Exploring factors associated with suicidal ideation and attempts among urban Native youth

Data-driven decision making using nationally-representative surveys

August 11, 2016
Learning objectives

After attending the presentation, individuals will be able to:

• Identify factors associated with suicidal ideation and attempts among urban American Indian and Alaska Native (AI/AN) youth;
• Discuss the pros and cons of using population-level surveillance data to inform local prevention programs; and
• Recognize culturally-sensitive indicators to inform suicide prevention strategies in urban AI/AN communities.
Leading causes of death among urban Native youth

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>Crude Rate (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accidents (unintentional injuries)</td>
<td>11.8 (9.7 - 13.9)</td>
</tr>
<tr>
<td><strong>Intentional self-harm (suicide)</strong></td>
<td><strong>9.0 (7.2 - 11.0)</strong></td>
</tr>
<tr>
<td>Assault (homicide)</td>
<td>3.2 (2.2 - 4.5)</td>
</tr>
<tr>
<td>Malignant neoplasms</td>
<td>Unreliable (1.0 - 2.6)</td>
</tr>
<tr>
<td>Diseases of heart</td>
<td>Unreliable (0.5 - 1.8)</td>
</tr>
</tbody>
</table>

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2008-2014 on CDC WONDER Online Database, released 2015.
Suicide injury deaths per 100,000 population by race, non-Hispanic ages 12-17, urban areas, 2008-2014

- American Indian or Alaska Native: 9.0
- Asian or Pacific Islander: 2.4
- Black or African American: 2.7
- White: 5.0

Source: Centers for Disease Control and Prevention, National Center for Health Statistics. Underlying Cause of Death 2008-2014 on CDC WONDER Online Database, released 2015.
National Survey on Drug Use and Health

- Conducted by SAMHSA and RTI, International
- We combined data from 2008-2014 (7 years) for this analysis
- 815 urban Native youth (age 12-17, non-Hispanic) in sample
- 51,343 urban White youth (age 12-17, non-Hispanic) in sample

Note: An asterisk (*) in this presentation indicates statistical significance.
Major depressive episode (MDE) history by race, urban youth aged 12-17, NSDUH 2008-2014

- **MDE ever**
  - American Indian or Alaska Native: 17.4%
  - White: 13.9%

- **MDE in past year**
  - American Indian or Alaska Native: 7.8%
  - White: 9.4%
Suicidal ideation

Any thoughts or plans of suicide, urban youth ages 12-17 who reported a major depressive episode, NSDUH 2008-2014

- American Indian/Alaska Native: 13.8%
- White: 11.2%
Results: Suicidal ideation risk factors
Results — Tobacco use in the past month & suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native*</td>
<td>9.05</td>
<td>0.01</td>
<td>1.73</td>
<td>47.06</td>
</tr>
<tr>
<td>White*</td>
<td>1.27</td>
<td>0.01</td>
<td>1.06</td>
<td>1.52</td>
</tr>
</tbody>
</table>

Among urban youth who used tobacco in the past month, Native youth were 4.4 times more likely to report thoughts or plans of suicide than white youth (p=0.05, 95% CI: 1.0-19.0).
## Results — Alcohol use in the past month & suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native</td>
<td>1.23</td>
<td>0.79</td>
<td>0.26</td>
<td>5.89</td>
</tr>
<tr>
<td>White*</td>
<td>1.29</td>
<td>0.01</td>
<td>1.10</td>
<td>1.40</td>
</tr>
</tbody>
</table>

There was no significant difference in suicidal ideation between urban Native youth and White youth who used alcohol in the past month.
# Results — Binge alcohol use in the past month & suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native</td>
<td>0.46</td>
<td>0.30</td>
<td>0.10</td>
<td>2.11</td>
</tr>
<tr>
<td>White*</td>
<td>1.22</td>
<td>0.03</td>
<td>1.02</td>
<td>1.49</td>
</tr>
</tbody>
</table>

There was no significant difference in suicidal ideation between urban Native youth and White youth who participated in binge alcohol use in the past month.
## Results — Alcohol abuse or dependence in the past year & suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native*</td>
<td>6.29</td>
<td>0.01</td>
<td>1.53</td>
<td>25.91</td>
</tr>
<tr>
<td>White*</td>
<td>1.66</td>
<td>&gt;0.01</td>
<td>1.32</td>
<td>2.07</td>
</tr>
</tbody>
</table>

There was no significant difference in suicidal ideation between urban Native youth and White youth with alcohol abuse or dependence in the past year.
### Results — Marijuana use ever & suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native</td>
<td>2.44</td>
<td>0.07</td>
<td>0.93</td>
<td>6.45</td>
</tr>
<tr>
<td>White*</td>
<td>1.36</td>
<td>&gt;0.01</td>
<td>1.18</td>
<td>1.57</td>
</tr>
</tbody>
</table>

There was no significant difference in suicidal ideation between urban Native youth and White youth who had ever used marijuana.
### Results – Illicit drug abuse or dependence in the past year & suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native*</td>
<td>7.64</td>
<td>0.05</td>
<td>1.02</td>
<td>57.18</td>
</tr>
<tr>
<td>White*</td>
<td>1.96</td>
<td>&gt;0.01</td>
<td>1.57</td>
<td>2.46</td>
</tr>
</tbody>
</table>

There was no significant difference in suicidal ideation between urban Native youth and White youth who reported illicit drug abuse or dependence in the past year.
## Results — Ever had a serious fight at school/work & suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native</td>
<td>2.04</td>
<td>0.21</td>
<td>0.66</td>
<td>6.33</td>
</tr>
<tr>
<td>White*</td>
<td>1.37</td>
<td>&gt;0.01</td>
<td>1.17</td>
<td>1.59</td>
</tr>
</tbody>
</table>

There was no significant difference in suicidal ideation between urban Native youth and White youth who had ever had a serious fight at school or work.
Results: Suicidal ideation protective factors
Results — Talked with someone about problems & no suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native*</td>
<td>6.53</td>
<td>0.05</td>
<td>0.98</td>
<td>43.57</td>
</tr>
<tr>
<td>White*</td>
<td>2.51</td>
<td>&gt;0.01</td>
<td>1.87</td>
<td>3.36</td>
</tr>
</tbody>
</table>

There was no significant difference in suicidal ideation between urban Native youth and White youth who reported that they had talked with someone about their problems.
# Results — Average grade of A, B, or C & no suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native</td>
<td>2.35</td>
<td>0.41</td>
<td>0.28</td>
<td>19.86</td>
</tr>
<tr>
<td>White*</td>
<td>1.80</td>
<td>&gt;0.01</td>
<td>1.56</td>
<td>2.08</td>
</tr>
</tbody>
</table>

There was no significant difference in suicidal ideation between urban Native youth and White youth who reported average grades of A, B, or C.
### Results – Parent(s) always/sometimes said good job in past year & no suicidal ideation

<table>
<thead>
<tr>
<th>Race</th>
<th>Odds ratio</th>
<th>P-value</th>
<th>95% Confidence</th>
<th>Interval</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaska Native</td>
<td>2.32</td>
<td>0.07</td>
<td>0.93</td>
<td>5.78</td>
</tr>
<tr>
<td>White*</td>
<td>1.69</td>
<td>&gt;0.01</td>
<td>1.43</td>
<td>1.99</td>
</tr>
</tbody>
</table>

There was no significant difference in suicidal ideation between urban Native youth and White youth who reported that their parent(s) always or sometimes said good job in the past year.
Results: Suicide Attempts
Outcome 2 – Suicide attempts

Suicide attempts among those who reported any thoughts or plans of suicide, urban youth age 12 to 17, NSDUH 2008-2014

American Indian/Alaska Native: 23.9%
White: 20.7%
From the literature

Some risk factors associated with suicide attempts among urban Native youth:

• Depression
• Sexual and physical abuse
• Alcohol abuse or dependence
• Family history of suicide
• Historical trauma
Some protective factors associated with no suicide attempts among urban Native youth:

- Social support
- Cultural identity
- Positive relationships with family and friends
- Spiritual orientation
- High GPA
- Effective clinical care for mental, physical, and substance abuse disorders
Limitations

• Small sample size – only 815 urban Native youth in 2008-2014 datasets
  • Only those who experienced an MDE were asked suicide questions
  • The sample of urban Native youth who attempted suicide was too small to analyze

• NSDUH does not include measures of trauma or cultural identity/spirituality
Discussion

• Tobacco use in the past month seems to be a strong predictor of suicidal ideation in urban Native youth – Why?
• What risk factors and protective factors related to suicide are in your communities?
• What sources of data do you use to monitor youth suicide in your own communities?
Discussion

• What indicators would be most useful to your program?
• How can we gather data on these indicators to monitor youth suicide behaviors in our communities?
• How can we effectively advocate for our youth without this data?
Building an urban Indian suicide surveillance system

• Identify relevant data
• Identify gaps in data
• Identify indicators and analyses that are needed for:
  • Program development
  • Advocacy and education
  • Program proposals
  • Program evaluation
  • Research
• Work together to access and analyze data
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Decreases in Suicide Deaths and Attempts linked to the White Mountain Apache Suicide Surveillance and Prevention System (2007-2012)

Mary F. Cwik, PhD
IHS Behavioral Health Conference
August 11, 2016
Celebrating Life Surveillance System
Celebrating Life Surveillance System

• Tribal resolution in 2001
• All community members (all persons, departments, and schools) are responsible for reporting individuals at risk for self-injurious behaviors
• Reportable behaviors include:
  • suicide death
  • suicide attempt
  • suicide ideation
  • non-suicidal self-injury
  • binge substance use
Celebrating Life Surveillance System

**CL Process:**
- Report is made
- Behavioral Health Services is notified
- In-person interview to validate report
- Referral to care
- Continued well-fare checks
Celebrating Life Prevention Program
Primary intervention targets include:

- **Universal**: community-wide education to promote protective factors and reduce risks
- **Selected**: early identification and triage of high-risk youth
- **Indicated**: intensive prevention intervention with youth who attempt suicide and their families

Activities are supported and guided by a Community Advisory Board and Elders’ Council
Celebrating Life Prevention Programming

Universal Activities include:

- Interagency meetings
- A public education multi-media campaign
- Suicide prevention walks
- Suicide prevention conferences
- Door to door campaign
- Booths at health and tribal fairs
Celebrating Life Prevention Programming

Selected and Indicated Activities include:

• ASIST Trainings

• Cultural and strengths-based activities led by Apache Elders
  • Elementary school workshops
  • Middle school curriculum
  • Field Trips

• Brief intervention (2-4 hours) with a powerful, locally adapted video and manualized curriculum ("New Hope")

• Multi-session life skills curriculum (based on AILSDC)
Celebrating Life Impact
Celebrating Life Evaluation

• Numbers of suicide deaths and attempts (numerators) came from the surveillance system.

• Numbers for the total and age-specific tribal population sizes (denominators) came from 2007–2012 Indian Health Service (IHS) estimates for the Whiteriver Service Unit, which serves the Ort Apache Indian Reservation.

• We calculated age-adjusted suicide rates by using the 2010 US Census population as the reference population.
Celebrating Life Results – Suicide Deaths

![Graph showing suicide death rates for different groups]

- **US All Races (CDC)**
- **US White (CDC)**
- **AI/AN (IHS)**
- **White Mountain Apache Tribe**

*AI/AN Rates were provided by IHS and are only available through 2008*
### Celebrating Life Results – Suicide Deaths

Apache Death Incidence Rate Per 100,000

<table>
<thead>
<tr>
<th>Age Group</th>
<th>2001-2006</th>
<th>2007-2012</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-4</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>5-9</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>10-14</td>
<td>17.1</td>
<td>23.6</td>
<td>38.0%</td>
</tr>
<tr>
<td>15-19</td>
<td>107.8</td>
<td>101.9</td>
<td>-5.5%</td>
</tr>
<tr>
<td>20-24</td>
<td>151.9</td>
<td>96.0</td>
<td>-36.8%</td>
</tr>
<tr>
<td>25-34</td>
<td>95.0</td>
<td>37.9</td>
<td>-60.1%</td>
</tr>
<tr>
<td>35-44</td>
<td>23.3</td>
<td>9.1</td>
<td>-60.9%</td>
</tr>
<tr>
<td>45-64</td>
<td>15.5</td>
<td>11.7</td>
<td>-24.5%</td>
</tr>
<tr>
<td>65+</td>
<td>0</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Total (all ages)</td>
<td></td>
<td></td>
<td>-</td>
</tr>
<tr>
<td>Age-Adjusted</td>
<td>40.0 (27.8, 52.1)</td>
<td>24.7 (16.3, 36.2)</td>
<td>-38.3%</td>
</tr>
</tbody>
</table>
Characteristics of Suicide Deaths

• 29 suicide deaths
• **Age:** 72% under 25 years old; average age 23
• **Gender:** 66% male; 85% in 2001-2006
• **Methods:** 90% hanging
• **Substances:** 59% drinking at the time
• **Precipitating Factor:** 62% interpersonal conflict
Celebrating Life Results – Suicide Attempts

![Graph showing the number of suicide attempts over time for males and females.]
• 433 attempts (366 individuals)
• **Age:** 69% under 25 years old; average age 23
• **Gender:** ~50% male; same as 2001-2006
• **Methods:** 44% overdose, 29% hanging
• **Substances:** 73% using substances; 56% alcohol
• **Precipitating Factor:** 33% interpersonal conflict
• Despite decrease, highest incidence still ages 15-19
  • For both deaths and attempts
  • Creative prevention intervention approaches needed

• Role of alcohol
  • Alcohol use co-occurred in more than half of all deaths and attempts

• Young Apache women seem to be at increasing risk

• Deaths among parents:
  • 48% had children, up from 5% in 2001-2006; Females (60%) more often parents than males (42%)

• Cyclical pattern of deaths
  • “Peaks” appearing every 3 years

• Age is protective
  • No deaths in individuals over the age of 49
• Comprehensive, population-specific prevention approaches, like the White Mountain Apache model, can reduce suicide deaths and attempts
• Tribally-mandated surveillance provided the foundation to identify, provide services and track outcomes for individuals and communities at elevated risk for suicide
• Community surveillance systems allow for in depth, accurate, high quality data and is critical in prevention programming and evaluation