Currently, public health data collected by most major surveillance systems are available at national and state levels, and to a lesser extent, county level, limiting the ability to produce prevalence estimates for populations known historically to have a disproportionately high burden of disease and risk factors. Using current surveillance system data, key chronic disease outcome estimates identified as strategic directives by the Patient Protection and Affordable Care Act (weight, nutrition, physical activity, tobacco use prevalence, and emotional well-being) are evaluated to determine their usefulness in monitoring health disparate populations in a comparative analysis of 28 counties. Our findings indicate that no single or combined set of surveillance systems exists to allow estimation of changes in chronic disease outcomes or their distribution across the range of ages, racial, and socioeconomic groups targeted by community health programs.

### Methods

A total of 41 data sources were identified as potentially able to monitor chronic disease outcomes (weight, nutrition, physical activity, tobacco use prevalence, and mental health) on the county level for various health disparate populations in 28 counties throughout the continental United States. Data sources and relative indicators were examined for both youth and adults. The availability of indicators was examined overall, but also stratified by racial/ethnic groups as well as different educational attainment.

#### Adult Indicators (Behavioral Risk Factor Surveillance System)

- **Weight (BMI)**
- **Physical activity**
- **Vegetable consumption**
- **Current smoking status**
- **Mental health**

#### Youth Indicators (Youth Risk Behavior Surveillance System)

- **Current smoking status**
- **Physical activity**
- **Vegetable consumption**
- **Weight**
- **Mental Health**

A comparative analysis of the availability of estimates within health disparate populations was conducted within the 28 counties. Estimate availability for selected indicators was compared between publicly available BRFSS data and the estimates made by subsetting and reweighting the same dataset.

#### Applying BRFSS Data to Substate Areas

- **Used to adjust the design weights so that the sample reflects the total population**
- **BRFSS final weights are adjusted to state population totals, however the distribution between weights for the substate area may be different than the population total**

#### Findings

- **The extent to which changes in outcomes of health disparate populations can be monitored using current surveillance systems is limited. (Exhibit 1)**

#### Exhibit 1. Capacity of Existing Surveillance Systems to Monitor Chronic Disease Outcomes

<table>
<thead>
<tr>
<th>Indicator</th>
<th>BRFSS</th>
<th>YRBS</th>
<th>OTH</th>
<th>Coverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (BMI)</td>
<td>26.92</td>
<td>11.77</td>
<td>16.15</td>
<td>80%</td>
</tr>
<tr>
<td>Physical activity</td>
<td>14.29</td>
<td>10.71</td>
<td>12.20</td>
<td>70%</td>
</tr>
<tr>
<td>Vegetable consumption</td>
<td>60.78</td>
<td>38.12</td>
<td>39.91</td>
<td>60%</td>
</tr>
<tr>
<td>Current smoking status</td>
<td>20.77</td>
<td>13.25</td>
<td>14.03</td>
<td>40%</td>
</tr>
<tr>
<td>Mental health</td>
<td>12.96</td>
<td>12.96</td>
<td>12.96</td>
<td>30%</td>
</tr>
</tbody>
</table>

- **Youth indicators were less readily available on the substate level, with 17.86% of the population.**

- **Smoking Status**

#### Exhibit 3. Indicator Availability Overall (BRFSS)

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Before Raking</th>
<th>After Raking</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight (BMI)</td>
<td>26.92</td>
<td>11.77</td>
</tr>
<tr>
<td>Physical activity</td>
<td>14.29</td>
<td>10.71</td>
</tr>
<tr>
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<td>60.78</td>
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</tr>
<tr>
<td>Mental health</td>
<td>12.96</td>
<td>12.96</td>
</tr>
</tbody>
</table>

- **The SMART BRFSS (Selected/Metropolitan/Micropolitan Area Risk Trends) provides estimates on the county level.**

#### Limitations

- **This comparative analysis was limited to surveillance systems that specifically monitor five strategic directives mandated by the ACA and not all chronic disease outcomes.**

#### Next Steps

- **Identify and compare a greater sample of available substate estimates with estimates derived using raking to determine validity of methodology**

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