Epidemiology Update
SPF-SIG Advisory Council

September 2014
Elizabeth Eustis Turf, Ph.D.
Outcomes-Based Prevention

- Use of data to identify high levels of a substance-related consequence – AKA Outcome
- Our outcome is MVCs with drinking drivers within the 15-24 year age range
- All locations identified 18-24 year olds as target
- Change in level of outcome over time determines success of prevention activities
Phase II

- 11 jurisdictions completed Steps 1-3
  - Assessment
  - Capacity
  - Planning

- 10 Working on Steps 4 & 5
  - Implementation and
  - Evaluation
Group 2

- Hampton
- Newport News
- Montgomery County
- Stafford
- Spotsylvania
Jurisdiction Prevention

- All prevention activities **evidence-based** and approved by SPF-SIG Evidence-Based Workgroup (EBW)
- All jurisdictions **implementing environmental strategies**
- One jurisdiction has included an individually-focused strategy
  - High risk college students
  - Brief intervention
- Several strategies selected for ~3 prioritized factors
Alcohol-Specific IVs

- Based on research – shown on Holder model
- Seven (7) key community Intervening Variables

1. Retail Availability
2. Social Availability
3. Enforcement
4. Community Norms
5. Promotion
6. Price
7. Perceived Risk
Update

- Number of motor vehicle crashes (MVCs) down
- Number of alcohol-related MVCs also down
- But – proportion remains same
- Still – 36% of fatalities in alcohol-related crashes
- Evaluate change in rates
  - Statewide
  - Funded jurisdictions
Trend in Alcohol-Related Crashes in Virginia

Rate/10,000 15 and Older

<table>
<thead>
<tr>
<th>Year</th>
<th>Rate/10,000</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>14.76</td>
</tr>
<tr>
<td>2010</td>
<td>15.33</td>
</tr>
<tr>
<td>2011</td>
<td>12.81</td>
</tr>
<tr>
<td>2012</td>
<td>13.22</td>
</tr>
<tr>
<td>2013</td>
<td>12.12</td>
</tr>
</tbody>
</table>

BAC 0.08 or higher
Persons Killed in Crashes

Trend in Fatalities from Alcohol-Related Crashes, Virginia

- Any BAC>0
Drinking Drivers 15-24

- Number / rate of all MVCs downward trend
- Rate of MVCs w/ drinking drivers 15-24
  - Any alcohol
  - 37% drop since project baseline
  - 2006-2008 rate = 32.1/10,000 population 15-24
  - 2013 rate = 20.1/10,000
- Alcohol is consistently involved in 7-8% of all MVCs
Rate of MVCs – Drivers 15-24

Trend in Rate of MVCs With Drinking Drivers 15-24, Virginia

37% drop
Where Do Crashes Occur

MVCs w/ drinking drivers 15-24 / 10,000 pop 15-24
2006-08 to 2013

MVCs w/ drinking drivers 15-24 / 10,000 pop 15-24

State Rate = 34.1 / 10000 15-24
Who’s At Risk?

- Overall, males ~ 2.5-4 times more likely to be the driver
- 28.9 MVCs/10,000 males vs 10.8 MVCs/10,000 females
- For 15-17 year group – gap increased in 2013
- 21-24 year olds - highest rate
  - 49.6 MVCs/10,000 males 21-24 vs 19.7/10,000 females
  - 23.0 MVCs/10,000 males 18-20 vs 8.0/10,000 females
  - 4.6 MVCs/10,000 males 15-17 vs 0.8/10,000 females
## Trend Drinking Drivers 15 to 24 Rates / 10,000

<table>
<thead>
<tr>
<th>Virginia</th>
<th>Sex</th>
<th>2009 Rate</th>
<th>2010 Rate</th>
<th>2011 Rate</th>
<th>2012 Rate</th>
<th>2013 Rate</th>
<th>Change Over Time 2009-13</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>6.77</td>
<td>4.62</td>
<td>4.56</td>
<td>5.06</td>
<td>4.58</td>
<td>-0.32</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>4.46</td>
<td>2.23</td>
<td>2.10</td>
<td>1.63</td>
<td>0.82</td>
<td>-0.82</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>5.67</td>
<td>3.45</td>
<td>3.39</td>
<td>3.38</td>
<td>2.74</td>
<td>-0.52</td>
</tr>
<tr>
<td>15-17 years</td>
<td>Male</td>
<td>40.85</td>
<td>31.39</td>
<td>29.17</td>
<td>28.13</td>
<td>22.95</td>
<td>-0.44</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>14.72</td>
<td>10.47</td>
<td>10.32</td>
<td>9.60</td>
<td>7.95</td>
<td>-0.46</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>28.45</td>
<td>21.21</td>
<td>20.12</td>
<td>19.24</td>
<td>15.69</td>
<td>-0.45</td>
</tr>
<tr>
<td>18-20 years</td>
<td>Male</td>
<td>59.63</td>
<td>53.05</td>
<td>51.25</td>
<td>53.33</td>
<td>49.61</td>
<td>-0.17</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>19.36</td>
<td>18.25</td>
<td>17.60</td>
<td>18.48</td>
<td>19.65</td>
<td>0.02</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>41.06</td>
<td>36.84</td>
<td>35.43</td>
<td>36.77</td>
<td>35.23</td>
<td>-0.14</td>
</tr>
<tr>
<td>21-24 years</td>
<td>Male</td>
<td>37.9</td>
<td>32.39</td>
<td>31.49</td>
<td>32.13</td>
<td>28.90</td>
<td>-0.24</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>13.27</td>
<td>11.20</td>
<td>11.03</td>
<td>11.00</td>
<td>10.77</td>
<td>-0.19</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>26.34</td>
<td>22.35</td>
<td>21.80</td>
<td>22.02</td>
<td>20.15</td>
<td>-0.24</td>
</tr>
<tr>
<td>Total 15-24 years</td>
<td>Male</td>
<td>67.5</td>
<td>53.62</td>
<td>52.71</td>
<td>54.91</td>
<td>50.76</td>
<td>-0.34</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>17.75</td>
<td>14.61</td>
<td>13.67</td>
<td>14.47</td>
<td>13.50</td>
<td>-0.19</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>24.26</td>
<td>21.25</td>
<td>20.46</td>
<td>21.07</td>
<td>19.91</td>
<td>-0.24</td>
</tr>
</tbody>
</table>
Trend – 15 to 24 Year Olds

- All rates dropped
- Except 21-24 yo females
Specifics -- Fundees

- Change in rate over time
- Goal - decrease of at least 10% from baseline
- Country-wide seeing decrease in rates
- Compare to statewide decrease
Specifics -- Fundees

- Assessment activities began in 2012
- Interventions began early 2013
- Local data collected in late 2013
  - Change in usage-related behaviors
  - Awareness of prevention activities
- MVC data -- 2006-08 baseline thru 2013
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Albemarle</td>
<td>34.1</td>
<td>45.5</td>
<td>30.0</td>
<td>27.1</td>
<td>28.7</td>
<td>22.4</td>
<td>-34%</td>
</tr>
<tr>
<td>Augusta</td>
<td>53.6</td>
<td>32.6</td>
<td>52.2</td>
<td>24.8</td>
<td>36.0</td>
<td>41.8</td>
<td>-22%</td>
</tr>
<tr>
<td>Campbell</td>
<td>53.7</td>
<td>30.9</td>
<td>27.1</td>
<td>24.5</td>
<td>30.0</td>
<td>32.7</td>
<td>-39%</td>
</tr>
<tr>
<td>Chesterfield</td>
<td>31.5</td>
<td>29.0</td>
<td>26.9</td>
<td>25.3</td>
<td>24.3</td>
<td>21.7</td>
<td>-31%</td>
</tr>
<tr>
<td>Fairfax</td>
<td>28.3</td>
<td>23.4</td>
<td>22.5</td>
<td>20.2</td>
<td>20.0</td>
<td>19.3</td>
<td>-32%</td>
</tr>
<tr>
<td>Franklin</td>
<td>53.8</td>
<td>31.8</td>
<td>31.3</td>
<td>21.4</td>
<td>33.8</td>
<td>29.6</td>
<td>-45%</td>
</tr>
<tr>
<td>Hanover</td>
<td>41.2</td>
<td>44.3</td>
<td>30.5</td>
<td>32.1</td>
<td>31.6</td>
<td>27.9</td>
<td>-32%</td>
</tr>
<tr>
<td>Roanoke Cty</td>
<td>51.9</td>
<td>49.5</td>
<td>27.7</td>
<td>29.6</td>
<td>28.8</td>
<td>21.0</td>
<td>-60%</td>
</tr>
<tr>
<td>Roanoke Cnty</td>
<td>40.8</td>
<td>30.5</td>
<td>28.7</td>
<td>22.3</td>
<td>20.1</td>
<td>23.8</td>
<td>-42%</td>
</tr>
<tr>
<td>Washington</td>
<td>51.4</td>
<td>42.1</td>
<td>19.1</td>
<td>20.7</td>
<td>29.9</td>
<td>18.0</td>
<td>-65%</td>
</tr>
<tr>
<td>Statewide</td>
<td>32.1</td>
<td>26.3</td>
<td>22.4</td>
<td>21.8</td>
<td>22.0</td>
<td>20.2</td>
<td>-37%</td>
</tr>
</tbody>
</table>
Trend in Rates 15-24

Trend in Rates of MVCs With Drinking Drivers 15-24 by Funded Jurisdiction, Virginia

- Albemarle
- Augusta
- Campbell
- Chesterfield
- Chesterfield
- Franklin
- Hanover
- Roanoke Cty
- Roanoke Cnty
- Washington
- Statewide
### Funded vs Non-funded

<table>
<thead>
<tr>
<th></th>
<th>Mean Rates/10,000</th>
<th>Mean Change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006-08 Rate</td>
<td>2013 Rate</td>
</tr>
<tr>
<td>Funded (10)</td>
<td>43.8</td>
<td>25.8</td>
</tr>
<tr>
<td>(range)</td>
<td>(28.2-53.7)</td>
<td>(18.0-41.8)</td>
</tr>
<tr>
<td>Non-funded (18)</td>
<td>32.9</td>
<td>19.8</td>
</tr>
<tr>
<td>(range)</td>
<td>(21.7-43.8)</td>
<td>(12.8-35.2)</td>
</tr>
</tbody>
</table>

No difference in percent change: Mean rates / funded vs non-funded. But – still early – will check 2014.
Statewide Update

- 5-year report
- Review use of all substances by all age groups
  - National Survey on Drug Use and Health
  - Young Adult Survey – limited
  - Youth Risk Behavioral Survey
- Review consequence data
  - Alcohol-related
  - Drug-related
- Consider changes
Statewide Update

- Benchmarking
  - Compare current VA rates to US rates
  - Determine if VA has higher prevalence
  - Compute Rate Ratio – Rate 1 / Rate 2

- Change over time
  - Compute the percent change over past 5 years
  - Determine if rates have gone up

- Look for key differences in patterns
Statewide Update in Usage

- National Survey on Drug Use and Health (NSDUH), 2008-2012
- Past month use of substances decreased overall from 2008-2012 in both 12-17 year olds and 18-25 year olds
- Exception --- alcohol use and binge drinking among 18-25 year olds
Trend in Alcohol Use

Trend in Past Month Alcohol Use by Age, Virginia

Percent

Year


12-17
18-25
26+

NSDUH, 2008-2012
Trend in Binge Drinking

Trend in Past Month Binge Drinking by Age, NSDUH Virginia

Percent


12-17
18-25
26+

9.3 8.6 8.4 7.7 6.5
43.6 43.2 45.4 44.6 38.7
22.1 22.2 21.7 21.4 19.5
0.0 5.0 10.0 15.0 20.0 25.0 30.0 35.0 40.0 45.0 50.0
Illicit Drug Use

Trend in Past Month Illicit Drug Use by Age, Virginia

Percent

2008 2009 2010 2011 2012

12-17 Marijuana
12-17 Other Illicit Drugs
18-25 Marijuana
18-25 Other Illicit Drugs
26+ Marijuana
26+ Other Illicit Drugs

NSDUH, 2008-2012
Trend in Prescription Drug Use

Trend in Past Year Prescription Drug Use by Age, Virginia
## Benchmarking: VA to US

<table>
<thead>
<tr>
<th>Alcohol</th>
<th>VA %</th>
<th>US %</th>
<th>Rate Ratio</th>
<th>Rank 1-5 (1=VA much better, 5=VA much worse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011-2012 NSDUH Alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol use past month, 12-17</td>
<td>12.2</td>
<td>13.1</td>
<td>0.93</td>
<td>2</td>
</tr>
<tr>
<td>Alcohol use past month, 18-25</td>
<td>63.5</td>
<td>60.5</td>
<td>1.05</td>
<td>4</td>
</tr>
<tr>
<td>Alcohol use past month, 26+</td>
<td>58.8</td>
<td>55.3</td>
<td>1.06</td>
<td>4</td>
</tr>
<tr>
<td>Binge drinking past month, 12-17</td>
<td>6.5</td>
<td>7.3</td>
<td>0.89</td>
<td>2</td>
</tr>
<tr>
<td>Binge drinking past month, 18-25</td>
<td>38.7</td>
<td>39.6</td>
<td>0.97</td>
<td>3</td>
</tr>
<tr>
<td>Binge drinking past month, 26+</td>
<td>19.5</td>
<td>21.8</td>
<td>0.89</td>
<td>2</td>
</tr>
<tr>
<td>Perception of risk with 5+ drinks, once or twice/week, 12-17</td>
<td>41.4</td>
<td>40.2</td>
<td>1.03</td>
<td>3</td>
</tr>
<tr>
<td>Perception of risk with 5+ drinks, once or twice/week, 18-25</td>
<td>33.6</td>
<td>34.5</td>
<td>0.97</td>
<td>3</td>
</tr>
<tr>
<td>Perception of risk with 5+ drinks, once or twice/week, 26+</td>
<td>42.7</td>
<td>43.8</td>
<td>0.97</td>
<td>3</td>
</tr>
</tbody>
</table>
Benchmarking: VA to US

<table>
<thead>
<tr>
<th>Illicit Drugs</th>
<th>VA %</th>
<th>US %</th>
<th>Rate Ratio</th>
<th>Rank 1-5 (1=VA much better, 5=VA much worse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 NSDUH Illicit Drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marijuana use in past month, 12-17</td>
<td>6.6</td>
<td>7.5</td>
<td>0.87</td>
<td>2</td>
</tr>
<tr>
<td>Marijuana use in past month, 18-25</td>
<td>17.1</td>
<td>18.9</td>
<td>0.91</td>
<td>2</td>
</tr>
<tr>
<td>Marijuana use in past month, 26+</td>
<td>3.4</td>
<td>5.1</td>
<td>0.67</td>
<td>1</td>
</tr>
<tr>
<td>Perception of risk with smoking marijuana once/month, 12-17</td>
<td>24.7</td>
<td>27.0</td>
<td>0.91</td>
<td>4</td>
</tr>
<tr>
<td>Perception of risk with smoking marijuana once/month, 18-25</td>
<td>16.0</td>
<td>17.4</td>
<td>0.92</td>
<td>4</td>
</tr>
<tr>
<td>Perception of risk with smoking marijuana once/month, 26+</td>
<td>31.6</td>
<td>34.4</td>
<td>0.92</td>
<td>4</td>
</tr>
</tbody>
</table>

*Perception of risk should go up over time not down*
## Benchmarking: VA to US

<table>
<thead>
<tr>
<th>Illicit Drugs</th>
<th>VA %</th>
<th>US %</th>
<th>Rate Ratio</th>
<th>Rank 1-5 (1=VA much better, 5=VA much worse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012 NSDUH Illicit Drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illicit drug use other than marijuana in past month, 12-17</td>
<td>3.3</td>
<td>3.9</td>
<td>0.85</td>
<td>1</td>
</tr>
<tr>
<td>Illicit drug use other than marijuana in past month, 18-25</td>
<td>7.1</td>
<td>7.0</td>
<td>1.01</td>
<td>3</td>
</tr>
<tr>
<td>Illicit drug use other than marijuana in past month, 26+</td>
<td>2.3</td>
<td>2.5</td>
<td>0.92</td>
<td>2</td>
</tr>
<tr>
<td>Prescription drug use in past year, 12-17</td>
<td>4.9</td>
<td>5.6</td>
<td>0.88</td>
<td>2</td>
</tr>
<tr>
<td>Prescription drug use in past year, 18-25</td>
<td>10.3</td>
<td>10.0</td>
<td>1.03</td>
<td>3</td>
</tr>
<tr>
<td>Prescription drug use in past year, 26+</td>
<td>3.2</td>
<td>3.5</td>
<td>0.91</td>
<td>2</td>
</tr>
</tbody>
</table>
## Change Over Time: 2008-2012

<table>
<thead>
<tr>
<th>Alcohol</th>
<th>T1 2008</th>
<th>T2 2012</th>
<th>% Change (T2-T1/T1)</th>
<th>Rank (1=rapid improvement, 5=rapid deterioration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSDUH Alcohol</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alcohol use in past month, 12-17</td>
<td>14.8</td>
<td>12.2</td>
<td>-17.57</td>
<td>1</td>
</tr>
<tr>
<td>Alcohol use in past month, 18-25</td>
<td>64.4</td>
<td>63.5</td>
<td>-1.40</td>
<td>3</td>
</tr>
<tr>
<td>Alcohol use in past month, 26+</td>
<td>56.6</td>
<td>58.8</td>
<td>3.89</td>
<td>3</td>
</tr>
<tr>
<td>Binge drinking past month, 12-17</td>
<td>9.3</td>
<td>6.5</td>
<td>-30.11</td>
<td>1</td>
</tr>
<tr>
<td>Binge drinking past month, 18-25</td>
<td>43.6</td>
<td>38.7</td>
<td>-11.24</td>
<td>2</td>
</tr>
<tr>
<td>Binge drinking past month, 26+</td>
<td>21.1</td>
<td>19.5</td>
<td>-7.58</td>
<td>2</td>
</tr>
<tr>
<td>Perception of risk 5+ drinks, once or twice/week, 12-17</td>
<td>40.0</td>
<td>41.4</td>
<td>3.50</td>
<td>3</td>
</tr>
<tr>
<td>Perception of risk 5+ drinks, once or twice/week, 18-25</td>
<td>33.3</td>
<td>33.6</td>
<td>0.90</td>
<td>3</td>
</tr>
<tr>
<td>Perception of risk 5+ drinks, once or twice/week, 26+</td>
<td>44.3</td>
<td>42.7</td>
<td>-3.61</td>
<td>3</td>
</tr>
</tbody>
</table>
**Change Over Time: 2008-2012**

<table>
<thead>
<tr>
<th>Illicit Drugs</th>
<th>T1 2008</th>
<th>T2 2012</th>
<th>% Change (T2-T1/T1)</th>
<th>Rank (1=rapid improvement, 5=rapid deterioration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSDUH Illicit Drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Marijuana use in past month, 12-17</td>
<td>6.8</td>
<td>6.6</td>
<td>-2.8</td>
<td>3</td>
</tr>
<tr>
<td>Marijuana use in past month, 18-25</td>
<td>16.5</td>
<td>17.1</td>
<td>3.4</td>
<td>3</td>
</tr>
<tr>
<td>Marijuana use in past month, 26+</td>
<td>3.9</td>
<td>3.4</td>
<td>-12.8</td>
<td>2</td>
</tr>
<tr>
<td>Perception of risk with smoking marijuana once/month, 12-17</td>
<td>32.2</td>
<td>24.7</td>
<td>-23.3</td>
<td>5</td>
</tr>
<tr>
<td>Perception of risk with smoking marijuana once/month, 18-25</td>
<td>22.6</td>
<td>16.0</td>
<td>-29.2</td>
<td>5</td>
</tr>
<tr>
<td>Perception of risk with smoking marijuana once/month, 26+</td>
<td>37.9</td>
<td>31.6</td>
<td>-16.6</td>
<td>5</td>
</tr>
</tbody>
</table>

*Perception of risk should go up over time not down*
## Change Over Time: 2008-2012

<table>
<thead>
<tr>
<th>Illicit Drugs</th>
<th>T1 2008</th>
<th>T2 2012</th>
<th>% Change (T2-T1/T1)</th>
<th>Rank (1=rapid improvement, 5=rapid deterioration)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NSDUH Illicit Drugs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illicit drug use other than marijuana in past month, 12-17</td>
<td>4.3</td>
<td>3.3</td>
<td>-23.3</td>
<td>1</td>
</tr>
<tr>
<td>Illicit drug use other than marijuana in past month, 18-25</td>
<td>7.3</td>
<td>7.1</td>
<td>-2.7</td>
<td>3</td>
</tr>
<tr>
<td>Illicit drug use other than marijuana in past month, 26+</td>
<td>2.3</td>
<td>2.3</td>
<td>0.0</td>
<td>3</td>
</tr>
<tr>
<td>Prescription drug use in past year, 12-17</td>
<td>6.8</td>
<td>4.9</td>
<td>-27.7</td>
<td>1</td>
</tr>
<tr>
<td>Prescription drug use in past year, 18-25</td>
<td>11.6</td>
<td>10.3</td>
<td>-10.8</td>
<td>2</td>
</tr>
<tr>
<td>Prescription drug use in past year, 26+</td>
<td>3.5</td>
<td>3.2</td>
<td>-8.6</td>
<td>2</td>
</tr>
</tbody>
</table>
Summary

- Virginia rates better than the US except:
  - Alcohol use in 18-25 year olds and 26+
  - 5% greater prevalence rates in VA
  - Perception of risk of binge drinking lower in VA than in US among 12-17 and 26+
  - Perception of marijuana use once/month lower in all three age groups

- Rates have improved over past 5 years except:
  - Perception of risk of use of marijuana
SA-Related Consequences

SA-related consequences examined

- Deaths
  - Drug overdose
  - Cirrhosis
- DUIs
- Drug-related arrests
- Drug dependence or abuse
Overdose Deaths

- Erratic
- 2011-2012 slight decrease
- 25-64 – highest rate
- Statewide – no more recent data
Cirrhosis Deaths

- 65+ highest rate
- 20% increase over 5 years
- Total rate – also increase
DUIs

- 15-24 – highest rate
- 21-24 biggest proportion
- Decreasing 2011-2012
- Why?
- 65+ rate – stable over time
DUI Convictions

Trend in DUI Convictions by Age, Virginia

- Other
- NP
- Guilty
- Dismissed

# of Events

2009 2010 2011 2012 2013
15-17 18-20 21-24
DUI Dispositions

- Proportion guilty increases with age
- Not guilty ~1.6%

Distribution of DUI Dispositions by Age, Virginia

- Percent distribution for age groups 15-17, 18-20, and 21-24.
Drug Arrests

- <25 years – highest rate and increasing
- 25-64 also increased
- 65+ stable
Alcohol Abuse or Dependence

- Drop in rates since 2010
- 12-17 = -39.9%
- 18-25 = -26.2%
- 26+ = -19.4%

Trend in Rate of Alcohol Abuse or Dependence by Age, Virginia
Drug Abuse or Dependence

- Drop in rates for all ages
  - 12-17 = -2.3%
  - 18-25 = -5.4%
  - 26+ = -1.2%
# Benchmarking - Alcohol

<table>
<thead>
<tr>
<th>Alcohol Consequences</th>
<th>VA</th>
<th>US</th>
<th>Rate Ratio</th>
<th>Rank 1-5 (1=VA better, 5=VA worse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUIs (2012 Rate/10,000)</td>
<td>43.5</td>
<td>44.8</td>
<td>0.97</td>
<td>3</td>
</tr>
<tr>
<td>Alcohol deaths-cirrhosis (2010 Rate/100,000)</td>
<td>8.6</td>
<td>10.3</td>
<td>0.83</td>
<td>1</td>
</tr>
<tr>
<td>Alcohol-associated motor vehicle fatalities (2011 %)</td>
<td>36.0</td>
<td>36.0</td>
<td>1.00</td>
<td>3</td>
</tr>
<tr>
<td>Alcohol Dependence &amp; Abuse 12+ (2012 %)</td>
<td>6.0</td>
<td>6.6</td>
<td>0.91</td>
<td>2</td>
</tr>
</tbody>
</table>
## Benchmarking - Drugs

<table>
<thead>
<tr>
<th>Illicit Drug Consequences</th>
<th>VA</th>
<th>US</th>
<th>Rate Ratio</th>
<th>Rank 1-5 (1=VA better, 5=VA worse)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drug Arrests (2012 Rate/10,000)</td>
<td>47.1</td>
<td>49.6</td>
<td>0.95</td>
<td>2</td>
</tr>
<tr>
<td>Overdose deaths (2010 Rate/100,000)</td>
<td>8.3</td>
<td>12.9</td>
<td>0.64</td>
<td>1</td>
</tr>
<tr>
<td>Drug Dependence &amp; Abuse 12+ (2012 %)</td>
<td>1.69</td>
<td>1.86</td>
<td>0.91</td>
<td>2</td>
</tr>
</tbody>
</table>
### Change Over Time

<table>
<thead>
<tr>
<th>Alcohol</th>
<th>Change Over Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Change</td>
</tr>
<tr>
<td></td>
<td>Rank 1-5 (1=rapid improvement, 5=rapid deterioration)</td>
</tr>
<tr>
<td>DUIs (Rate/10,000) (T1=2008, T2=2012)</td>
<td>T1 36.0</td>
</tr>
<tr>
<td>Alcohol deaths-cirrhosis (Rate/100,000) (T1=2006, T2=2010)</td>
<td>8.2</td>
</tr>
<tr>
<td>Alcohol-assoc motor vehicle fatalities (%) (T1=2007, T2=2011)</td>
<td>36.0</td>
</tr>
<tr>
<td>Alcohol Dependence &amp; Abuse 12+ (%) (T1=2008, T2=2012)</td>
<td>7.8</td>
</tr>
</tbody>
</table>

*Increase in DUIs difficult to categorize*
## Change Over Time

<table>
<thead>
<tr>
<th>Illicit Drugs</th>
<th>Change Over Time</th>
<th>Rank 1-5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>T1</td>
<td>T2</td>
</tr>
<tr>
<td>Drug Arrests (T1=2008, T2=2012)</td>
<td>42.8</td>
<td>49.6</td>
</tr>
<tr>
<td>Overdose deaths (Rate/100,000) (T1=2008, T2=2012)</td>
<td>9.5</td>
<td>9.1</td>
</tr>
<tr>
<td>Drug Dependence &amp; Abuse 12+ (%) (T1=2007-8, T2=2011-12)</td>
<td>2.9</td>
<td>1.9</td>
</tr>
</tbody>
</table>

*Increase in arrests difficult to categorize
Treatment

- TEDS
- Publicly funded only
- Only those in treatment
- Idea of frequently used substances
- Intakes – considers “primary drug of choice”
Treatment Episode Data Set

- Consistent pattern
- Alcohol – almost half of those in treatment
- Exceptions –
  1. Non-heroin opioids up
  2. Cocaine -- down
## Treatment Episode Data Set

<table>
<thead>
<tr>
<th>Substance</th>
<th>2009</th>
<th>2012</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alcohol</td>
<td>43.1</td>
<td>43.2</td>
<td>42.5</td>
<td>41.7</td>
<td>41.9</td>
<td>-2.8%</td>
</tr>
<tr>
<td>Marijuana</td>
<td>22.8</td>
<td>23.2</td>
<td>23.3</td>
<td>23.6</td>
<td>24.1</td>
<td>5.9%</td>
</tr>
<tr>
<td>Heroin</td>
<td>10.3</td>
<td>10.5</td>
<td>10.0</td>
<td>10.0</td>
<td>10.8</td>
<td>4.7%</td>
</tr>
<tr>
<td>Non-heroin opioids</td>
<td>7.6</td>
<td>9.9</td>
<td>11.6</td>
<td>12.5</td>
<td>12.4</td>
<td>64.5%</td>
</tr>
<tr>
<td>Cocaine</td>
<td>14.7</td>
<td>12.2</td>
<td>11.3</td>
<td>10.7</td>
<td>9.2</td>
<td>-37.9%</td>
</tr>
<tr>
<td>Amphetamines</td>
<td>1.5</td>
<td>1.1</td>
<td>1.2</td>
<td>1.4</td>
<td>1.6</td>
<td>6.2%</td>
</tr>
</tbody>
</table>
2013 TEDS – Among Age Groups

- Alcohol – 76% of those 65+
- Almost 50% of 25-64
- Marijuana -- >50% of <25
Non-Heroin Opiates

- Intakes for non-heroin opiates – increased – appears to plateau
  - <25 = 66.0%
  - 25-64 = 63.4%
  - 65+ = 134.1%
Youth Risk Behavior Survey

Survey of school-aged students: Middle and High Schools
Youth Survey -- YRBS

- Virginia conducted YRBS – 2013
- Middle school – 6-8\textsuperscript{th} grade
- High school – 9-12\textsuperscript{th} grade
- Limited data available
  - MMWR report on High School findings
  - Regional tables for Middle School findings
- Overall, lower rates then nationally
Alcohol & Marijuana - HS

Prevalence - Alcohol & Marijuana Use, High School Students, Virginia 2013

- Percent

- Ever drank
- Ever drank before 13
- Currently drink
- Ever had 5 or more in a row
- Rode with someone who'd been drinking Virginia
- Drove when drinking
- Ever tried marijuana
- Tried marijuana before 13
- Currently use marijuana

Virginia HS
National HS
Other Illicit Drugs - HS

Prevalence - Illicit Drug Use, High School Students, Virginia 2013

- Ever use prescription drug
- Ever tried inhalant
- Ever tried heroin
- Ever inject any illicit drug
- Ever tried meth
- Ever tried cocaine

National HS = median prevalence rates
Alcohol & Marijuana - MS

Alcohol & Marijuana - Virginia Middle Schools, 2013

- Drink of alcohol
- First drink before 11
- Rode with someone who'd been drinking
- Used marijuana
- Used marijuana before 11

Percent:

- Southwestern
- Northwestern
- Northern
- Eastern
- Central
Other Illicit Drugs - MS

Other Illicit Drugs - Virginia Middle Schools, 2013

- Prescription drugs
- Used inhalants
- Used cocaine

Southwestern
Northwestern
Northern
Eastern
Central
Young Adult Survey (YAS)

Survey of young adults 18-24 years of age
18-24 Year Old Survey Data

- Survey data from fundees merged
- 2,137 responses in 2012
- 2,065 responses in 2013
- 2013 responses per locality ranged from
  - 96 in Washington County
  - 357 in Lynchburg City
- Merged data
  - Cannot be generalized to entire state
  - Suggests interesting findings
18-24 Year Old Survey Data

- Overall – 2013
  - 61% (1,242) were 18-20
  - 39% (791) were 21-24
- 43% males, 53% females, 4% missing
- 69% white, 26% non-white, 4% missing
- 8% Hispanic, 6% missing
  - Up from 4% Hispanic in 2012
18-24 Year Old Survey Data

- 18-20 year olds
  - 41% lived w/parents, 35% dorm, 19% w/ friends
- 21-24 year olds
  - 28% w/ parents, 36% in w/ friends, 13% with SO
- 68% full-time college students
  - 72% 18-20, 63% 21-24
- 18% 21-24 year olds – college degree
- *9% of 18-20 year olds – in high school (2x 2012)
- 48% worked part-time - 18% worked full-time
18-24 Year Old Usage Data

- VA YAS – similar to NSDUH results for drinking
- Virginia higher % binge – NSDUH dropped in 2011-12
- Higher % drink and binge in 2013 vs 2012
Drinking by Gender

- As expected, males drink more than females
- Males binge significantly more than females
- Similar both years
- More females reported drinking this year
- More females drink only 1-2 days
- <20% drink more than 8 days/month
18-24 Year Old Usage

- Differed by age
- 51%-58% 18-20 drank 1+ days
- 77%-78% 21-24 drank 1+ days
- More 18-20 drank among 2013 respondents
18-24 Year Old Survey Data

- 18-20 -- those not in school were most likely to drink (66%)
- Full-time - similar
- 21-24 – full time college students slightly higher
18-24 Year Old Binge Drinking

- Binge - 5+ (males) / 4+ (females)
- 52% - 54% of males
- 37% - 44% of females
18-24 Year Old Binge Drinking

- 21-24 more likely to binge drink
- 21-24 –52%-60% binge drank in past month
- 18-24 -- 37%-41% binge drank in past month
18-24 Year Old Drinking & Driving

- BAC >= 0.04 – significant impairment
  - ~4 beers, 2 hours, 180 lbs
- Impairments may be present at very low levels - equivalent to 1 standard drink and BACs as low as 0.01 (Taylor et al., 2010).
- Fujita and Shibata (2006) found BAC = 0.05+ resulted in 4X the risk of fatality in traffic accidents
  

18-24 Year Old Drinking & Driving

- 20% said drove after drinking 2+ drinks
- Most few days only
- 26% males
- 14% females
18-24 Year Old Drinking & Driving

- Majority report not drinking and driving
- 25% 21-24 year olds
- 16% of 18-20 year olds
18-24: Rode With Drinking Driver

- Most claimed to not ride with someone who’d been drinking
- 32% males & 22% females said did ride
18-24: Rode With Drinking Driver

- 21-24 – more likely to ride with someone (32%)
- 18-20 – 23% report riding with someone who’d been drinking
18-24 Year Old Risk Perceptions

- Survey asked – “risk” of binge drinking and drink-driving*
- Risk of drinking 5 (males) or 4 (females) drinks on a single occasion
- Risk of driving after drinking 1-2 drinks
- Risk of driving after 5 (males) or 4 (females) drinks
- ~400 (10%) missing

*World Health Organization promotes this term globally
18-24: Risk – Binge Drinking

- No difference between years
- Slight difference by age
- ~400 missing
18-24: Risk – Driving After Drinking

- Perception of risk of driving changed slightly
- Varied some by age
- ~400 missing
18-24: Risk – Driving After Drinking

- No real difference between age groups
- No difference between years
- >75% said ‘Great Risk’
- ~400 missing
18-24: Perception of DUI Risk

- Significant shift
- More believed ‘Very Likely’ drinking drivers would be stopped
  - 2012 – 24%
  - 2013 – 31%
- ‘Not very or Not at all’ dropped
  - 2012 – 17%
  - 2013 – 14%
18-24: Perceptions of Risk

- 70% said Very Likely or Somewhat Likely someone would be sold / served alcohol if drunk
- 83% said Very Likely or Somewhat Likely someone would be arrested if drinking and driving
- Only question about being stopped
  - So -- perception of being stopped improved
  - But – perception of actually getting a DUI did not
18-24 Year Old Attitudes

- 34% said ‘Acceptable / Somewhat acceptable’ to provide alcohol for people <21
- 55% said ‘Acceptable/Somewhat’ for 18-20 year olds to have 1-2 drinks
- 38% said ‘Acceptable/Somewhat’ for 18-20 year olds to get drunk
- Significant differences from 2012-2013 in attitudes about 15-17 year olds
- Increase in % felt drinking ‘Acceptable / Somewhat Acceptable’
Top Reasons to Drink

- A way to celebrate (55%)
- Like the taste (41%)
- Makes socializing easier (30%)
- Easier to deal with stress or problems (20%)
- Breaks the ice (15%)
- Nothing else to do (10%)
- Helps me to fit in (5%)
- Easier to flirt and/or hook up (2%)

- Of those who drank, the top reason was celebration (55%).
- 41% just like the taste
18-24: Getting Alcohol

- 62% said sort of /very easy to get alcohol if underage
- 90% of 21-24 year olds purchased alcohol
- 19% of 18-20 year olds purchased
- 72% of 18-20 year olds got from friends
- 29% of 18-20 year olds got from parents
- 9% of 18-20 year olds stole from parents or store
18-24: Getting Alcohol

- 37% of respondents said they were NOT asked to show an ID last time they bought alcohol – same as 2012
- Overall 43% 21-24 year olds said they had provided alcohol to someone under 21
- 48% in 2013 – 38% in 2012
- 16% said they’d used a fake ID in 2013 – compared to 9% in 2012
18-24: Drinking Games

- Less than 50% localities included questions
- Of those that did –
  - Only 3% said ‘Not at all popular’ in 2012
  - Increase to 11% in 2013
  - 49% participated in 2012 – 44% in 2013
  - 8% said rapid consumption not popular in 2012
  - Up to 14% in 2013
  - 35% participated both years
18-24: Drink Specials

- 2012 -- 48% - influenced the # consumed
- Drop to 42%
- 2012 -- 47% - influenced where to go
- Drop to 41%
18-24 – Behaviors vs Perceptions

- < Half asked perception of friends' behaviors
- 18-20 – very similar
- 21-24 – prevalence higher than perception
18-24 Year Old Survey

- To be repeated third time late this year
- Localities including evaluation questions regarding environmental strategies
- Hope to see decreases in risky behaviors in localities appropriate for interventions
Warning System Aims to Detect Emerging Trends in Illegal Drug Use

- A national surveillance system
  - Use both traditional data collection strategies and
  - Scans of social media and web platforms to
  - Identify emerging designer synthetic drugs and their metabolites (http://1.usa.gov/1mRw1XJ).
- NIDA-5 years of funding to the UMd Center for Substance Abuse Research
- NDEWS
“NDEWS will generate critically needed information about new drug trends in specific locations around the country so rapid, informed, and effective public health responses can be developed precisely where needed...”

“By monitoring trends at the local level, we hope to prevent emerging drug problems from escalating or spreading to surrounding regions.”

NIDA Director Dr. Nora D. Volkow
Final Notes

- Co-morbidity – mental health / SA
  - Need to explore data sources – nothing currently available statewide
  - 1.7% of NSDUH 2002-2011 fit the definition of SMI and drug or alcohol abuse/dependence
  - Numbers too small to get detail
- Returning military
  - Need to explore data sources