Factors contributing to Health Care Inequities in Petersburg, VA

Virginia State University
Petersburg, Virginia

VSU Team

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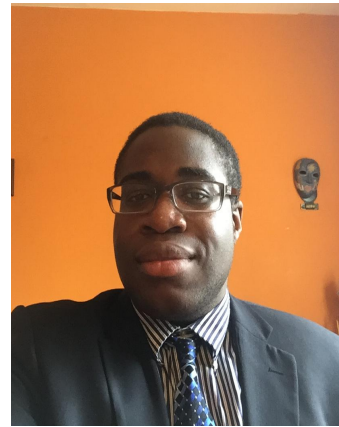
Dr. Sarah Witiak   *Dr. Brian Sayre*

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Kyra Faison

Fellows:

Courtney Lawson   *JaiDa Robinson*

Mychala Walker

Kyle Jacobs

2

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Petersburg Wellness Consortium

- Launched in Fall 2012 by Dr.Maghboeba Mosavel

- Made up of a alliance of stakeholders

- Part of the WE Project, an academic-community partnership established

  to address obesity in Petersburg

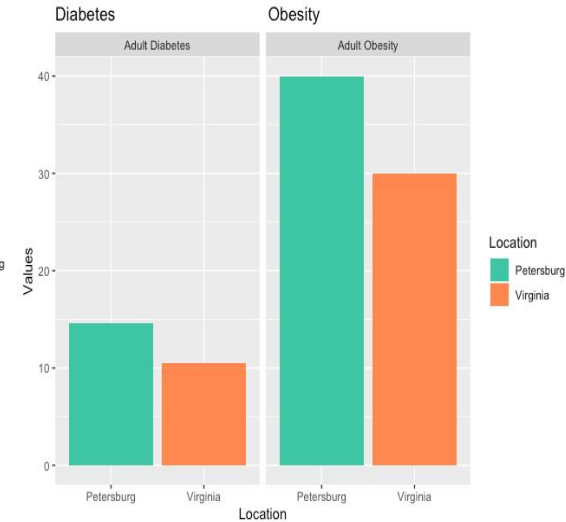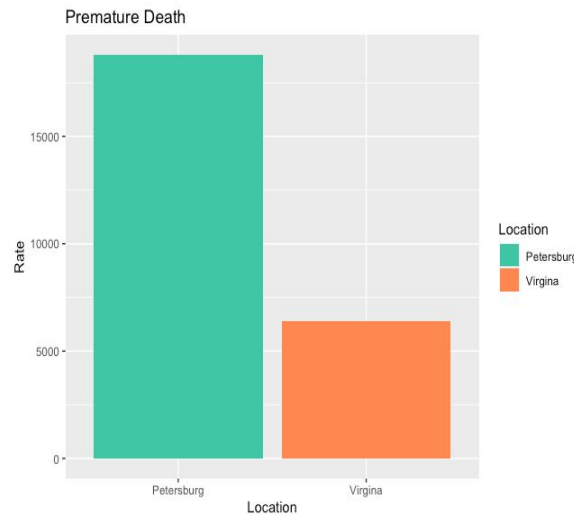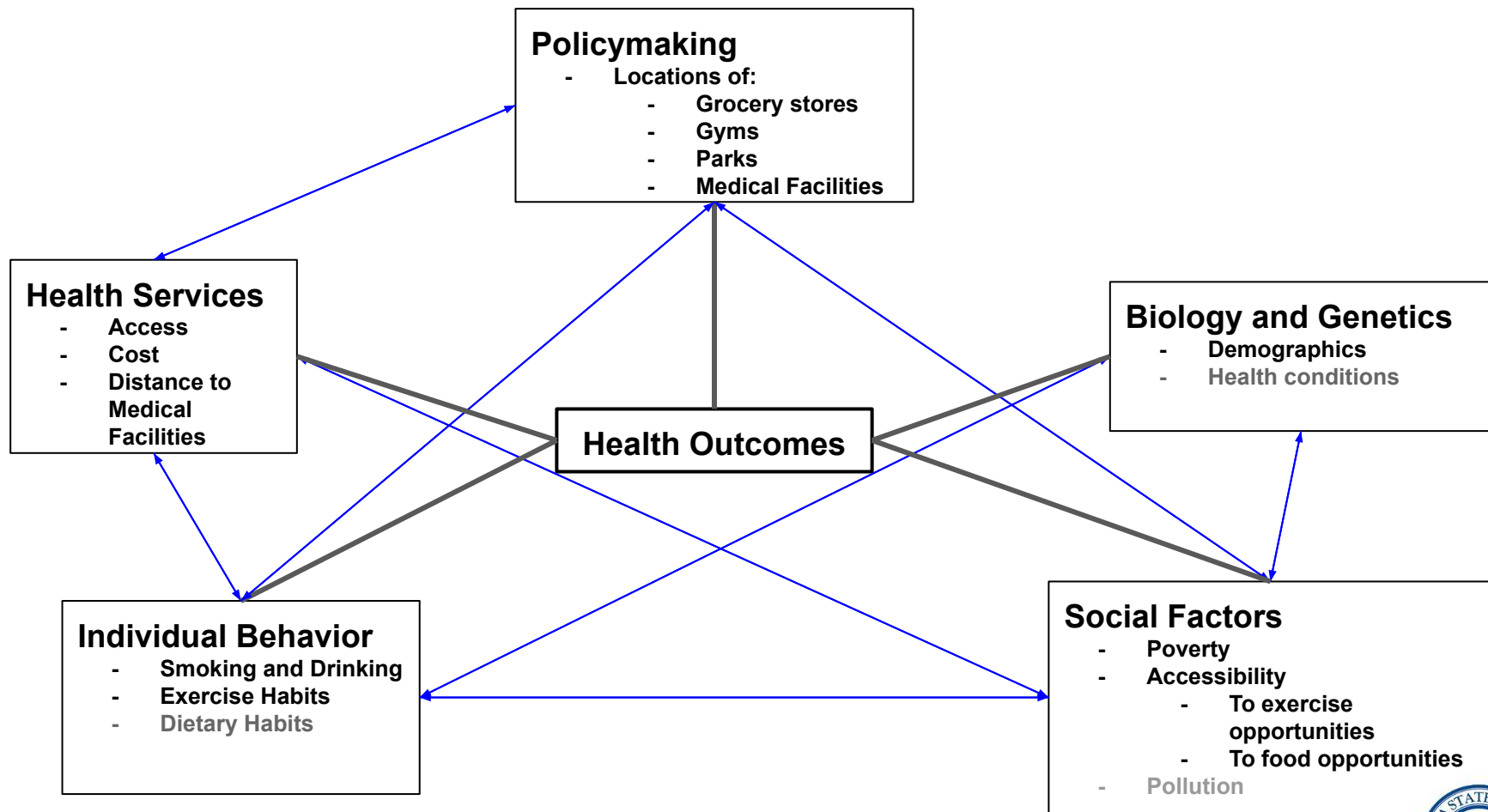- Using collective resources to improve the overall health of Petersburg
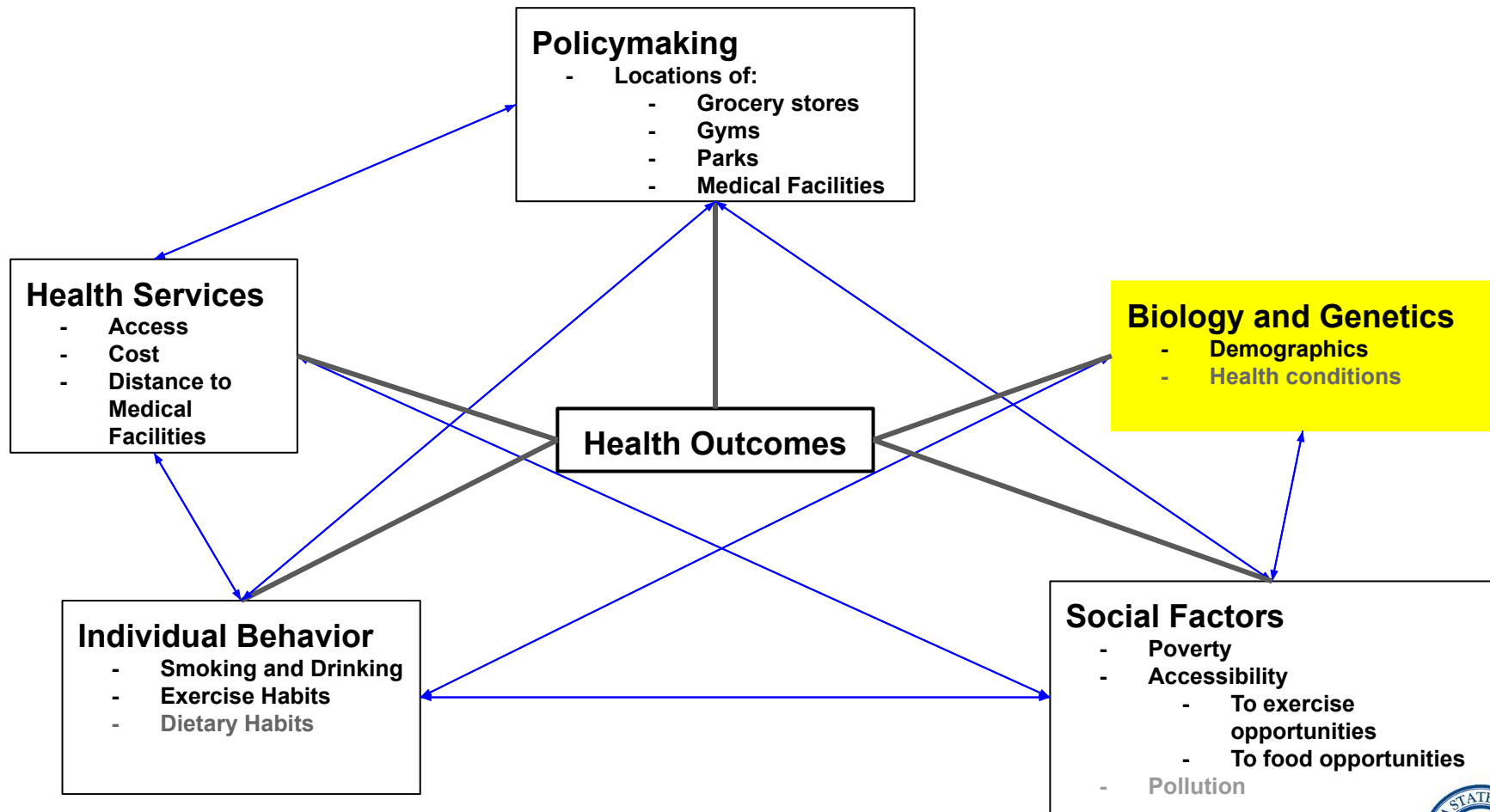
Key Question

Which factors affect the improvement of healthy outcomes in Petersburg, Virginia?

Why are we looking at Petersburg?

- Ranked 133 out of the 133 counties in Virginia in Health Outcomes and Life Expectancy

- Obesity is at a all time high with 40% and Diabetes is still a high 14.6%.

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Policymaking
- Locations of:
  - Grocery stores
  - Gyms
  - Parks
  - Medical Facilities

Health Services
- Access
- Cost
- Distance to Medical Facilities

Biology and Genetics
- Demographics
- Health conditions

Health Outcomes

Individual Behavior
- Smoking and Drinking
- Exercise Habits
- Dietary Habits

Social Factors
- Poverty
- Accessibility
  - To exercise opportunities
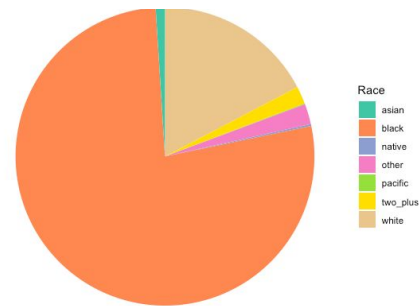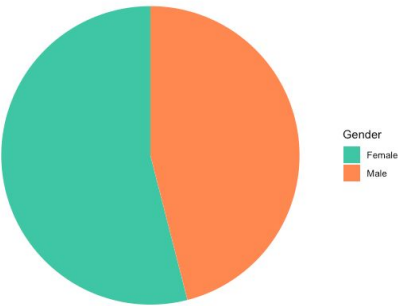 - To food opportunities
- Pollution

7

A Snapshot of Petersburg
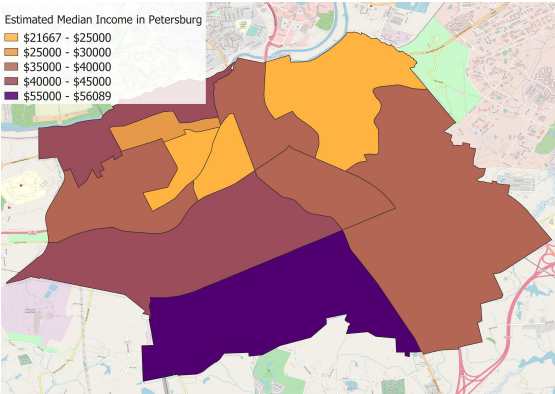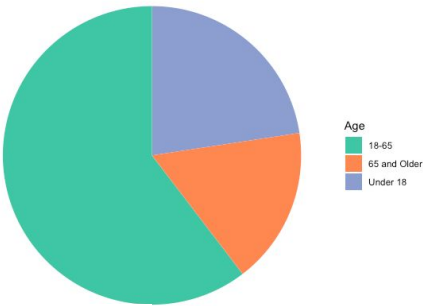
Population: 31.567

Petersburg Race Demographics

Petersburg Gender Demographics

Petersburg Age Demographics

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9

Cause and Effect

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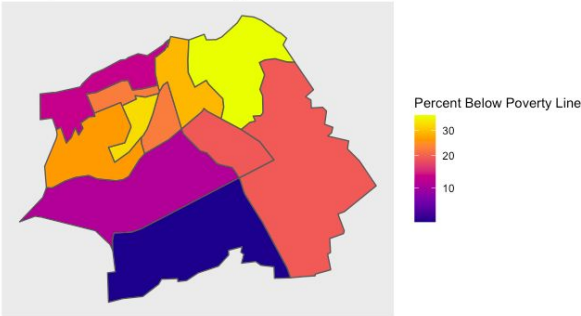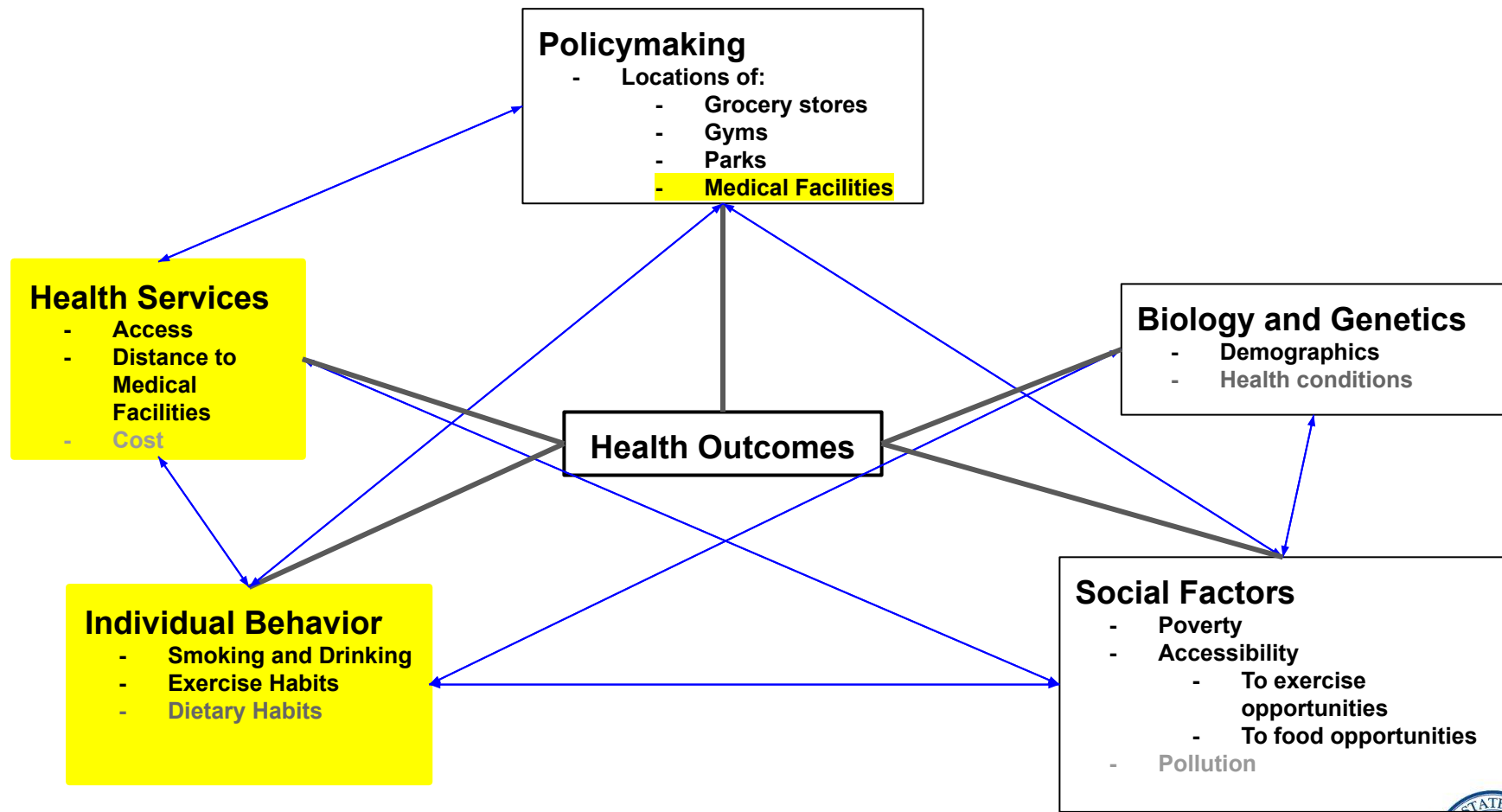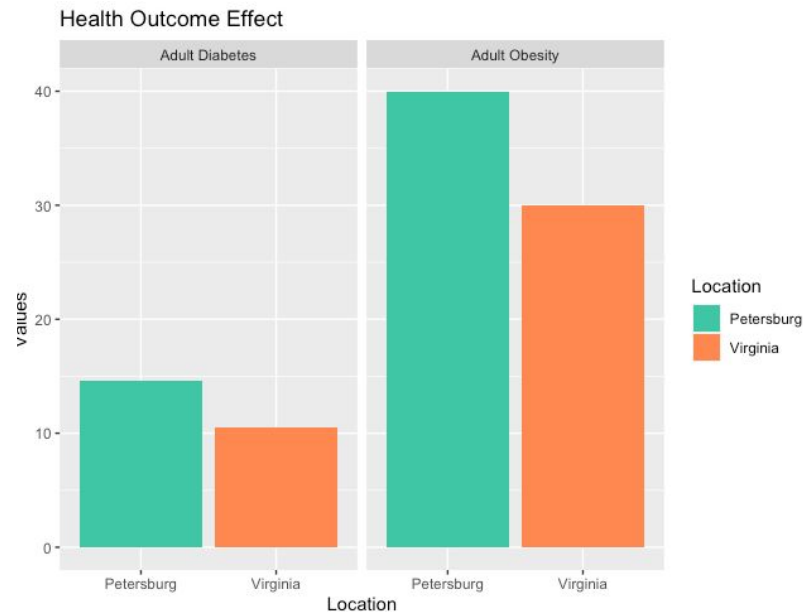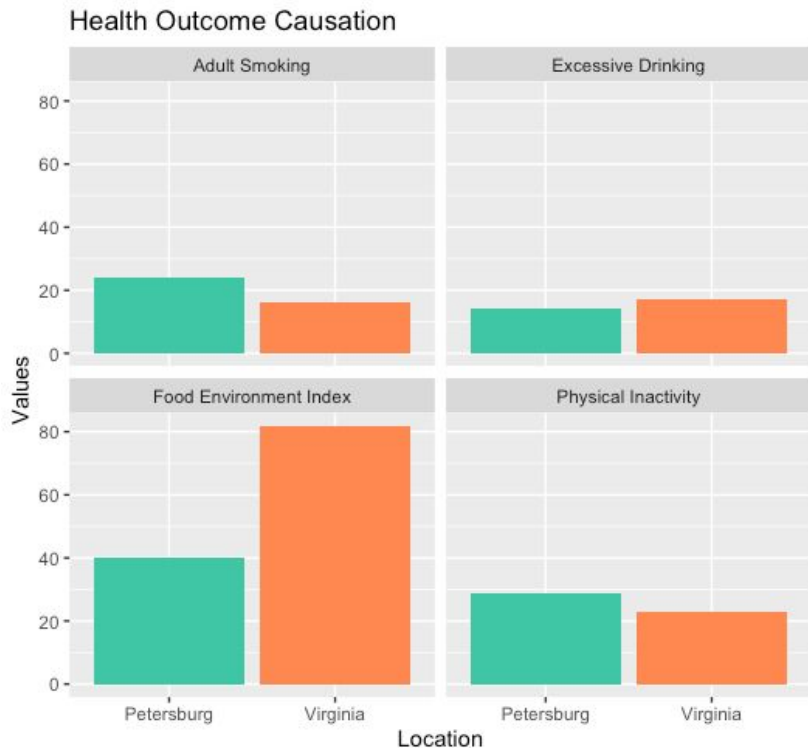
Health Access

- In Petersburg, Virginia, there were 7,055 preventable hospital stays per 100,000 people in 2017. This is a drastic comparison to Virginia's rate of 4,461 preventable hospital stays per 100,000

- Centralized locations of hospitals and medical facilities.

Preventable Hospital Stays in Petersburg and Virginia

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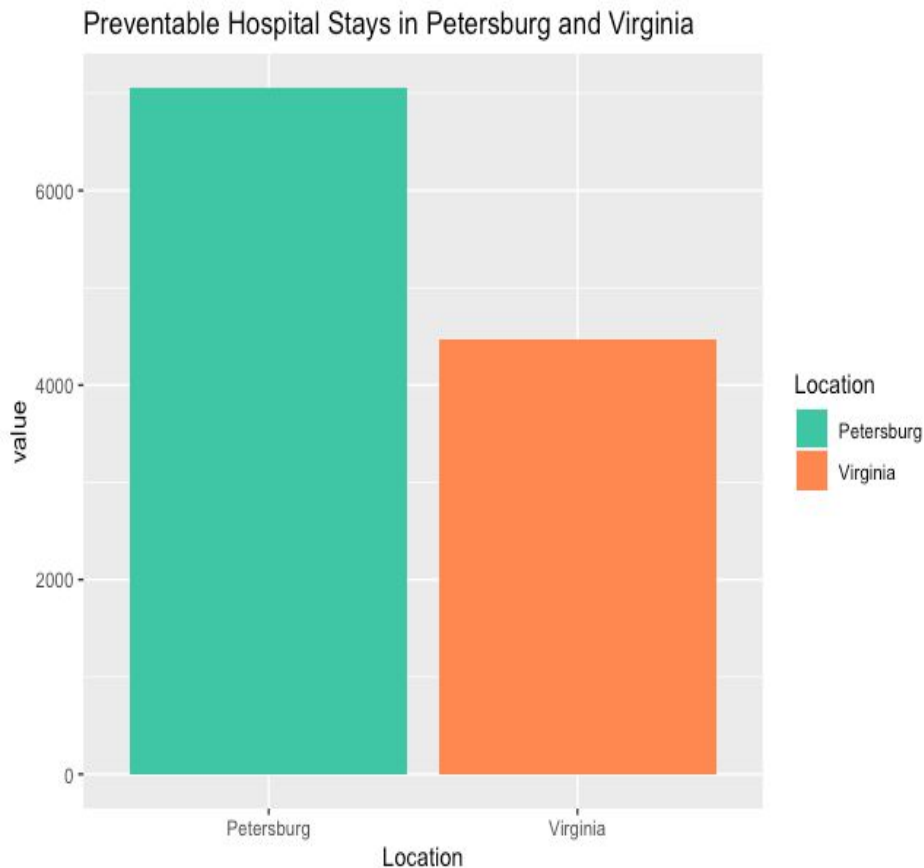
Estimated Poverty Level and Medical Accessibility

Legend:
- ⊕ Hospital
- ⊕ Other Health Service

Percent Below Poverty Lines
- 6.50% - 10.00%
- 20.00% - 25.00%
- 25.00% - 30.00%
- 30.00% - 35.00%
- 35.00% - 40.00%
- 40.00% - 40.40%

Data Sourced from: 5-Year 2018 American Community Survey

12

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Policymaking
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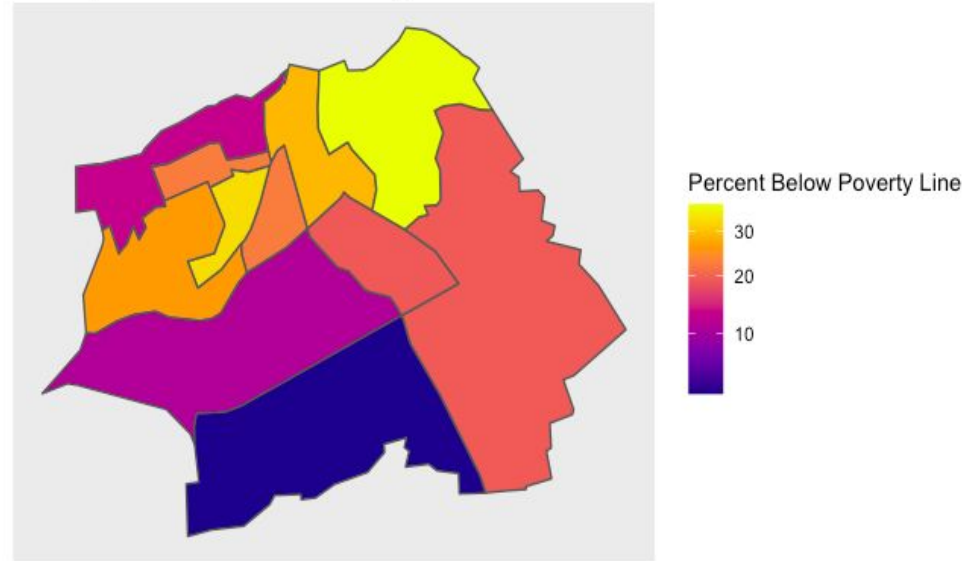   - To food opportunities
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13

Petersburg Food Access

According to EcoDistricts (2016), a

food desert is a community where **(A)**

more than 20 percent of residents are

living below the poverty threshold and

(B) at least 33 percent of the

population lives more than a mile from

a supermarket.

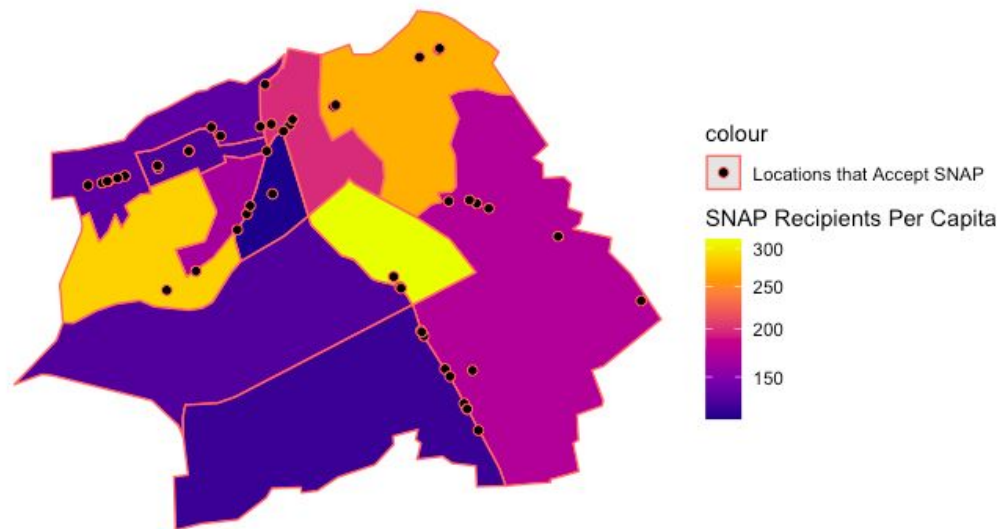Poverty Distribution in Petersburg

Percent Below Poverty Line
30
20
10

Petersburg Food Access
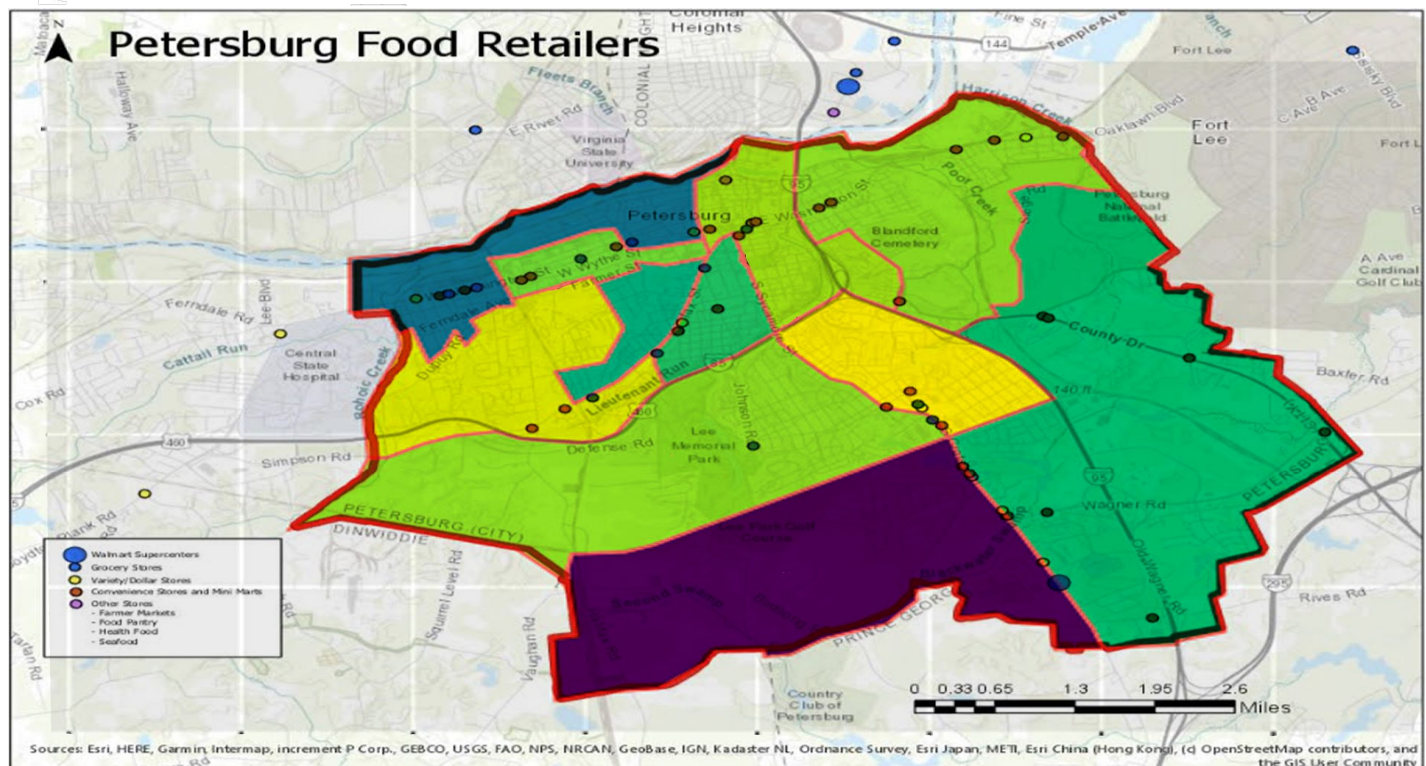
Petersburg Food Access

- SNAP vs Accessible stores that accept them.

- 78% of participants were interested in Mobile Markets

- 73% shop at convenience stores

- 63% didn't know about the farmers market SNAP-match program

Snap Distribution in Petersburg

colour

- Locations that Accept SNAP

SNAP Recipients Per Capita

300
250
200
150

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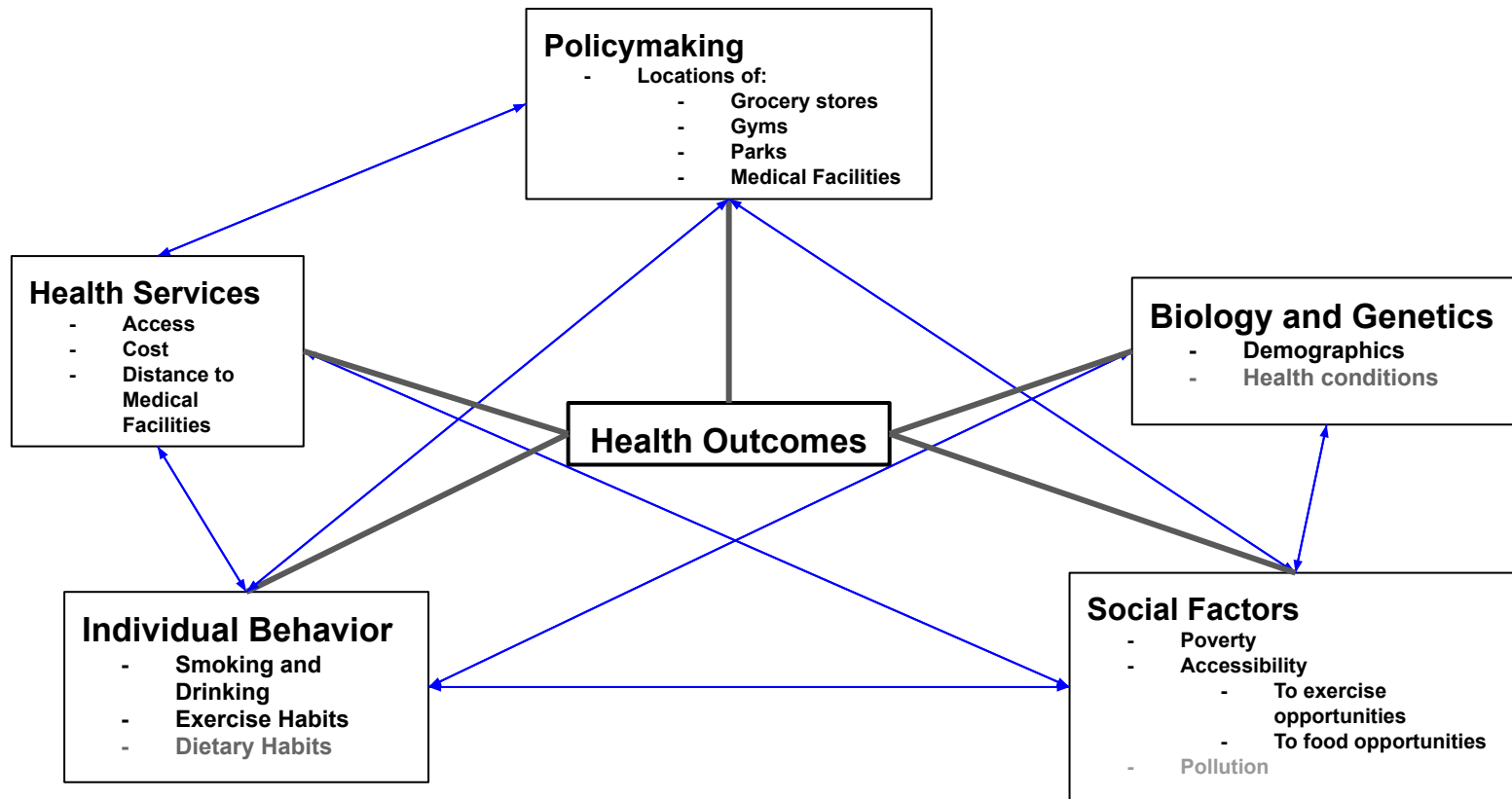
Other Important Topics To Consider

Pollution

- Pollution is found to have multiple ties to major health issues. It can serve as an indicator for later in life chronic issues such as heart and respiratory diseases.
  - Air pollution has been shown to have negative impacts on respiratory and cardiovascular health regardless of short term or chronic exposure.
  - Long term exposure has been shown to have links to diabetes.
    - Specifically, traffic-related air pollution has been shown as a risk factor for Type 2 Diabetes.

Dietary Habits

- What type of foods are the people of Petersburg eating that contribute to low health outcomes and obesity.
- Children Specifically
  - Free and Reduced meal programs in schools
    - 56.2% Breakfast
    - 65.3% Lunch
  - Weekend meals distributed to those who qualify.

17
K..., Chen, Z., Zhou, L. F., & Huang, S. X. (2018). Air pollutants and early origins of respiratory diseases. *Chronic diseases and translational medicine*, *4*(2), 75–94. https://doi.org/10.1016/j.cdtm.2018.03.003

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Conclusion

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Methods

- Search for key locations and charting longitude, latitude, and size in CSV files

- Aligning demographic and location data in QGIS

- Data Discovery

  - Importing data into R server and creating data frames from sources to create ggplot graphs

Challenges

- Finding accurate and up to date data sources

- Finding the correct variables to use for comparisons based on the data found

- Trying to find correct longitudes and latitudes for mapping.

Data Sources

- American Community Survey 2018 5-Year Estimates

- US Census Bureau Geographic Support System

- Map data copyrighted OpenStreetMap contributors and available from https://www.openstreetmap.org

- County Health Rankings

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