Data-Driven Decisions: Interactive Training and Technical Assistance

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Goals and Objectives

- The primary goal of the project is to create a central repository for Arizona’s substance abuse and crime data in an effort to enhance data-for-decision-making, programmatic monitoring, and reporting consistency.

- Through a user-friendly website, individuals can access the type of data and the geographic level of interest with just a few clicks of a mouse.
  - Where available, data are displayed at multiple levels, across demographics, and over time.
  - Geographic levels include state, county, city, and defined community coalitions, depending on data availability and the appropriate level of reporting.
  - Output options include tables, graphs, and maps to cover a variety of reporting and visualization needs.
Current Indicators and Their Utility

• Consumption
  - A system for assessing the current problem and/or tracking the prevalence of the problem over time.

• Consequences
  - A system for determining the correlative outcomes of the substance-use problem; can be used as one proxy for return on investment.

• Context
  - A system for identifying factors that influence (amplify or deter) decision-making about substance use.

• Other
  - A set of useful resources related to substance use
CDP Website Uses
Grant Writing/Reports

• Good data brings *credibility* to your proposal – it illustrates need, identifies groups in particular need, demonstrates that you have done your homework, and that you have a source for tracking your progress over time if funded.

• Good *illustration* and *description* of your data can increase your odds of funding – particularly in these economic times.
  » Tables and figures can be exported right out of the website and into your documents, and more enhanced representations are easily achievable.
  » We’re here to help – the data request process.
Prevention and Intervention

• Data can be used to guide where you put your resource dollars to achieve the most **bang for your buck**.
  
  • **What:** what is the problem - identify patterns and avoid assumptions
  • **Who:** what population is most affected by the problem – gender, age, race and ethnicity all matter - one size does not fit all
  • **When:** at what point in time did it become a problem, has it increased over time, where does it stand now; one piece of the puzzle is not a complete picture
  • **Where:** what geographic region is most affected – how does that region compare to the county, state and national problem; is it problematic in the community, in the home, in the schools; avoid the ecological fallacy
  • **Why:** what factors in the environment are increasing the problem (i.e., risk factors); what factors in the environment could help buffer the problem (i.e., protective factors); change what can be changed
Data-For-Decision-Making

• Policy
  • Let the evidence speak for itself: Make it clear, concise and concrete.
  • Demonstrate the Return on Investment (ROI).
  • Rule of thumb: in 1 page, sum up the problem, why it’s a problem, what you want, how it will make a difference, and the utility (i.e., cost-benefit analyses) of the proposed change.

• Partners
  • Buy-in is critical – use the data to illustrate “what’s in it for them”.
    – Use the “stroke and kick” method by highlighting data that demonstrates what’s going well first, before you hit them with what needs to be changed.
Evaluation

• Outcome vs. Process Evaluation
  • The CDP houses data for outcome evaluation – specifically the prevalence of *problematic behaviors* (e.g., current use, substance-related ER visits, substance-related school removals), things that *influence* problematic behaviors, and youth *perceptions, attitudes and awareness*.

• Building Evaluation Models
  • Good models have a *pre and post test* – the gold standard for measuring the depth and breadth of efficacy!
    » Raising awareness and changing attitudes is GOOD!
    » Changing behavior is GREAT!
  • Expected *lag effects* and the importance of *time*
  • *Caveats of measuring* population-level change - measure as close to the population you are trying to affect as possible; the wrong data level can lead you to miss effective change or inaccurately assume positive results.
Building Models – Risk Reduction Approach
Building Models – Buffer Approach
Does Tx capacity, specifically residential, meet dependency needs?
Two Basic Analytical Methods

• Tracking across time
  • \((\text{new-old})/\text{old} \times 100 = \text{percent change between two time points}\)
  • Time must make sense – measure appropriately
    – Basic pre-post
    – Each successive year to get % change at every time point or cumulative change
    – After expected lag effect (strategy has to have time to work before change can be expected)

• Between group comparisons
  • Higher/Lower = ratio of difference (e.g., 2.6x higher in one group)
  • Geographically: zip, coalition, city, county, state, national
  • Demographically: gender, age, grade, race, ethnicity
Snapshot Approach

• The Drug Severity Index
  • A *pulse* for how severe the problem of youth substance use is in an area
  • Reflects the # of kids using, the *frequency* of use and the *harm* per substance
    » Frequency: 1 = (1-2x, experimental); 2= (3-9x, weekend); 3= (10-19x, weekend + some weekday); 4=(20+, habitual)
  • The *higher* the score, the *more severe* the problem
    » DSI <5 indicates that no more than 10% used low-to-moderately harmful substances experimentally (i.e., 1-2x in the past 30 days)
    » DSI < 18 indicates that no more than 10% used each substance experimentally
    » DSI > 40 indicates that at least ½ of kids used at least 1 moderate-greatly harmful substance several times (i.e., regular weekday use)
# Youth Drug Severity Index

<table>
<thead>
<tr>
<th>Components</th>
<th>Coalition 2010</th>
<th>County 2010</th>
<th>State 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Substance Users</td>
<td>57.84</td>
<td>54.77</td>
<td>42.30</td>
</tr>
<tr>
<td>Average Frequency of Use</td>
<td>2.89</td>
<td>2.43</td>
<td>1.82</td>
</tr>
<tr>
<td>Average Harm</td>
<td>9.73</td>
<td>8.36</td>
<td>6.46</td>
</tr>
</tbody>
</table>

## Index Factors

### Severity Index of Individual Drugs (harm ranks in parentheses; higher = more harmful†)

<table>
<thead>
<tr>
<th>Drug</th>
<th>Coalition 2010</th>
<th>County 2010</th>
<th>State 2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tobacco (7)</td>
<td>17.16</td>
<td>15.96</td>
<td>10.38</td>
</tr>
<tr>
<td>Alcohol (9)</td>
<td>19.46</td>
<td>19.54</td>
<td>14.96</td>
</tr>
<tr>
<td>Marijuana (5)</td>
<td>20.54</td>
<td>13.23</td>
<td>9.18</td>
</tr>
<tr>
<td>Hallucinogens (3)</td>
<td>0.68</td>
<td>0.42</td>
<td>0.65</td>
</tr>
<tr>
<td>Cocaine (11)</td>
<td>1.35</td>
<td>0.85</td>
<td>0.64</td>
</tr>
<tr>
<td>Inhalants (4)</td>
<td>4.46</td>
<td>1.58</td>
<td>1.49</td>
</tr>
<tr>
<td>Meth (8)</td>
<td>0.95</td>
<td>0.31</td>
<td>0.21</td>
</tr>
<tr>
<td>Heroin (12)</td>
<td>0.27</td>
<td>0.12</td>
<td>0.40</td>
</tr>
<tr>
<td>Ecstasy (1)</td>
<td>0.14</td>
<td>0.69</td>
<td>1.00</td>
</tr>
<tr>
<td>Steroids (2)</td>
<td>0.41</td>
<td>0.88</td>
<td>0.32</td>
</tr>
<tr>
<td>Rx Pain Relievers (6)</td>
<td>5.41</td>
<td>4.50</td>
<td>3.48</td>
</tr>
<tr>
<td>Rx Stimulants (8)</td>
<td>0.14</td>
<td>0.62</td>
<td>0.99</td>
</tr>
<tr>
<td>Rx Sedatives (10)</td>
<td>1.35</td>
<td>2.08</td>
<td>1.87</td>
</tr>
</tbody>
</table>

**Drug Severity Index Score**: 40.96  35.80  26.99

†For details on harm ranks, see Nutt, D. et al. (2007). Development of a rational scale to access the harm of drugs and potential misuse, *Lancet*, 369:1047-1053.
Top-Down Approach

• Overall
  • Smallest geographic area across time
  • Smallest geographic area (e.g., coalition) compared to one or two other aggregate geographies (e.g., county, state)

• By Demographic Group
  • Within most current year, which group is highest
    » Gender, age, grade, race, ethnicity
  • Across years, which group is changing most dramatically
<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td><strong>Alcohol</strong></td>
<td>42.6</td>
<td>31.3</td>
<td>36.2</td>
<td>38.2</td>
<td>30.9</td>
<td>31.9</td>
</tr>
<tr>
<td><strong>Alcohol Heavy Use</strong>*</td>
<td>27.7</td>
<td>18.4</td>
<td>23.4</td>
<td>23.5</td>
<td>18.5</td>
<td>19.5</td>
</tr>
<tr>
<td><strong>Cigarettes</strong></td>
<td>19.8</td>
<td>13.8</td>
<td>15.4</td>
<td>14.3</td>
<td>13.2</td>
<td>14.7</td>
</tr>
<tr>
<td><strong>Chewing Tobacco</strong></td>
<td>4.3</td>
<td>2.2</td>
<td>3.8</td>
<td>4.5</td>
<td>4.2</td>
<td>5.1</td>
</tr>
<tr>
<td><strong>Marijuana</strong></td>
<td>19.2</td>
<td>12.1</td>
<td>12.8</td>
<td>18.2</td>
<td>14.3</td>
<td>14.8</td>
</tr>
<tr>
<td><strong>Hallucinogens</strong></td>
<td>2.8</td>
<td>1.5</td>
<td>1.6</td>
<td>1.9</td>
<td>1.7</td>
<td>1.6</td>
</tr>
<tr>
<td><strong>Cocaine</strong></td>
<td>4.7</td>
<td>2.0</td>
<td>1.9</td>
<td>1.3</td>
<td>1.3</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Inhalants</strong></td>
<td>3.8</td>
<td>2.5</td>
<td>4.3</td>
<td>2.9</td>
<td>3.6</td>
<td>3.7</td>
</tr>
<tr>
<td><strong>Methamphetamines</strong></td>
<td>n/a</td>
<td>1.2</td>
<td>0.7</td>
<td>0.1</td>
<td>0.4</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Heroin or Other Opiates</strong></td>
<td>1.6</td>
<td>0.1</td>
<td>0.6</td>
<td>0.8</td>
<td>0.8</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Ecstasy</strong></td>
<td>1.0</td>
<td>0.5</td>
<td>1.5</td>
<td>2.1</td>
<td>2.6</td>
<td>2.5</td>
</tr>
<tr>
<td><strong>Steroids</strong></td>
<td>n/a</td>
<td>0.6</td>
<td>0.6</td>
<td>0.2</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td><strong>Prescription Pain Relievers</strong></td>
<td>n/a</td>
<td>n/a</td>
<td>7.2</td>
<td>8.5</td>
<td>7.3</td>
<td>7.7</td>
</tr>
<tr>
<td><strong>Stimulants (2004 only)</strong></td>
<td>2.4</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td><strong>Prescription Stimulants</strong></td>
<td>n/a</td>
<td>1.4</td>
<td>2.5</td>
<td>2.8</td>
<td>2.3</td>
<td>2.1</td>
</tr>
<tr>
<td><strong>Prescription Sedatives</strong></td>
<td>9.0</td>
<td>4.6</td>
<td>4.5</td>
<td>3.6</td>
<td>4.2</td>
<td>4.2</td>
</tr>
<tr>
<td><strong>Prescription Drugs</strong></td>
<td>n/a</td>
<td>4.3</td>
<td>10.8</td>
<td>10.4</td>
<td>10.1</td>
<td>10.4</td>
</tr>
<tr>
<td><strong>Over-the-Counter Drugs</strong></td>
<td>n/a</td>
<td>n/a</td>
<td>4.8</td>
<td>4.8</td>
<td>5.7</td>
<td>5.9</td>
</tr>
</tbody>
</table>
An Overall Look

• Current substance use in the coalition declined in 2006, followed by an increase in 2008 and 2010 for 11 of the 15 substances† (cocaine, meth and Rx sedative use consistently declined over time).

• Current rates in the coalition were an average 1.1x higher than Maricopa county and 1.1x higher than the state for the 17 substance categories (2010).

• Summary – substance use in the coalition is, on average, increasing rather than decreasing across time, and the coalition is higher compared to the county and state – particularly for heavy alcohol and marijuana use.
Drilling Down

• Males had a 1.2x higher rate of heavy alcohol use and a 1.3x higher rate of marijuana use.

• 12th graders had higher rates of heavy alcohol use than 8th and 10th graders – 1.6x and 3.8x, respectively; 12th graders had higher rate of marijuana use than 8th and 10th graders – 1.6x and 2.5x, respectively.

• White youth had higher rates of heavy alcohol use than Black and Multi-Racial youth – 3.6x and 3.1x, respectively; White youth had higher rates of marijuana use than Black and Multi-Racial youth – 5.6x and 1.7x, respectively.

• While rates of heavy alcohol use were comparable, Non-Hispanic youth in the coalition had a 1.1x higher rate of marijuana use than Hispanic/Latino youth.

• Summary: To make an impact on the heavy alcohol and marijuana use, tailored strategies towards older, White males in the coalition may bring the highest return on investment.
Website Demonstration


The AZCDP website can also be found on the ACJC home page, under the SAC tab.
CDP Evolution

• New Variables
  • Rx Clearinghouse data – scripts and dosage
  • More Criminal Justice Data – adult and juvenile
  • More and enhanced AYS data – categorical data and indexes

• New Architecture
  • Interface will move to a decision-tree
    » User groups will be better defined
      • Substance Use, Crime, AYS, Criminal Justice System, Demographics
    » Drop downs will make finding variables of interest easier
Group Breakouts

• Grant Writing/Reports

• Evaluation

• Data-For-Decision-Making

• Prevention and Intervention
Q&A and Feedback
Take Home Message

• One size *does not* fit all.

• Local Information is the key to making the best-informed decisions and maximizing return on investment.

• Coupling various types of information across multiple levels provides the most comprehensive picture.
Thank You!

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