Youth Suicide: Addressing the Issue through Prevention and Intervention

March 6, 2006

20th Annual Research Conference: A System of Care for Children’s Mental Health: Expanding the Research Base

Suicide: A Leading Public Health Concern

- Nearly 50% of violent deaths worldwide are attributed to suicide
- Lives lost to suicide > Lives lost to homicide > Lives lost to war
- Suicide is the 11th leading cause of death in the United States
  - Approximately 30,000 people in the U.S. die of suicide each year

<table>
<thead>
<tr>
<th>Age Range</th>
<th>Suicide Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>5-14 yrs</td>
<td>5th</td>
</tr>
<tr>
<td>15-24 yrs</td>
<td>3rd</td>
</tr>
<tr>
<td>25-44 yrs</td>
<td>4th</td>
</tr>
<tr>
<td>45-64 yrs</td>
<td>8th</td>
</tr>
</tbody>
</table>

Higher rates of suicide completion among...
- Males
- Rural area residents
- Native youth

Suicide Prevention: The National Priority

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>Surgeon General's Call to Action to Prevent Suicide</td>
</tr>
<tr>
<td>2001</td>
<td>National Strategy for Suicide Prevention: Goals and Objectives for Action</td>
</tr>
<tr>
<td>2002</td>
<td>National Institute of Medicine: Reducing Suicide: A National Imperative</td>
</tr>
<tr>
<td>2003</td>
<td>The President's New Freedom Commission on Mental Health: Achieving the Promise: Transforming Mental Health Care in America</td>
</tr>
<tr>
<td>2005</td>
<td>Transforming Mental Health Care in America, The Federal Action Agenda: First Steps</td>
</tr>
</tbody>
</table>

Suicide Prevention & Intervention

- Public health approach:
  - Increase awareness of risk factors
  - Increase identification of risk factors
  - Improve effective referrals to treatment
  - Enhance treatment options

Lifetime History of Suicide Attempt Among Children Entering Systems of Care Across the Years

Among children entering SOC services in communities funded 2002-2004:
- 18.9% were referred for problems related to suicide (n=6,472)
- 18.4% had a lifetime history of suicide attempt (n=2,004)
  - Among attempters, 44.1% had attempted in the prior 6 months
  - Among attempters, 67.1% had attempted more than once

Suicidal Ideation & Behavior is Common Among Children Entering Systems of Care

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  - 18.4% had a lifetime history of suicide attempt (n=2,004)
  - Among attempters, 44.1% had attempted in the prior 6 months
  - Among attempters, 67.1% had attempted more than once

<table>
<thead>
<tr>
<th>Year</th>
<th>Lifetime History of Suicide Attempt (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1995</td>
<td>15.8%</td>
</tr>
<tr>
<td>1996</td>
<td>15.8%</td>
</tr>
<tr>
<td>1997</td>
<td>13.8%</td>
</tr>
<tr>
<td>1998</td>
<td>13.9%</td>
</tr>
<tr>
<td>1999</td>
<td>12.8%</td>
</tr>
<tr>
<td>2000</td>
<td>15.0%</td>
</tr>
<tr>
<td>2001</td>
<td>16.2%</td>
</tr>
<tr>
<td>2002</td>
<td>15.0%</td>
</tr>
<tr>
<td>2003</td>
<td>15.4%</td>
</tr>
<tr>
<td>2004</td>
<td>13.2%</td>
</tr>
<tr>
<td>2005</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

Based on combined caregiver and youth report.
Congruence of Caregiver and Youth Reports of Suicidal Ideation and Suicide Attempts

Anna Krivelyova, MA
Robert L. Stephens, PhD

Overview

- Determining risk for suicide is complex because of respondent-related factors (e.g., reluctance to disclose)
- Measuring youth suicide risk is complicated further by issues related to the source of information (e.g., youth vs. caregiver)

Methods

- Descriptive and outcomes study of the national evaluation of SOC communities funded in 2002-2004
- Children 11 years or older
- 789 children and families with complete data on suicide ideation
- 783 children and families with complete data on suicide attempts
- Measures used: Behavioral and Emotional Rating Scale (BERS), Columbia Impairment Scale (CIS), and the Caregiver Strain Questionnaire (CGSQ).
Results: Congruence

Four categories of congruence:
- Neither caregiver nor youth reported ideation (or attempt)
- Both caregiver and youth reported ideation (or attempt)
- Caregiver reported ideation (or attempt) and youth did not
- Youth reported ideation (or attempt) and caregiver did not

Results: Univariate Tests

- Youth and family demographic and clinical characteristics at baseline were compared across both, caregiver, and youth categories
- Chi-square tests were used for categorical variables
- F-tests were used for continuous variables

Results: Univariate Tests

- When suicide ideation was reported by at least one of the two respondents, in 52% of all cases respondents agreed
- When suicide attempts were reported by at least one of the respondents, in 47% of all cases respondents agreed

Univariate Tests

- All variables used in univariate tests and a constant term were entered simultaneously into the model
- Multinomial Logit was used for estimation
- Base category: both
- Significant estimates are presented
## Results: Multivariate Tests

<table>
<thead>
<tr>
<th></th>
<th>Ideation (n=426)</th>
<th>Attempts (n=181)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>-1.442</td>
<td>0.000</td>
</tr>
<tr>
<td>Biological Parent</td>
<td>0.502</td>
<td>0.221</td>
</tr>
<tr>
<td>Caregiver Age</td>
<td>0.037</td>
<td>0.040</td>
</tr>
<tr>
<td>Income Below Poverty</td>
<td>0.077</td>
<td>0.768</td>
</tr>
<tr>
<td>Child Physically Abused</td>
<td>-0.276</td>
<td>0.348</td>
</tr>
<tr>
<td>Child Used Drugs</td>
<td>-0.605</td>
<td>0.079</td>
</tr>
<tr>
<td>Adult to Talk to</td>
<td>0.063</td>
<td>0.469</td>
</tr>
<tr>
<td>Someone Own Age to Depend on in Case of a Problem</td>
<td>0.165</td>
<td>0.041</td>
</tr>
<tr>
<td>CGS Objective</td>
<td>-0.198</td>
<td>0.226</td>
</tr>
<tr>
<td>Strength Index</td>
<td>-0.020</td>
<td>0.049</td>
</tr>
<tr>
<td>CIS in Clinical Range</td>
<td>-0.281</td>
<td>0.539</td>
</tr>
</tbody>
</table>

## Summary and Implications

- Caregivers were more likely to report ideation when youth did not.
- Youth were more likely to report suicide attempts when caregivers did not.
- Among predictors of congruency are child’s gender, caregiver’s age and relation to the child, poverty status of the family, child’s risk factors such as history of physical abuse and drug use.

## Summary and Implications

- Need for a dynamic framework to account for the possible endogeneity problems (e.g., caregivers report lower strain because they do not know about their child’s suicidal ideation).
- Additional research is needed to replicate this study’s findings with other samples and further explore predictors of congruency.
- Need to increase caregiver awareness and early identification of risk factors, ideally targeting caregivers with characteristics predictive of “youth only” reporting.

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## Contextual Overview

- Prior suicide attempt is a risk factor for future suicidal behavior.
- Keeping children in treatment may reduce risk of future suicidal behavior.
- Understanding the characteristics of youth that attempt suicide after entering SOC services is crucial to intervention and prevention.

## Purpose of this Study

- Exploratory
  - What are the characteristics of youth who attempt suicide after entering SOC services?
    - * Demographic
    - * Child & Family Psychosocial
    - * Child Clinical
    - * Service
  - How do they compare to youth who do not attempt suicide after entering SOC services?
Data Source & Analytic Approach

- Data gathered
  - as part of the Outcome Study of the National Evaluation
  - from communities funded in 2002 and 2004
  - between 2002 and 2006, and
  - at intake and 6-month follow-up.
- Sample includes 1,001 youth with valid data on suicide attempt at 6-month follow-up
- Independent bivariate analyses
  - Chi-squares and independent t-test
  - between suicide attempt status during first 6-months of service and youth characteristics.

Sample Characteristics

Suicidal Behavior
- 15.2% had a history of suicide attempt prior to entering SOC
- 5.4% attempted suicide in the first 6 months of SOC service
  - 46% of those had a pre-SOC attempt history

Demographic Characteristics

- 31.5% Female
- M = 11.8(3.7) years

Bivariate Findings: Suicidal Behavior Before Entering SOC

- Significant differences in suicidal behavior of those who attempted in the 6-months after SOC entry as compared to those did not:

<table>
<thead>
<tr>
<th>Suicidal Behavior before Entering SOC</th>
<th>Attempt</th>
<th>No Attempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hx of Ideation (n=961)</td>
<td>77.4%</td>
<td>42.6%</td>
</tr>
<tr>
<td>Hx of Attempt (n=893)</td>
<td>58.5%</td>
<td>18.8%</td>
</tr>
<tr>
<td>Of attempters, that attempted in Last 6-months (n=205)</td>
<td>71.0%</td>
<td>37.9%</td>
</tr>
<tr>
<td>Reason for Referral (n=963)</td>
<td>53.8%</td>
<td>22.8%</td>
</tr>
</tbody>
</table>

Bivariate Findings: Baseline Clinical Characteristics

- Significant differences in baseline clinical characteristics of those who attempted in the 6-months after SOC entry as compared to those did not:

<table>
<thead>
<tr>
<th>Baseline Clinical Characteristics</th>
<th>Attempt</th>
<th>No Attempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>CIS – Impairment (n=946)</td>
<td>M = 78.9</td>
<td>M = 74.8</td>
</tr>
<tr>
<td>BERS Strength Index - Youth (n=893)</td>
<td>M = 70.7</td>
<td>M = 65.9</td>
</tr>
<tr>
<td>CBCL Externalizing (n=863)</td>
<td>M = 73.1</td>
<td>M = 70.5</td>
</tr>
<tr>
<td>RADS – Depression Total (n=937)</td>
<td>M = 60.1</td>
<td>M = 52.6</td>
</tr>
<tr>
<td>CBCL Internalizing (n=863)</td>
<td>M = 60.7</td>
<td>M = 54.5</td>
</tr>
<tr>
<td>RADS – Anxiety Total (n=937)</td>
<td>M = 19.8</td>
<td>M = 24.7</td>
</tr>
</tbody>
</table>

- Caregiver strain not significantly associated
- Substance use and dependency not significantly associated
Bivariate Findings: 6-month Follow-up Characteristics

- Significant differences in 6-month follow-up characteristics of those who attempted in the 6-months after SOC entry as compared to those who did not:

<table>
<thead>
<tr>
<th>Measure Follow-up Characteristics</th>
<th>Attempted</th>
<th>Did Not Attempt</th>
</tr>
</thead>
<tbody>
<tr>
<td>BERS Strength (n=627)</td>
<td>M = 25.3</td>
<td>M = 28.7</td>
</tr>
<tr>
<td>CBCL Internalizing (n=608)</td>
<td>M = 79.0</td>
<td>M = 63.2</td>
</tr>
<tr>
<td>CBCL Externalizing (n=608)</td>
<td>M = 71.7</td>
<td>M = 69.0</td>
</tr>
<tr>
<td>RADS – Depression Total (n=627)</td>
<td>M = 54.3</td>
<td>M = 50.3</td>
</tr>
<tr>
<td>POMAS – Anxiety Total (n=684)</td>
<td>M = 36.6</td>
<td>M = 32.2</td>
</tr>
<tr>
<td>BERS Strength (n=627)</td>
<td>M = 22.1</td>
<td>M = 24.2</td>
</tr>
<tr>
<td>Number of Service Received in 1st 6-months (n=329)</td>
<td>M = 7.2</td>
<td>M = 5.5</td>
</tr>
</tbody>
</table>

Strength – caregiver was not significantly associated
Substance use and dependency was not significantly associated
Satisfaction with services was not significantly associated
Impairment was not significantly associated

Conclusions

- Specific demographic, psychosocial, clinical and service characteristics – both at baseline and 6-month follow-up – are significantly associated with suicide attempt subsequent to service entry
- Youth who attempt suicide after entering SOC services:
  - Present to services with unique characteristics
  - Have obvious histories of suicidal behavior
  - Demonstrate unique clinical patterns after service entry
  - Receive more services after SOC

Implications

- Heightened awareness/attention to youth who have previous suicidal behavior
- Standardized suicide risk assessment at intake into services
- Periodic suicide risk re-assessment after entry into SOC
- Provider training/preparation
  - Suicide risk assessment
  - Service delivery and intervention with attempters
- Postvention for families of attempters
- Postvention for providers of service to attempters

Suicide Prevention: The Garrett Lee Smith Youth Suicide and Early Intervention Program

Angela Sheehan, Project Director
GLS Cross-Site Evaluation

Suicide Prevention: A Public Health Model

- National Strategy for Suicide Prevention (NSSP)
  - 11 goals and 68 objectives
- Statewide suicide prevention plans
  - Mirror the goals and objectives from the NSSP
  - Large focus on early identification and linkage to services
- Colleges and Universities
  - Large focus on raising awareness, early identification and linking to appropriate care

Cross-cutting Goals and Objectives

- Promote awareness
- Develop support for prevention
- Reduce stigma
- Develop community-based programs
- Train gatekeepers and providers in early identification
  - Including community mental health
Cross-cutting Goals and Objectives

- Promote effective clinical and professional practices
  - Response plans, emergency referral plans
- Increase community linkages
- Improve reporting and surveillance systems
- Support research and evaluation on suicide

GLS Memorial Act & Initiative

- Garrett Lee Smith Memorial Act signed into law (October 21, 2004)
  - First legislation to provide funding specifically for suicide prevention
  - Created two programs:
    - State/Tribal Suicide Prevention and Early Intervention Program
    - Campus Suicide Prevention Program
  - Includes funding for the GLS Suicide Prevention Cross-Site Evaluation

Federal Funding for GLS Suicide Prevention Programs
$46.5 million

State/Tribal Suicide Prevention Program

- State/Tribal Program
  - Up to $400,000 per year
  - 3-year cooperative agreements
- Fundable activities:
  - Implement statewide suicide prevention strategies
  - Support public and private organizations involved in suicide prevention efforts
  - Provide grants to higher education to coordinate the implementation of suicide prevention efforts
  - Collect and analyze data on suicide prevention efforts
  - Assist eligible entities in achieving targets for youth suicide reductions

GLS Suicide Prevention State/Tribal Grantees

- Cohort 1 Total Grantees: 5
- Cohort 2 Total Grantees: 24

State/tribal suicide prevention grants are distributed across various states, with some states highlighted in blue. The bar chart shows the target areas for each grant type.
Cohort 1 GLS State/Tribal Suicide Prevention Primary Program Activities

- Campus Program
  - Up to $75,000 per year with equivalent match
  - 3-year cooperative agreement

- Six fundable activities
  - Training programs
  - Educational seminars
  - Develop infrastructure to provide service linkage
  - Create local suicide hotlines or link to national hotline
  - Informational materials to address warning signs
  - Educational materials for families to increase awareness

GLS Suicide Prevention Campus Grantees
Cohorts 1 and 2
55 Total Grantees
- NY (6)
- ND (1)
- AZ (1)
- OR (2)
- UT (2)
- CA (3)
- CO (1)
- TN (2)
- OK (1)
- TX (2)
- ID (1)
- NH (1)
- MD (1)
- CT (1)
- MO (2)
- MS (2)
- OH (2)
- MA (3)
- MIWI (2)
- WI (1)
- SD (1)
- PA (1)
- DC (2)
- NJ (1)
- NC (1)
- SC (1)
- GA (1)
- FL (2)
- IN (1)
- IL (3)
- MI (1)
- NE (1)
- Puerto Rico (2)
- Guam (1)

Cohort 1: 21 Grantees
Cohort 2: 34 Grantees
* Includes two cohort 2 grantees.

Evaluation Requirements:
National and Local Importance

Stages of Information Gathering

- Early Identification, Referral and Follow-Up (EIRF) Analysis
- Training Exit Survey (TES)
- Training Utilization and Penetration Key Informant Interviews (TUP)
- Referral Network Survey (RNS)

State/Tribal Cross-site Evaluation

Six Cross-site Evaluation Data Collection/Tracking Activities

<table>
<thead>
<tr>
<th>Stage</th>
<th>Data Collection Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>Contextual review of funded grant proposals</td>
</tr>
<tr>
<td>Product</td>
<td>Existing Database Inventory (EDI)</td>
</tr>
<tr>
<td>Process</td>
<td>Product and Services Inventory (PSI)</td>
</tr>
<tr>
<td>Process</td>
<td>Training Exit Survey (TES)</td>
</tr>
<tr>
<td>Process</td>
<td>Training Utilization and Penetration Key Informant Interviews (TUP)</td>
</tr>
<tr>
<td>Process</td>
<td>Referral Network Survey (RNS)</td>
</tr>
</tbody>
</table>

Impact
- Early Identification, Referral and Follow-Up (EIRF) Analysis

State/Tribal Overarching Questions

- What is the overall impact of program activities on the early identification of youth at risk for suicide and the linking of those youth to mental health or other support services?
- What populations are exposed to and impacted by program services, products, and strategies?
- To what extent does collaboration related to suicide prevention between youth-serving agencies influence referral mechanisms and service use?
- To what extent are suicide prevention program activities integrated into the policies and procedures of youth-serving agencies?

- What types of prevention/intervention programs, services and products are used across GLS State/Tribal grantee?
- What existing data infrastructure exists to support State/Tribal programs?
Campus Cross-site Evaluation

Overarching Questions

- What is the impact of program activities?
- How many students are being referred for mental health services?
- How many students receive mental health services?
- How many students are accessing crisis support services?
- What is the overall level of suicide prevention awareness and knowledge among campus staff/faculty and students?
- Does it vary as a function of targeted activities?
- Does it vary as a function of products/services developed?
- Does it vary as a function of student and faculty characteristics?
- How does the suicide prevention infrastructure develop and evolve over time?

Campus Cross-site Evaluation

Data Collection Activities

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</tr>
<tr>
<td>Product</td>
<td>Product and Services Inventory (PSI)</td>
</tr>
<tr>
<td>Process</td>
<td>Suicide Prevention Exposure, Awareness and Knowledge</td>
</tr>
<tr>
<td></td>
<td>Survey-Student and Faculty/Staff</td>
</tr>
<tr>
<td>Impact</td>
<td>MTS data abstraction and submission</td>
</tr>
</tbody>
</table>

National Perspective: What we hope to learn

- What suicide prevention efforts are being implemented in states and tribal communities across the country
- Results of gatekeeper training and screening on identifying at risk youth and linking them to appropriate services
- Existence and quality of collaborations and infrastructures to support suicide prevention, including community mental health

Conclusions

- High prevalence of suicide ideation and attempts among youth served in systems of care
- GLSMA provides first opportunity for federally funded community-based suicide prevention programs
- Impact on systems of care is two-fold
  - Increased need for community-based services
  - Resources available to raise awareness among providers and develop response plans