Suicide Trends, Service Gaps, and the Public Health

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Disclosures

• I currently receive grant funding from the National Institute of Mental Health, Centers for Disease Control and Prevention, and the American Foundation for Suicide Prevention

• I have no financial relationships or Conflicts of Interest (COIs) to disclose
Objectives

• Discuss and compare suicide trends in Ohio and the United States

• Aspirational goals of the National Action Alliance for Suicide Prevention (Action Alliance)

• Opportunities to reduce suicide rates in Ohio and the US: Focus on access to health services and periods of high risk
The Burden of Suicide in the U.S.

• In 2010, suicide was the 10\textsuperscript{th} leading cause of death, claiming more than 38,000 lives

• Every year, suicide claims more than twice as many lives as homicide

• More than 8.5 million U.S. adults report having serious thoughts of suicide and 1.1 million people report making a suicide attempt in the past 12 months

• The burden of suicide extends beyond those who have considered or attempted suicide, or have taken their own lives.

The Problem of Youth Suicide*

• In 2010, suicide was the 10th leading cause of death for all ages but the 3rd leading cause of death for youth aged 10-19 years in the United States

• There were 1,926 suicide deaths among U.S. children and adolescents in 2010

More deaths from suicide than deaths from 7 other leading causes combined

The Burden of Suicide in Ohio

- In 2010, suicide was the 11th leading cause of death for all ages and the 2nd leading cause of death in youth aged 10-19 years.

- In 2010, more than twice as many Ohioans died by suicide than by homicide (1,439 suicide deaths vs. 569 homicide deaths).

- Ohio’s average annual medical cost for suicide per year is $3,924,000 and work loss costs for suicide per year are $1.4 billion dollars.

• Dramatic single-year increase in the number of pediatric suicides in Franklin County

• The number of suicide deaths in 2012 is equal to the number of suicide deaths in the past 5 years combined

Disturbing trend
The number of pediatric suicides investigated in Franklin County this year has risen threefold from 2011 and is equal to the number of such deaths in the past five years combined.

<table>
<thead>
<tr>
<th>Year</th>
<th>Hanging</th>
<th>Gunshot</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>2</td>
<td></td>
<td>2</td>
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<tr>
<td>2008</td>
<td>2</td>
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<td>2009</td>
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<tr>
<td>2010</td>
<td>1</td>
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</tr>
<tr>
<td>2011</td>
<td>3</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>2012</td>
<td>9</td>
<td></td>
<td>9</td>
</tr>
</tbody>
</table>

Note: 2012 figures are through Dec. 14. Two victims were residents of adjacent counties who died at Nationwide Children's Hospital, and their deaths were investigated by Franklin County.

Source: Franklin County coroner

THE COLUMBUS DISPATCH
Comparison of Suicide Rates in Ohio and the United States, 2001-2010

The suicide rate among Ohioans increased 15.1%, from 10.6 per 100,000 persons in 2001 to 12.2 per 100,000 in 2010.

Source: Centers for Disease Control and Prevention; WISQARS; www.cdc.gov/injury/wisqars/index.html
Comparison of Suicide Rates in Ohio and U.S. by Sex, 2010

Suicide among males is roughly four times higher than among females and represents 79% of all U.S. suicide deaths.

Source: Centers for Disease Control and Prevention, WISQARS; data accessed from http://webappa.cdc.gov/sasweb/ncipc/dataRestriction_inj.html
Comparison of Suicide Rates in Males and Females by Age, 2010

Source: Centers for Disease Control and Prevention, WISQARS; data accessed from http://webappa.cdc.gov/sasweb/ncipc/dataRestriction_inj.html
Suicide Rates by Age and Sex in US Youths, 2006-2010*

Suicide Rates by Race / Ethnicity, US and Ohio, 2010

*Other race includes American Indian/Alaskan Native and Pacific Islander, Non-Hispanic;
Suicide Deaths by Mechanism, Ohio, 2006 to 2010

Age 10 - 19 years
- Firearms: 51.5%
- Suffocation: 5.9%
- Poisoning: 37.4%
- Other methods*: 5.2%

Age 20 years and older
- Firearms: 50.2%
- Suffocation: 23.5%
- Poisoning: 7.0%
- Other methods*: 19.3%

Ohio suicide rate (11.4): 17th

Reports for All Ages include those of unknown age.
* Rates based on 20 or fewer deaths may be unstable. States with these rates are cross-hatched in the map (see legend above). Such rates have an asterisk.
The standard population for age-adjustment represents the year 2000, all races, both sexes.
2004-2010, United States
Age-adjusted Death Rates per 100,000 Population
All Injury, Suicide, All Races, All Ethnicities, Both Sexes, All Ages
Annualized Age-adjusted Rate for United States: 11.38

Reports for All Ages include those of unknown age.
* Rates based on 20 or fewer deaths may be unstable. These rates are suppressed for counties (see legend above); such rates in the title have an asterisk.
The standard population for age-adjustment represents the year 2000, all races, both sexes.

Produced by: the Statistics, Programming & Economics Branch, National Center for Injury Prevention & Control, CDC
Data Sources: NCES National Vital Statistics System for numbers of deaths; US Census Bureau for population estimates.
Suicide Rates per 100,000 Population, Ohio Counties, All Ages, 2004-2010*

*Annualized age-adjusted suicide rate for Ohio: 11.37
Suicide Rates per 100,000 Population, Ohio Counties, All Ages, 2004-2010*

Mono County
Age-adjusted suicide rate: 21.60

*Annualized age-adjusted suicide rate for Ohio: 11.37
Suicide Rates per 100,000 Population, Ohio Counties, All Ages, 2004-2010*

*Annualized age-adjusted suicide rate for Ohio: 11.37
A Prioritized Research Agenda for Suicide Prevention:
An Action Plan to Save Lives
Research Prioritization Task Force

Source: http://actionallianceforsuicideprevention.org/about-us
About the Action Alliance

• It is the public-private partnership advancing the National Strategy for Suicide Prevention

• Mission:
  – Championing suicide prevention as a national priority
  – Catalyzing efforts to implement high priority objectives of the NSSP
  – Cultivating the resources needed to sustain progress

• Goal:
  – To save 20,000 lives in five years

Source: http://actionallianceforsuicideprevention.org/about-us
Suicide rates in the U.S. have remained relatively unchanged during the past 70 years despite unprecedented advancement in the diagnosis and treatment of mental illness.

Build a research agenda that, if fully implemented, will reduce suicide deaths and suicide attempts by 20% within five years.

This goal translates into a reduction of ~7,000 suicide deaths and 130,000 – 220,000 suicide attempts each year by 2018.

For children and adolescents: a reduction of nearly 400 suicide deaths and 7,100 – 12,100 attempts each year by 2018.

Increasing Suicide Rates in the U.S., 2000-2010*

<table>
<thead>
<tr>
<th>Year</th>
<th>Suicide Rate per 100,000</th>
</tr>
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<tbody>
<tr>
<td>2000</td>
<td>10.5</td>
</tr>
<tr>
<td>2005</td>
<td>10.2</td>
</tr>
<tr>
<td>2010</td>
<td>11.1</td>
</tr>
</tbody>
</table>

Increasing Suicide Rates in the U.S., 2000-2010*

Increasing Suicide Rates in the U.S., 2000-2010*

- 2000: 29,350 deaths
- 2010: 38,364 deaths
- 2020: 23,018 deaths

Aspirational Goals (AGs) for Research of the Action Alliance

• AGs are defined as an important goal for scientists and researchers to achieve in order to reduce the number of people who attempt or die by suicide

• 12 AGs were created as part of a Stakeholder Survey

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<td>9-Enhanced continuity of care</td>
</tr>
<tr>
<td>1</td>
<td>7-Provider training</td>
</tr>
<tr>
<td>1</td>
<td>8-Access to affordable/effective care</td>
</tr>
<tr>
<td>2</td>
<td>4-Psychosocial interventions</td>
</tr>
<tr>
<td>2</td>
<td>1-Risk and protective factor ...</td>
</tr>
<tr>
<td>2</td>
<td>10-Stigma reduction</td>
</tr>
<tr>
<td>2</td>
<td>11-Populat.-based risk-reduction</td>
</tr>
<tr>
<td>2</td>
<td>3-Prediction of imminent risk</td>
</tr>
<tr>
<td>-</td>
<td>5-Improved biolog. Interventions</td>
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<td>-</td>
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Aspirational Goals

• **Aspirational Goal 8**: Ensure that people at risk for suicidal behavior can access affordable care that works, no matter where they are.

• **Aspirational Goal 9**: Ensure that people getting care for suicidal thoughts and behaviors are followed through their treatment so they don’t fall through the cracks.

Source: Action Alliance Research Prioritization Report, 2014
Access to Health Care and Suicide Rates

• Ecological studies have shown suicide rates are inversely associated with indicators of access to health and mental health services

• Increased staffing of mental health providers also has been found to be related to lower suicide rates within care systems (e.g., Veteran’s Administration)

Availability of Mental Health Service Providers and Suicide Rates in Austria

Figure 1
Density of psychotherapists per 10,000 population in 99 Austrian districts, 1997

Source: Kapusta et al., *Psychiatric Services*, 61:1198-1203, 2010
Availability of Mental Health Service Providers and Suicide Rates in Austria

Figure 2

Density of psychiatrists per 10,000 population in 99 Austrian districts, 1997

Source: Kapusta et al., *Psychiatric Services*, 61:1198-1203, 2010
Availability of Mental Health Service Providers and Suicide Rates in Austria

**Figure 3**
Bayesian estimates of standardized mortality ratios for suicide in Austria, 1991–2005

Source: Kapusta et al., *Psychiatric Services*, 61:1198-1203, 2010
Associations Between Health Service Provision Practices and Suicide in Finland

After adjustment for local socioeconomic and demographic factors, lower suicide rates were associated with:

- Greater local access to multifaceted outpatient mental health services (Panel A)
- A predominance of outpatient services relative to inpatient services (Panel B)
- Availability of 24-hour emergency psychiatric services (Panel C)

Suicide Rates, Ohio Counties, 2004-2010: A Tale of Two Counties

*Annualized age-adjusted suicide rate for Ohio: 11.37
Suicide Rates, Ohio Counties, 2004-2010: A Tale of Two Counties

Adams County
Age-adjusted suicide rate: 19.40 (3rd)

*Annualized age-adjusted suicide rate for Ohio: 11.37
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Adams County
Population: 28,550
Population density: 48.7 sq mile (7th)

*Annualized age-adjusted suicide rate for Ohio: 11.37
Suicide Rates, Ohio Counties, 2004-2010: A Tale of Two Counties

*Annualized age-adjusted suicide rate for Ohio: 11.37

Scioto County
Age-adjusted suicide rate: 8.4 (3rd lowest)
Suicide Rates, Ohio Counties, 2004-2010: A Tale of Two Counties

*Annualized age-adjusted suicide rate for Ohio: 11.37

Scioto County
Population: 79,499
Population density: 129.0 sq mile (53rd)
Mental Health Parity Laws and Suicide Rates in the U.S.

• In mid-1990s, the first parity laws were enacted
• Required insurance coverage to include mental health benefits at the same rates and terms as physical health benefits
• State laws were enacted at different times and at varying levels of strength
  – Provides an opportunity to test whether increasing access to mental health care has a significant impact on suicide rates

Suicide Rate in the Year After Enactment of Mental Health Parity Laws (U.S.)

A 3.7% reduction in the suicide rate represents approximately 713 suicides prevented as a result of the parity laws in the year after enactment (1990 to 2010)

Source: Lang, 2014: Action Alliance Prioritized Research Agenda, 2014
Mental Health Parity Laws: Additional Findings

- Association between parity laws and suicide rates persisted in analyses that controlled for state-level unemployment rate, income per capita, and bankruptcy rate.

- Effect most prominent in the years immediately after enactment.

- When a state enacts a weak law, there is no significant impact on the suicide rate.

Source: Lang, 2014: Action Alliance Prioritized Research Agenda, 2014
Aspirational Goals

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Source: Lang, 2014: Action Alliance Prioritized Research Agenda, 2014
Identifying 38,000 Suicide Decedents in the United States

- **Firearm Deaths (51% of all suicides)**: 19,392
- **Motor Vehicle CO Poisoning Deaths**: ~735
- **Active Duty Military**: ~300
- **Accessed Healthcare within 30 days of death**: ~17,100
- **Military Veterans**: ~8,360
- **Jail and Prison Inmates**: ~500
- **Seen in ED for suicide attempt in past year**: ~7,800

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Data source: Action Alliance Research Prioritization Report, page 80, 2014; data sources for estimates provided on page 81
Concentration of Suicide Risk: Period Immediately following Discharge from Psychiatric Hospital

- Roughly 1 in 3 (39%) suicide deaths in the first year following hospital discharge occur in the first 28 days (Goldacre et al., 1993)

Suicide Risk After Psychiatric Hospitalization*

*Qin et al., Arch Gen Psychiatry, 62(4):427-32, 2005
Impact of Mental Health Service Recommendations on Suicide Rates: the U.K. Experience*

• Examined changes in suicide rates as public mental health service settings began to implement suicide prevention recommendations:

  **Examples:**
  – 24-hour crisis teams
  – Removing ligature points
  – Conducting FU with patients within 7 days of discharge
  – Conducting assertive community outreach
  – Regular training to frontline staff

Adoption of a range of suicide prevention recommendations by mental health systems across England and Wales was found to significantly reduce suicide rates among patients (1997-2006)

Room for Improvement

• Nationally, only about half of psychiatric inpatients receive any outpatient mental health care during the first week following hospital discharge

• Only about two-thirds of psychiatric inpatients receive outpatient mental health care during the first month

“A focus on improving linkage from inpatient to outpatient psychiatric care could lower suicide risk during this critical period”

Source: National Committee on Quality Assurance, 2014; Olfson et al. JAMA;311:1107-82014, 2014
Yet much remains unknown...

- Which clinical interventions are most effective at protecting patients after psychiatric hospital discharge?
  - Case management/outreach vs. MI or individualized safety plans?
  - Patient connectedness and reducing social isolation

“These lessons may help guide the search for successful care management approaches during the high-risk period immediately following psychiatric discharge”

Source: Olfson et al. JAMA;311:1107-82014, 2014
ED as a Site for Suicide Prevention

- In the U.S., over 500,000 suicide-related visits annually
- Up to 25% of suicide attempters seen in the ED make another attempt shortly after discharge
  - 0.9% will die within 3 months
- ED is a critical link to outpatient care in the chain of suicide prevention
- ED presentations are common in the year before death among young people who die by suicide; occurring in about one-half of subjects
  - Enormous potential for screening and preventive interventions

Emergency Management of Deliberate Self-Harm

Did Not Receive MH Assessment in ED

<table>
<thead>
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<th>Medicaid Insured</th>
<th>Privately Insured</th>
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<tbody>
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<td>52.2</td>
<td>42.7</td>
</tr>
</tbody>
</table>

“For these patients, there is a risk that their treatment will be narrowly focused on their presenting medical injury without carefully considering the social triggers of their self-harm behavior and the underlying psychological factors that may pose an enduring risk of suicide”

Weakness in the ED Setting

• Shortage of mental health specialists
• Teaching vs. nonteaching hospitals
  • Only a minority of nonteaching hospitals have access to any mental health specialists

• Result: Potentially large numbers of patients who present to EDs following deliberate self-harm events may receive their emergency care entirely from physicians and other health care professionals who are not mental health specialists

Source: Olfson et al. JAMA;311:1107-82014, 2014
Training

- Enhanced training of emergency physicians in the management of suicidal patients and patients with DSH may be helpful

**Provider Self-Confidence in Skills for Care of ED Patients**

Source: Betz et al., *Depress Anxiety*. 30(10):1005-12, 2013
Emergency Management of Deliberate Self-Harm

Recognition of a mental disorder in the ED was associated with a lower short-term risk of repeat self-harm ($RR_{adj} = 0.66$, 95% CI, $0.55 – 0.79$)

Emergency Management of Deliberate Self-Harm

• Recognizing mental disorders in the ED had a particularly strong protective association with subsequent self-harm visits among self-harm patients who had not recently received mental health care (RRadj = 0.57  95% CI, 0.41 – 0.79)

• For these individuals, mental health care delivered in the ED may offer opportunities to initiate mental health services that can prevent future crises (Larkin & Beautrais, 2010)

Public Health Approach to Suicide Prevention

1. Identify large subgroups with concentrated risk and practical service setting (e.g., EDs, primary care)

2. Identify effective practices and match them to subgroups

3. Estimate the results of implementation

4. Assess timeline for implementation and research

Step 1: Identify Large Subgroups at High Risk in Boundaried Service Settings: Emergency Department As Intervention Setting

5,400,000 youths aged 12-17 years treated in ED in 2011

103,000 presenting for self-harm (all injury causes)

77,000 attempted suicide

Step 2: Identify Effective Practices – Match Practices to Subgroups


ED Intervention for Linking Pediatric Suicidal Patients to Follow-Up MH Treatment

• Family Intervention for Suicide Prevention (FISP) vs. usual ED care enhanced with staff training (EUC)
  • Brief youth and family crisis therapy session in the ED
  • Focused on reframing the suicide attempt as a problem requiring action
  • Educating families about importance of outpatient FU
  • Developing a hierarchy of potential suicidality triggers
  • Developing and practicing a safety plan to reduce risk of acting on these triggers

Source: Asarnow et al., Psychiatr Serv. 62(11):1303-9, 2011
ED Linkage Study (Asarnow et al. 2011)

Limitations

• Despite the success of FISP in improving treatment linkage, the intervention did not lead to significant decreases in suicide attempts or improvements on other clinical or functioning outcomes
  • Suicidal behavior was not a primary outcome; weak statistical power for clinical outcomes

• No test of moderation by sex or age

Source: Asarnow et al., Psychiatr Serv. 62(11):1303-9, 2011
Step 2: Identify Effective Interventions


- Some promising approaches
  - Dialectical Behavioral Therapy for Adolescents (DBT-A) (Rathus & Miller, *Suicide Life Threat Behav*. 32(2):146-57, 2002)
  - DBT Treatment of Suicidal and Self-Injurious Adolescents (R01: MH93898; Berk, Asarnow, Multi-PIs)
  - The Treatment of Adolescent Suicide Attempters (TASA) Study (Stanley et al., 2009)
Public Health Approach

1. Identify large subgroups with concentrated risk and a feasible service setting (e.g., emergency departments, child welfare)

2. Identify effective practices and match them to subgroups

3. Estimate the results of implementation

4. Assess timeline for implementation and research

Source: Pringle et al., Psychiatr Serv, 64:71-5, 2013
## Estimated Number of Suicide Deaths in Young People Aged 10-19 Years Averted with ED-Based Mental Health Treatment Engagement Interventions and Evidence-based (EB) Follow-Up Treatment after Discharge from the Emergency Department

| WISQARS Non-fatal Injury Reports (2011)                                                                 |
|---------------------------------------------------------------------------------------------------|----------------------|
| # Youths treated in an ED for any reason                                                         | 5,354,995            |
| # Presenting for Self-Harm (All injury causes)                                                   | 103,342              |
| # Expected number of youths presenting after a suicide attempt                                  | 76,640               |
| \((1.0 \times 49,837 \text{ self-poisoning}) + (0.5 \times 30,943 \text{ self-cutting}) + (0.5 \times 22,462 \text{ all other causes})\) |                      |

### Application of Asarnow et al. (2011) findings to estimate outpatient follow-up MH treatment engagement

| Group A: # Youths expected to attend MH treatment after ED discharge in usual care \((0.762 \times 76,640)\) | 58,400               |
| Group B: # Youths expected to attend MH treatment after ED discharge in enhanced MH intervention \((0.921 \times 76,640)\) | 70,588               |

### Expected estimates of suicide reattempt

| Group A\(_1\): Reattempts expected within 12 months of ED discharge after usual follow-up care \((0.18 \times 58,400)\) | 10,512               |
| Group A\(_2\): Reattempts expected within 12 months of ED discharge after EB intervention \((0.10 \times 58,400)\) | 5,840                |
| Group B\(_1\): Reattempts expected within 12 months of ED discharge after usual follow-up care \((0.18 \times 70,586)\) | 12,706               |
| Group B\(_2\): Reattempts expected within 12 months of ED discharge after EB intervention \((0.10 \times 70,586)\) | 7,059                |

### Expected estimates of suicide deaths

| Group A\(_1\): Deaths expected within 12 months of ED discharge after usual follow-up care \((0.005 \times 10,512)\) \((0.02 \times 10,512)\) | 53 – 212             |
| Group A\(_2\): Deaths expected within 12 months of ED discharge after EB intervention \((0.005 \times 5,840)\) \((0.02 \times 5,840)\) | 29 – 117             |
| Group B\(_1\): Deaths expected within 12 months of ED discharge after usual follow-up care \((0.005 \times 12,706)\) \((0.02 \times 12,706)\) | 64 – 254             |
| Group B\(_2\): Deaths expected within 12 months of ED discharge after EB intervention \((0.005 \times 7,059)\) \((0.02 \times 7,059)\) | 35 – 141             |

### Range of potential # of suicide deaths averted through application of MH treatment engagement interventions and EB interventions in EDs

- EB intervention with no additional treatment engagement intervention: \((53 – 29 = 24) (212 – 117 = 95)\)
- EB intervention plus treatment engagement intervention: \((64 – 35 = 29) (254 – 141 = 110)\)

**Average Annual Number of Suicide Deaths in Youths Aged 10-19, 2006-2010, United States: 1,821.**

24 - 110 averted suicide deaths would represent an approximate 1-6% annual reduction
A Major Challenge

• Surveillance
  • Challenging without rapid access to most up-to-date data
• Better data
  • Accessible, national surveillance data on patterns of repeated nonfatal and fatal suicide attempts by method
  • NVDRS needs to be expanded to all 50 states
  • Need better data about firearm ownership and storage, as well as prescription medication storage
  • Linked data sets (e.g., healthcare use – suicide); morbidity data (often school-based)

Source: Action Alliance Research Prioritization Report, 2014
Annual Suicide Rates for Females and Males Aged 10 to 19 Years in the US, 1996 to 2005

Solid lines indicate observed suicide rates per 100,000 persons, dashed lines indicate the 95% prediction intervals (PI) around the predicted suicide rates (dotted lines), and circles indicate predicted rates of suicide for 2004 and 2005. Although the rate of suicide for females and males decreased between 2004 and 2005 rates of suicide in 2004 and 2005 were still significantly greater than predicted by the 1996-2003 trend.

Bridge et al., *JAMA*, 300(9):1025-6, 2008
How are we going to save 20,000 lives in 5 years?
In Ohio, how are we going to save approximately 1,000 lives in 5 years?
Big Ten Football Conference School Winning Percentage 2011-2013

- Ohio State
- Michigan State
- Nebraska
- Wisconsin
- Penn State
- Michigan
- Iowa
- Northwestern
- Minnesota
- Purdue
- Indiana
- Illinois
Suicide Rates of States with Big Ten Teams, 2008-2010

Coach Meyer

Source: http://www.ohiostatebuckeyes.com/sports/m-footbl/mtt/meyer_urban00.html
Perennial Powerhouse: New Jersey
From 2001 to 2010, New Jersey’s annual suicide rate was 39% lower than Ohio’s suicide rate.

Comparison of Suicide Rates in Ohio, NJ and the U.S. in Young People Aged 10-19 Years: 2001-2010*

What Can We Learn from New Jersey?

• **New Jersey has:**
  
  – Strong gun laws, including strict laws restricting minor’s access to guns
  
  – Mandated staff training in schools for suicide prevention and the detection of warning signs
  
  – Mandated the establishment of psychiatric screening centers in every county
  
  – Since 2001, developed a state-wide Mobile Response and Stabilization System (MRSS) for youth available in every county in the State
    
    • Program provides 24/7 coverage in community crisis intervention (e.g., in situations where suicidal behavior has not occurred but significant risk factors are present)
    
    • Program is able to provide up to eight weeks of immediate in-home or in-community therapeutic interventions

http://www.state.nj.us/dcf/families/csc/prevention/documents/AdolSuicideRpt_6_1_12.pdf
http://www.state.nj.us/dcf/families/csc/prevention/documents/preventionplan.pdf
What Can We Learn from New Jersey?

• **May, 2013:** NJ launched its first suicide prevention hotline, the NJ “Hopeline” staffed 24/7 by trained volunteer and professional counselors

• **Other Activities Planned:**
  - A Mobile *TeenScreen* Team will be created to strengthen and expand community-based suicide prevention and postvention efforts;
  - *Sources of Strength* training for youth peer leaders to help reduce stigma
  - Statewide Social Media Campaign to promote access to mental health and substance abuse services

http://www.state.nj.us/dcf/families/csc/prevention/documents/AdolSuicideRpt_6_1_12.pdf
http://www.state.nj.us/dcf/families/csc/prevention/documents/preventionplan.pdf
Summary

• Sustained progress toward reducing suicide rates in the U.S. (and Ohio!) will likely require development of a range of complementary suicide prevention strategies.

• Policy makers should give priority to the promotion of continuity of mental health care in settings that serve patients at high risk of suicide.

• Concerted efforts should be made to improve the quality of mental health services that are available for patients who are at high short-term risk of suicide.
Summary

• Providing access to mental health care can potentially impact suicide rates
  • Improved access to care also may improve a number of social and financial outcomes, such as education and wages

• Surveillance gaps need to be filled
Reducing the Suicide Rate in Ohio: What Part Will Each of Us Play?
Questions?

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