of overdose incidents by city or township, and the types of places the overdose incidents occurred. This article delves into the process of creating such an application.

ADDRESS FEEDBACK FROM CORONER **and** OTHER PEOPLE WHO BENEFIT **and** HOW THEY BENEFIT **and** Data driven solutions

In order to increase awareness and educate the public about the epidemic, it is important to use tools that are easily interpretable.

Methods

Setting:

The data was collected in Butler County, Ohio. The data used in the application was specifically overdose deaths from 2013 to 2018. **Statistic about distribution of total number of overdose deaths in 2018**

Educational program description:

Not sure what to describe here.

Measures/outcomes:

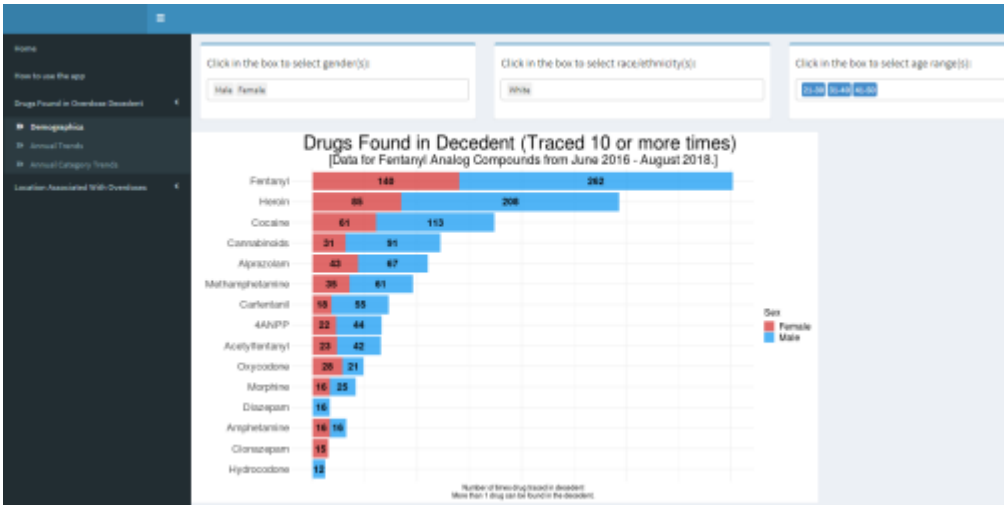
Not sure if relevant

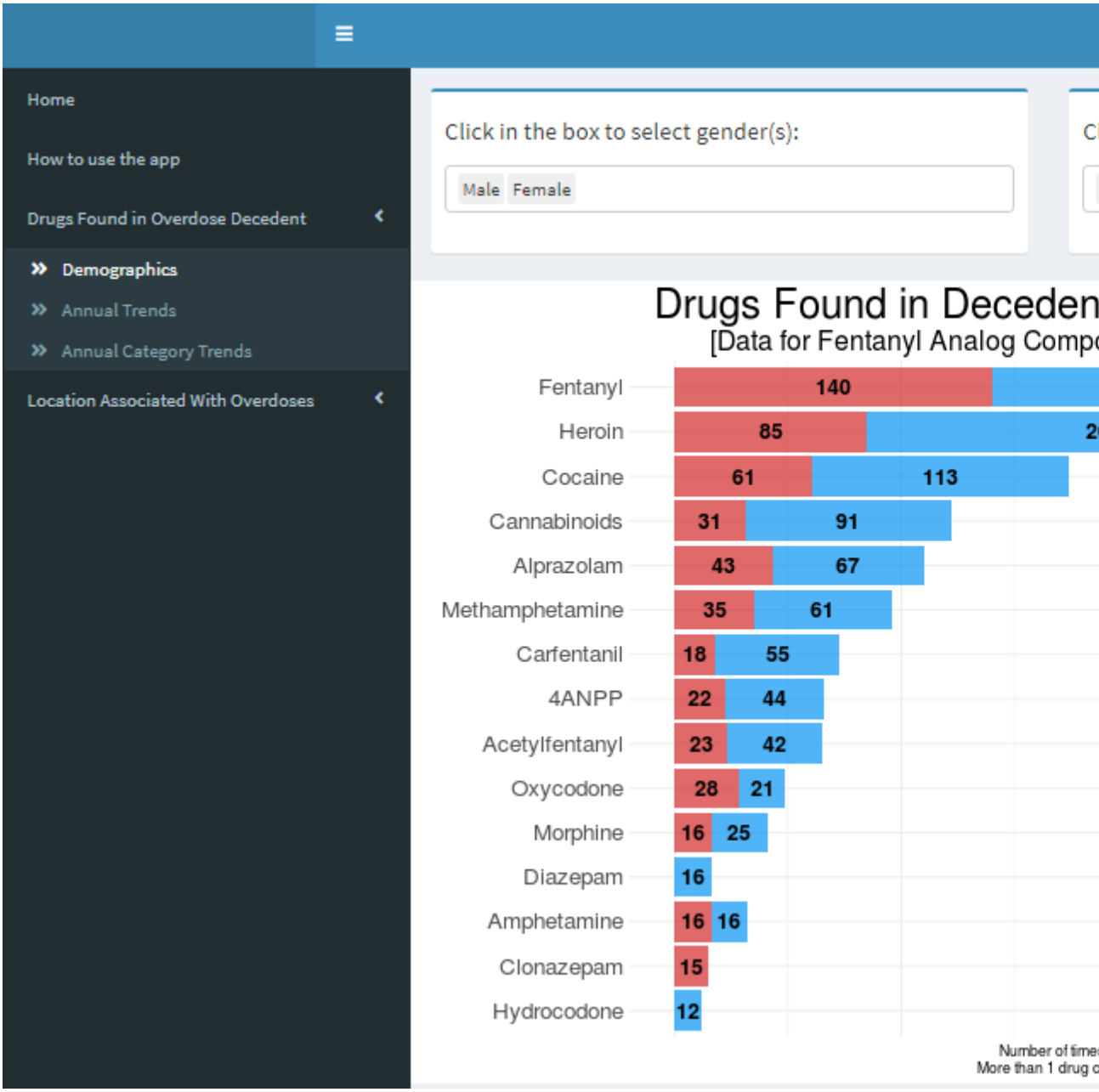
Statistical analysis:

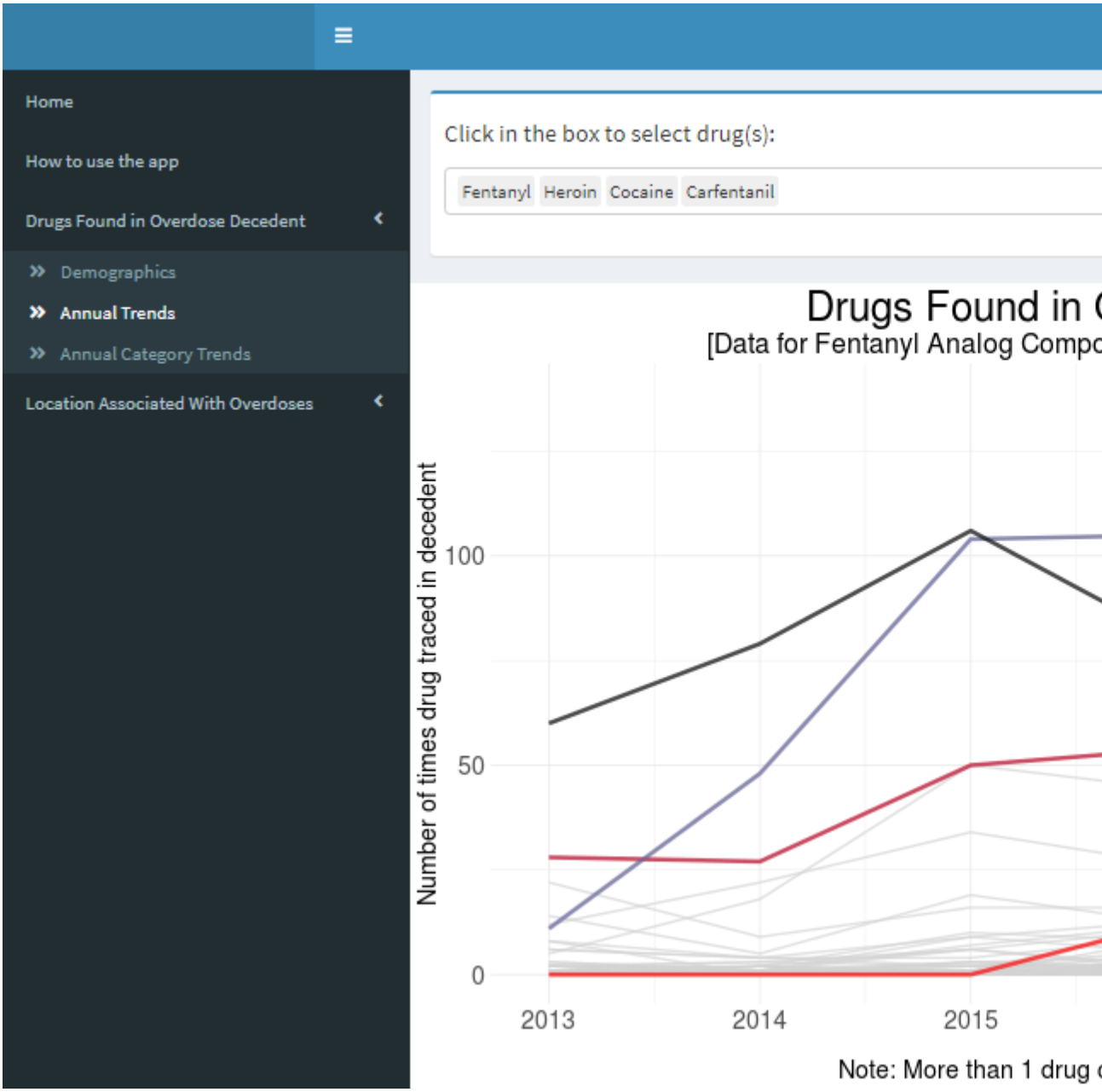
Should I discuss the data handling here? Like the format of the data and the aggregation process to create the shiny app?

Results

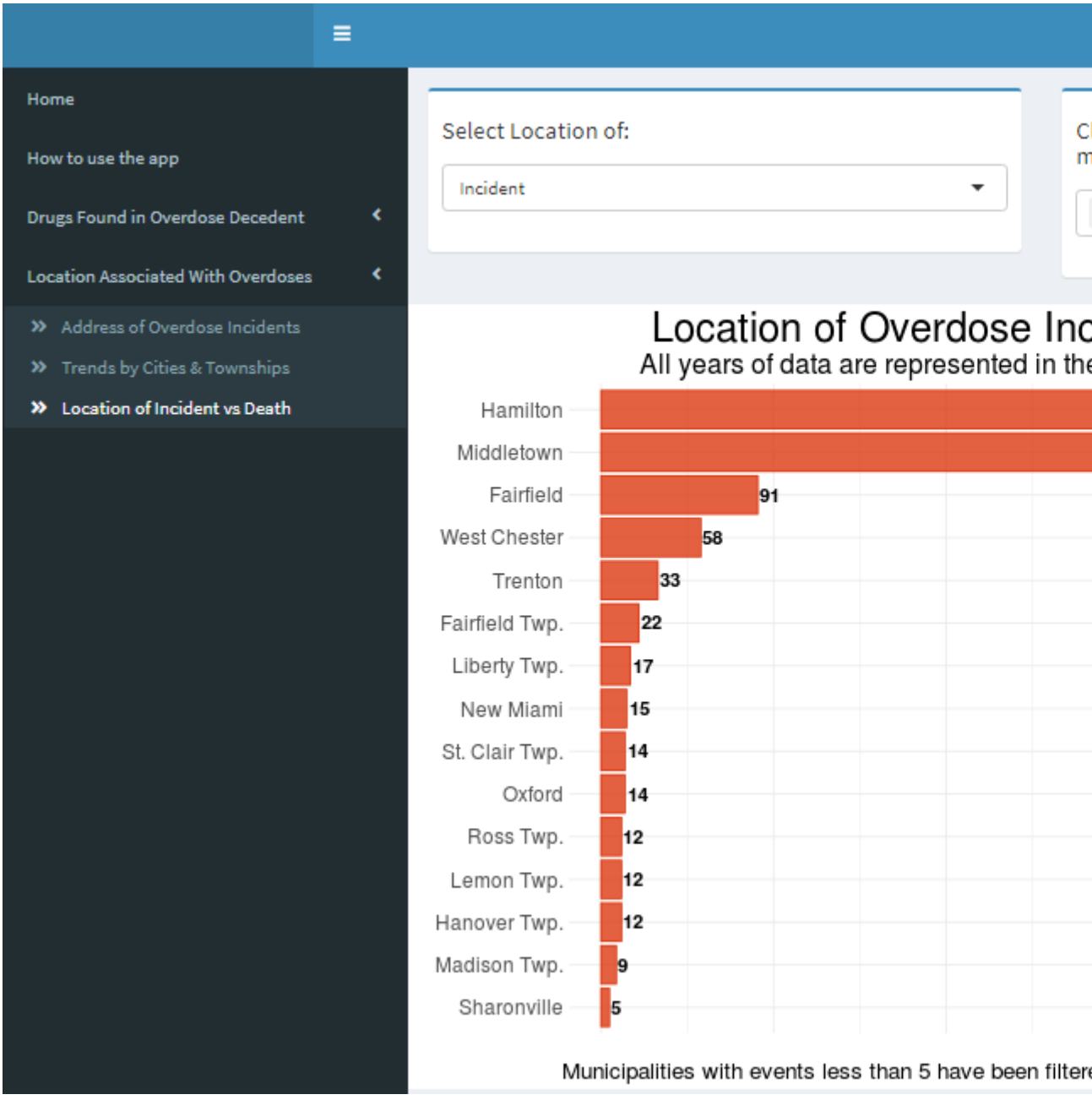
What results are we discussing?


Home
How to use the app
Drugs Found in Overdose Decedent
Demographics
Annual Trends
Annual Category Trends
Location Associated With Overdoses
Click in the box to select gender(s):
Male Female
Click in the box to select race/ethnicity(s):
White
Click in the box to select age range(s):
Drugs Found in Decedent (Traced 10 or more times)
[Data for Fentanyl Analog Compounds from June 2016 - August 2018.]
Fentanyl 148 262
Heroin 88 206
Cocaine 61 113
Cannabinoids 31 91
Alprazolam 43 67
Methamphetamine 35 61
Carfentanil 18 55
4ANPP 22 44
Acetylfentanyl 23 42
Oxycodone 20 21
Morphine 16 25
Diazepam 16
Amphetamine 16 16
Clonazepam 15
Hydrocodone 12
Sex
Female
Male
Number of times drug traced in decedent
More than 1 drug can be found in the decedent


Home
How to use the app
Drugs Found in Overdose Decedent
Demographics
Annual Trends
Annual Category Trends
Location Associated With Overdoses
Click in the box to select gender(s):
Male
Female
Drugs Found in Deceden
[Data for Fentanyl Analog Compo
Fentanyl 140
Heroin 85
Cocaine 61 113
Cannabinoids 31 91
Alprazolam 43 67
Methamphetamine 35 61
Carfentanil 18 55
4ANPP 22 44
Acetylfentanyl 23 42
Oxycodone 28 21
Morphine 16 25
Diazepam 16
Amphetamine 16 16
Clonazepam 15
Hydrocodone 12


Home
How to use the app
Drugs Found in Overdose Decedent
Demographics
Annual Trends
Annual Category Trends
Location Associated With Overdoses
Click in the box to select drug(s):
Fentanyl
Heroin
Cocaine
Carfentanil
Drugs Found in
[Data for Fentanyl Analog Compo
Number of times drug traced in decedent
100
50
0
2013
2014
2015
Note: More than 1 drug


Home
How to use the app
Drugs Found in Overdose Decedent
Location Associated With Overdoses
Address of Overdose Incidents
Trends by Cities & Townships
Location of Incident vs Death
Click in the box to select a city or township to highlight:
Middletown
Hamilton
Fairfield
Count of Overdose Incider
80
60
40
20
0
2013
2014
2015


Home
How to use the app
Drugs Found in Overdose Decedent
Location Associated With Overdoses
Address of Overdose Incidents
Trends by Cities & Townships
Location of Incident vs Death
Select Location of:
Incident
Location of Overdose Inc
All years of data are represented in the
Hamilton
Middletown
Fairfield
91
West Chester
58
Trenton
33
Fairfield Twp.
22
Liberty Twp.
17
New Miami
15
St. Clair Twp.
14
Oxford
14
Ross Twp.
12
Lemon Twp.
12
Hanover Twp.
12
Madison Twp.
9
Sharonville
5
Municipalities with events less than 5 have been filtere

Discussion

How is this different from the implication section

Implication for public health education

Need to discuss

Acknowledgements

The authors would like to thank the Butler County Coroner's Office and the Department of Statistics at Miami University for the generous support of this project.

References

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3

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visualization