Background
Population health in the City of New Haven, including health care access, health outcomes, and mortality, is influenced by socioeconomic disparities. These disparities exist on both the individual and neighborhood scale, and across demographics such as age, sex, race, and ethnicity. Continued analyses to understand these disparities is imperative to elucidate public health concerns and to design and to implement appropriate initiatives and interventions.

Objectives
• To measure the leading causes of death, average life expectancy, and premature death in New Haven using mortality data and stratifying by key variables including age, sex, race, and ethnicity.
• To characterize the relationships between mortality, geographic location, and other demographic variables.

Methods
1. Data Cleaning: Raw data cleaned in R and Excel. Primary cause of death ICD-10 codes categorized via the CDC/NCHS’s “113 Selected Causes of Death.”
3. Premature Death: YPLL calculated for each cause of death using the frequency method and 70 and 75 years old as age endpoints.
4. Geospatial Mapping: Proportions of death from the six leading causes of death mapped at the neighborhood level.

Key Findings
• Deaths from heart disease, diabetes, and accidents increased between the five-year aggregate time intervals used (2008-2012 and 2012-2016).
• Deaths due to chronic illnesses increased among older age groups, whereas deaths due to assault, suicide, and accidents increased among younger age groups.
• Further research and analysis needed to address racial and ethnic disparities for both infant and HIV-associated mortality.
• Leading causes of death varied across neighborhoods.

Recommendations
Considerations for resource allocation and program planning suggested by the geographic analyses and neighborhood level variations in disease burden and premature death.

Limitations
This project is limited by previously available data at the New Haven Health Department. This data may be incomplete and relies on the accuracy of coroner reports, timeliness of reporting, etc. The analyses are limited by the variables collected in the data and low annual numbers of cases for certain causes of death.
Results


<table>
<thead>
<tr>
<th>Rank</th>
<th>Cause of Death (% of Overall)</th>
<th>Proportion of Deaths Male</th>
<th>Proportion of Deaths Female</th>
<th>YPLL Male</th>
<th>YPLL Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Malignant Neoplasms (22.96%)</td>
<td>50.9%</td>
<td>49.1%</td>
<td>8,113</td>
<td>7,145</td>
</tr>
<tr>
<td>2</td>
<td>Diseases of the Heart (20.39%)</td>
<td>50.3%</td>
<td>49.7%</td>
<td>7,565</td>
<td>3,880</td>
</tr>
<tr>
<td>3</td>
<td>Accidents (6.11%)</td>
<td>66.7%</td>
<td>33.3%</td>
<td>9,013</td>
<td>3,490</td>
</tr>
<tr>
<td>4</td>
<td>Cerebrovascular Disease (3.68%)</td>
<td>41.4%</td>
<td>58.6%</td>
<td>822.5</td>
<td>647.5</td>
</tr>
<tr>
<td>5</td>
<td>Diabetes Mellitus (3.62%)</td>
<td>48.8%</td>
<td>51.2%</td>
<td>1,468</td>
<td>860</td>
</tr>
</tbody>
</table>

Table 1: An abbreviated table of the five leading causes of death in New Haven from 2007-2016, showing the proportion and years of potential life lost (YPLL) stratified by sex using 75 years old as the endpoint.

Figure 1: Sample map (one of many) depicting the variation in proportions of death caused by malignant neoplasms across New Haven neighborhoods.


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