Vision
Healthy Vermonters living in healthy communities

Mission
Protect and promote the best health for all Vermonters
Improving Population Health Outcomes

State Health Assessment =

What do we know about the health of Vermonters?

State Health Improvement Plan =

What are we going to do about it?
What does this have to do with GMCB?

- Health System Reform: Triple AIM and Population Health Improvement
- Hospital Budgets: CHNA, System Reform
- ACO and All Payer Model: Goals and measures
What process did we use?

What are the key health challenges in Vermont?

What are the contributing factors?

Which populations are most affected?
What are the key health challenges in Vermont?

What are the contributing factors?
Ranking by Health Outcomes and Health Factors

Health Outcomes

Health Factors

Overall Health Statistics

Leading Causes of Death
Vermont Vital Statistics • 2015 / National Center for Health Statistics • 2015
# deaths, per 100,000 people (age-adjusted)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Vermont</th>
<th>U.S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>164.9</td>
<td>158.5</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>168.5</td>
<td>152.6</td>
</tr>
<tr>
<td>Unintentional Injuries</td>
<td>48.4</td>
<td>43.2</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Disease</td>
<td>42.2</td>
<td>41.6</td>
</tr>
<tr>
<td>Stroke</td>
<td>36.4</td>
<td>37.6</td>
</tr>
</tbody>
</table>

Leading Causes of Hospitalization
Vermont Uniform Hospital Discharge Data Set • 2015
# of hospital and emergency department visits among Vermont residents at Vermont hospitals in 2015

- Emergency Dept. visits
- In-patient hospital visits

- Injury & Poisoning: 65,476 (11,160 inpatient, 54,316 emergency)
- Respiratory Diseases: 28,634 (11,260 inpatient, 17,374 emergency)
- Mental Disorders: 4,290 (2,911 inpatient, 1,379 emergency)
- Cancer: 403 (2,015 inpatient, 2,612 emergency)
Overall Health Statistics

Years of Life Lost to Premature Death
Vermont Vital Statistics • 2015

In 2015 there were an estimated 35,215 total years of life lost to Vermonters due to causes such as:

<table>
<thead>
<tr>
<th>Cause</th>
<th>Years Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cancer</td>
<td>9,506</td>
</tr>
<tr>
<td>Unintentional injury</td>
<td>6,112</td>
</tr>
<tr>
<td>Heart Disease</td>
<td>5,285</td>
</tr>
<tr>
<td>Suicide</td>
<td>2,641</td>
</tr>
<tr>
<td>Lower Respiratory</td>
<td>1,363</td>
</tr>
<tr>
<td>Stroke</td>
<td>809</td>
</tr>
<tr>
<td>Diabetes</td>
<td>657</td>
</tr>
<tr>
<td>Influenza and Pneumonia</td>
<td>192</td>
</tr>
</tbody>
</table>

Quality of Life
Vermont Behavioral Risk Factor Surveillance System • 2016
% of adults who report they are in poor physical or mental health

- 14 or more poor physical health days in the past month
- 14 or more poor mental health days in the past month

Age 18–24: 2% (15%)
25–44: 8% (14%)
45–64: 15% (13%)
65+: 15% (7%)
No college: 15% (17%)
Some college: 12% (12%)
College grads: 6% (6%)
People of Color: 13% (22%)
White, non-Hispanic: 11% (11%)
Those who have experienced socioeconomic disadvantage, historical injustice and other avoidable inequalities that are often associated with social categories of race, gender, ethnicity, social position, sexual orientation and disability.

Which populations are most affected?
Race, Ethnicity & Culture
Changing Racial Makeup of Vermont
U.S. Census • 2000-2015 — % of county residents who are people of color
Depression Among Adults
Vermont Behavioral Risk Factor Surveillance System • 2012-2016

% of adults who have ever been diagnosed with depression

- Asian/Pacific Islander: 12%
- Black: 15%
- Hispanic: 26%
- Native American/Alaska Native: 30%
- White, non-Hispanic: 22%
- Multi-racial: 37%
- Other/unknown: 22%

Protective Factors for Youth
Vermont Youth Risk Behavior Survey • 2015

% of high school students who have 0–6 of these factors:
- Talk with parents about school at least weekly
- Spend 10+ hours in after-school activities
- Have teachers who care about you
- Feel valued by your community
- Can help decide what happens at school
- Feel safe at school

<table>
<thead>
<tr>
<th>People of Color</th>
<th>White non-Hispanic</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>0</td>
<td></td>
</tr>
<tr>
<td>5%</td>
<td>8%</td>
</tr>
<tr>
<td>19%</td>
<td>22%</td>
</tr>
<tr>
<td>25%</td>
<td>25%</td>
</tr>
<tr>
<td>22%</td>
<td>22%</td>
</tr>
<tr>
<td>18%</td>
<td>16%</td>
</tr>
<tr>
<td>9%</td>
<td>7%</td>
</tr>
</tbody>
</table>
LGBTQ Identity
Access to Health Care
Vermont Behavioral Risk Factor Surveillance System • 2016
% of adults who report having regular health care

- has a usual primary care provider: 89% LGBT, 84% Heterosexual
- visited a doctor in the last year: 70% LGBT, 63% Heterosexual
- visited a dentist in the last year: 72% LGBT, 67% Heterosexual
- delay care or can’t obtain it at all: 7% LGBT, 16% Heterosexual

Quality of Life
Vermont Behavioral Risk Factor Surveillance System • 2016
% of adults who report fair or poor health

- LGBT: 23%
- Heterosexual: 13%
Gender Orientation
Vermont Youth Risk Behavior Survey • 2015
Vermont Behavioral Risk Factor Surveillance System • 2016

% who identify as LGBT

Female  Male

by Age
H.S. Students 18–24  13%
25–44  7%
45–64  4%
65+  2%

by Sex
High School  12%
5%
6%
4%
Adult  12%
5%
6%
4%

Sexual Health Risk Behaviors
Vermont Youth Risk Behavior Survey • 2015
Vermont Behavioral Risk Factor Surveillance System • 2016

LGBT  Heterosexual

by Behavior
Adolescents who had sex before age 13
3%
9%

Adults with any high-risk HIV transmission behaviors in the last year
5%
18%
Depression
Vermont Youth Risk Behavior Survey • 2015
Vermont Behavioral Risk Factor Surveillance System • 2016

- **LGBT**: 60%
- **Heterosexual**: 21%

High School age who reported feeling sad for 2+ weeks at a time

- **LGBT**: 21%
- **Heterosexual**: 21%

Adults who have ever been diagnosed with depression

Intimate Partner & Sexual Violence
Vermont Youth Risk Behavior Survey • 2015
Vermont Behavioral Risk Factor Surveillance System • 2014

- **LGBT**: 8%
- **Heterosexual**: 24%

Adolescents hurt by someone they were dating in the past year

- **LGBT**: 5%
- **Heterosexual**: 24%

Adolescents ever forced to have sex

- **LGBT**: 18%
- **Heterosexual**: 32%

Adults who ever experienced intimate partner violence
### Tobacco, Alcohol & Drug Use
**Vermont Youth Risk Behavior Survey • 2015**
**Vermont Behavioral Risk Factor Surveillance System • 2016**

#### Adolescents—
- Currently Smoke: **9% LGBT, 26% Heterosexual**
- Binge drinking: **16% LGBT, 21% Heterosexual**
- Marijuana use: **21% LGBT, 36% Heterosexual**

#### Adults—
- Currently Smoke: **17% LGBT, 29% Heterosexual**
- Binge drinking: **17% LGBT, 28% Heterosexual**
- Marijuana use: **11% LGBT, 28% Heterosexual**

### Protective Factors for Youth
**Vermont Youth Risk Behavior Survey • 2015**

% of high school students who have 0-6 of these factors:
- Talk with parents about school at least weekly
- Spend 10+ hours in after-school activities
- Have teachers who care about you
- Feel valued by your community
- Can help decide what happens at school
- Feel safe at school

#### LGB students vs. Heterosexual students

- **LGB students**:
  - 6 % 4%
  - 5 % 12%
  - 4 % 19%
  - 3 % 23%
  - 2 % 14%
  - 1 % 4%

- **Heterosexual students**:
  - 6 % 7%
  - 5 % 22%
  - 4 % 25%
  - 3 % 22%
  - 2 % 16%
  - 1 % 6%
People Living with Disabilities
People with Disabilities
Vermont Behavioral Risk Factor Surveillance System • 2016
American Community Survey • 2016

by Age

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;5</td>
<td>1%</td>
</tr>
<tr>
<td>5–17</td>
<td>7%</td>
</tr>
<tr>
<td>18–24</td>
<td>14%</td>
</tr>
<tr>
<td>25–44</td>
<td>14%</td>
</tr>
<tr>
<td>45–64</td>
<td>24%</td>
</tr>
<tr>
<td>65+</td>
<td>36%</td>
</tr>
</tbody>
</table>

Adults

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>White- (non-Hispanic)</td>
<td>22%</td>
</tr>
<tr>
<td>People of color</td>
<td>32%</td>
</tr>
<tr>
<td>Heterosexual</td>
<td>22%</td>
</tr>
<tr>
<td>LGBT</td>
<td>35%</td>
</tr>
</tbody>
</table>
Type of Disability Among Adults
Vermont Behavioral Risk Factor Surveillance System • 2016

- **Cognitive**: 9% (serious difficulty concentrating, remembering, or making decisions)
- **Hearing**: 6% (serious difficulty hearing)
- **Visual**: 3% (serious difficulty seeing, even with glasses)
- **Mobility**: 11% (serious difficulty walking or climbing stairs)
- **Independent Living**: 6% (any difficulty going out or doing errands alone)
- **Self-care**: 3% (any difficulty dressing or bathing)
Access to Health Care
Vermont Behavioral Risk Factor Surveillance System • 2016

- Has a usual primary care provider: 88% (Has no disability), 90% (Has any disability)
- Visited a doctor in the last year: 68% (Has no disability), 75% (Has any disability)
- Visited a dentist in the last year: 75% (Has no disability), 59% (Has any disability)

Quality of Life
Vermont Behavioral Risk Factor Surveillance System • 2016

- Reporting fair to poor general health:
  - Has no disability: 6%
  - Has any disability: 40%
  - Mobility disability: 58%
  - Cognitive disability: 43%

- Has ever been diagnosed with depression:
  - Has no disability: 16%
  - Has any disability: 45%
  - Mobility disability: 46%
  - Cognitive disability: 67%
Risk Behaviors & Chronic Disease
Vermont Behavioral Risk Factor Surveillance System • 2015 & 2016

- Currently Smoke: 14% (no disability), 37% (any disability)
- Do not meet physical activity recommendations: 37% (no disability), 59% (any disability)
- Do not eat 5 fruits/vegetables per day: 79% (no disability), 86% (any disability)

- Lung Disease: 10% (no disability), 26% (any disability)
- Diabetes: 6% (no disability), 18% (any disability)
- Cardiovascular disease: 5% (no disability), 19% (any disability)
- Cancer: 6% (no disability), 15% (any disability)
Social Class & Socioeconomic Status
### 2017 Federal Poverty Levels

<table>
<thead>
<tr>
<th>Family Size</th>
<th>100%</th>
<th>133%</th>
<th>185%</th>
<th>200%</th>
<th>250%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$12,060</td>
<td>$16,040</td>
<td>$22,311</td>
<td>$24,120</td>
<td>$30,150</td>
</tr>
<tr>
<td>2</td>
<td>$16,240</td>
<td>$21,599</td>
<td>$30,044</td>
<td>$32,480</td>
<td>$40,600</td>
</tr>
<tr>
<td>3</td>
<td>$20,420</td>
<td>$27,159</td>
<td>$37,777</td>
<td>$40,840</td>
<td>$51,050</td>
</tr>
<tr>
<td>4</td>
<td>$24,600</td>
<td>$32,718</td>
<td>$45,510</td>
<td>$49,200</td>
<td>$61,500</td>
</tr>
<tr>
<td>5</td>
<td>$28,780</td>
<td>$38,277</td>
<td>$53,243</td>
<td>$57,560</td>
<td>$71,950</td>
</tr>
<tr>
<td>6</td>
<td>$32,960</td>
<td>$43,837</td>
<td>$60,976</td>
<td>$65,920</td>
<td>$82,400</td>
</tr>
<tr>
<td>7</td>
<td>$37,140</td>
<td>$49,396</td>
<td>$68,709</td>
<td>$74,280</td>
<td>$92,850</td>
</tr>
<tr>
<td>8</td>
<td>$41,320</td>
<td>$54,956</td>
<td>$76,442</td>
<td>$82,640</td>
<td>$103,300</td>
</tr>
</tbody>
</table>

For larger families/households, add $4,180 for each additional person.

---

**Population Living in Poverty, by Town**

*American Community Survey 5-year Estimates • 2012–2016*
Quality of Life, by Federal Poverty Level & Education
Vermont Behavioral Risk Factor Surveillance System • 2016

- General health is fair or poor
- 14 or more poor physical health days in last month
- 14 or more poor mental health days in last month
- Depression

Graph:
- 0–99% FPL: 29%
- 100–184% FPL: 27%
- 185–249% FPL: 15%
- 250% FPL+: 6%
- Less than High School: 33%
- High School: 19%
- Some College: 12%
- College Graduate: 5%
Median Earnings, by Education
American Community Survey • 2011-2015

$35,512 = median earnings of all Vermonters
Access to Health Care, by Federal Poverty Level & Education
Vermont Behavioral Risk Factor Surveillance System • 2016

- Has a usual primary care provider
- Visited a doctor in the last year
- Visited a dentist in the last year

<table>
<thead>
<tr>
<th>FPL Level</th>
<th>Has Primary Care</th>
<th>Visited Doctor</th>
<th>Visited Dentist</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–99% FPL</td>
<td>83%</td>
<td>62%</td>
<td>47%</td>
</tr>
<tr>
<td>100–184% FPL</td>
<td>87%</td>
<td>70%</td>
<td>55%</td>
</tr>
<tr>
<td>185–249% FPL</td>
<td>88%</td>
<td>71%</td>
<td>60%</td>
</tr>
<tr>
<td>250% FPL +</td>
<td>90%</td>
<td>71%</td>
<td>82%</td>
</tr>
<tr>
<td>Less than High School</td>
<td>87%</td>
<td>69%</td>
<td>51%</td>
</tr>
<tr>
<td>High School</td>
<td>87%</td>
<td>70%</td>
<td>60%</td>
</tr>
<tr>
<td>Some College</td>
<td>88%</td>
<td>70%</td>
<td>73%</td>
</tr>
<tr>
<td>College Graduate</td>
<td>90%</td>
<td>70%</td>
<td>85%</td>
</tr>
</tbody>
</table>
Costs Associated with Health Care
Vermont Behavioral Risk Factor Surveillance System • 2016

No health insurance
- Less than High School: 9%
- High School: 8%
- Some College: 5%
- College Graduate: 3%

Delayed care due to cost
- Less than High School: 10%
- High School: 10%
- Some College: 9%
- College Graduate: 6%

Protective Factors for Youth
Vermont Youth Risk Behavior Survey • 2015

% of high school students who have 0–6 of these factors:
- Talk with parents about school at least weekly
- Spend 10+ hours in after-school activities
- Have teachers who care about you
- Feel valued by your community
- Can help decide what happens at school
- Feel safe at school

- Mother has high school or less:
  - 6
  - 5
  - 4
  - 3
  - 2
  - 1
  - 0
  - 2%
  - 10%
  - 21%
  - 23%
  - 24%
  - 16%
  - 4%

- Mother has some college or degree:
  - 6
  - 5
  - 4
  - 3
  - 2
  - 1
  - 9%
  - 25%
  - 26%
  - 21%
  - 14%
  - 5%
### Student Connectedness

**Vermont Youth Risk Behavior Survey • 2015**

% of students in grades 9–12 who feel they matter to their community

- Female: 47%
- Male: 54%
- Asian: 59%
- Black: 51%
- Hispanic: 46%
- Native American/Alaska Native: 43%
- White, non-Hispanic: 51%
- Multi-racial: 43%
- Other: 48%
- Heterosexual: 53%
- LGB: 31%

### Smoking During Pregnancy

**Vermont Vital Statistics • 2015**

% of women who smoked during pregnancy

#### by Age –

- < 20: 24%
- 20–24 years: 29%
- 25–34 years: 15%
- 35+: 8%

#### by Education –

- High School graduate or less: 36%
- Some college: 15%
- College graduate: 1%

#### by Race –

- Black: 9%
- Hispanic: 15%
- White, non-Hispanic: 17%
- Multi-racial: 30%
Some interesting data
Unintended Pregnancy
Vermont Vital Statistics • 2015

% of pregnancies that were unintended in 2014

Overall VT rates 48%

by Mother's Age
- < 20: 86%
- 20–24: 68%
- 25–34: 39%
- 35+: 36%

by Education Level
- HS grad or less: 62%
- Some college: 49%
- College graduate: 32%

by Race
- Women of Color: 54%
- White non-Hispanic: 47%
Youth Healthy Eating Habits
Vermont Youth Risk Behavior Survey • 2015
% of students in grades 9–12 who meet recommendations

- Fruit - 2 or more per day
- Vegetables - 3 or more per day

by Race / Ethnicity—

<table>
<thead>
<tr>
<th>Race / Ethnicity</th>
<th>Fruit</th>
<th>Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black</td>
<td>45%</td>
<td>22%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>41%</td>
<td>26%</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>37%</td>
<td>28%</td>
</tr>
<tr>
<td>Native American/Alaska Native</td>
<td>35%</td>
<td>21%</td>
</tr>
<tr>
<td>Multi-racial</td>
<td>35%</td>
<td>19%</td>
</tr>
<tr>
<td>Other/unknown</td>
<td>35%</td>
<td>21%</td>
</tr>
<tr>
<td>White, non-Hispanic</td>
<td>33%</td>
<td>17%</td>
</tr>
</tbody>
</table>

Adult Healthy Eating Habits
Vermont Behavioral Risk Factor Surveillance System • 2016
% of adults who meet recommendations

- Fruit - 2 or more per day
- Vegetables - 3 or more per day

by Income (Federal Poverty Level) —

<table>
<thead>
<tr>
<th>Income Level</th>
<th>Fruit</th>
<th>Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>250% FPL and higher</td>
<td>34%</td>
<td>23%</td>
</tr>
<tr>
<td>185–249% FPL</td>
<td>33%</td>
<td>18%</td>
</tr>
<tr>
<td>100–184% FPL</td>
<td>29%</td>
<td>16%</td>
</tr>
<tr>
<td>0–99% FPL</td>
<td>23%</td>
<td>16%</td>
</tr>
</tbody>
</table>

by Education Level —

<table>
<thead>
<tr>
<th>Education Level</th>
<th>Fruit</th>
<th>Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>College Grad and above</td>
<td>38%</td>
<td>29%</td>
</tr>
<tr>
<td>Some College</td>
<td>33%</td>
<td>21%</td>
</tr>
<tr>
<td>HS Graduate or less</td>
<td>25%</td>
<td>12%</td>
</tr>
</tbody>
</table>
High Risk Drinking Among Older Adults
Vermont Behavioral Risk Factor Surveillance System • 2016

% of adults age 65+ who drink at a level of risk = 2+ drinks for females/3+ drinks for males on one occasion in the past month:

<table>
<thead>
<tr>
<th>By percentage of Federal Poverty Level</th>
<th>By education level attained</th>
</tr>
</thead>
<tbody>
<tr>
<td>0–99% FPL</td>
<td>17% High School</td>
</tr>
<tr>
<td>100–184% FPL</td>
<td>23% Some College</td>
</tr>
<tr>
<td>185–249% FPL</td>
<td>30% College Grad and above</td>
</tr>
<tr>
<td>250%+ FPL</td>
<td></td>
</tr>
</tbody>
</table>
State Health Improvement Plan

Outcomes
Indicators
Strategies
Priority Outcomes

- Chronic Disease
- Mental Health
- Substance Use Disorder
- Oral Health
- Early Childhood Development
Framework for Strategies

1. Traditional Clinical Prevention
   Increase the use of evidence-based services

2. Innovative Clinical Prevention
   Provide services outside the clinical setting

3. Total Population or Community-Wide Prevention
   Implement interventions that reach whole populations

To read more: http://journal.lww.com/jphmp/toc/publishahead
 Vision: All people in Vermont have a fair and just opportunity to be healthy and live in healthy communities

- Everyone feels respected, valued, included, and safe to pursue healthy and meaningful lives;
- All ages, all abilities, and all Vermonters have equitable access to the conditions that create health;
- Investments are focused on prevention and the conditions that create positive health outcomes; and
- Services are available, accessible, affordable, coordinated, culturally and linguistically appropriate and offered with cultural humility.

In five years, if we have successfully worked towards achieving health equity, what would we have accomplished?

Core Values: Equity • Affordability • Access
For More Information

For the full report: 2018 State Health Assessment
http://www.healthvermont.gov/about/reports/state-health-assessment-2018

For data beyond the report:

- **Scorecard for State Health Improvement Plan 2013-2017**

- **Community Health Needs Assessment by HSA**
  http://www.healthvermont.gov/ia/CHNA/District/atlas.html

- **Data Encyclopedia**

Heidi M. Klein, MSPH
Public Health Director of Planning and Healthcare Quality
Vermont Department of Health
108 Cherry Street / Burlington, VT 05401
802.652.2051
Heidi.Klein@vermont.gov