REDUCING MORTALITY AND MORBIDITY FROM SUICIDE: HOW CAN WE GET THERE?

JANE PEARSON, PhD  NATIONAL INSTITUTE OF MENTAL HEALTH
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MARGARET WARNER, PhD  CENTERS FOR DISEASE CONTROL & PREVENTION
LISA COLPE, PhD, MPH  NATIONAL INSTITUTE OF MENTAL HEALTH
JOEL SHERRILL, PhD  NATIONAL INSTITUTE OF MENTAL HEALTH
BELINDA SIMS, PhD  NATIONAL INSTITUTE ON DRUG ABUSE

for the
RESEARCH PRIORITIZATION TASK FORCE, NATIONAL ACTION ALLIANCE FOR SUICIDE PREVENTION
REDUCING MORTALITY AND MORBIDITY FROM SUICIDE: HOW CAN WE GET THERE?

JANE PEARSON  OVERVIEW OF RESEARCH AGENDA PROCESS

SHERRY MOLOCK  STAKEHOLDER SURVEY: ASPIRATIONAL GOALS

MARGARET WARNER & LISA COLPE  ESTIMATING BURDEN OF SUICIDE

JOEL SHERRILL  CHALLENGES IN ESTIMATING INTERVENTION EFFECTS

BELINDA SIMS  COMMUNITY PREVENTION EXAMPLE
OVERVIEW OF THE RESEARCH AGENDA DEVELOPMENT PROCESS & RESEARCH PRIORITIZATION TASK FORCE GOAL

JANE PEARSON
NATIONAL INSTITUTE OF MENTAL HEALTH
Relatively Intractable Suicide Rates

Annual U.S. Suicide Rates, 1950 - 2010

Crude Rate per 100,000 US Population

High since 1950 (1977) 13.01
Low since 1950 (1957) 9.67
Difference 3.34

National Action Alliance for Suicide Prevention

Established September 2010 by HHS Secretary Kathleen Sebelius and Defense Secretary Robert Gates

Leadership:
Public Sector Co-Chair, The Honorable John McHugh, Secretary of the Army
Private Sector Co-Chair, The Honorable Gordon H. Smith, President and CEO, National Association of Broadcasters
What is the National Action Alliance for Suicide Prevention?

A public-private partnership established to help guide implementation of the goals and objectives in the National Strategy for Suicide Prevention (NSSP, 2001)

Mission-
To advance the NSSP by:
• Championing suicide prevention as a national priority
• Catalyzing efforts to implement high priority objectives of the NSSP
• Cultivating the resources needed to sustain progress
How Do We Make Progress in Suicide Research?

National Strategy for Suicide Prevention 2001 GOAL 10. PROMOTE AND SUPPORT RESEARCH ON SUICIDE AND SUICIDE PREVENTION

Objective 10.1: By 2002, develop a national suicide research agenda with input from survivors, practitioners, researchers, and advocates.

INSTITUTE OF MEDICINE REPORT, 2002

Since 2002, overall suicide rates have not decreased. Rather, suicide has increased from the 11th to 10th leading cause of death in 2009.
Action Alliance for Suicide Prevention

PRIVATE SECTOR
CO-CHAIR

PUBLIC SECTOR
CO-CHAIR

SECRETARIAT

EXECUTIVE COMMITTEE:
PRIVATE SECTOR MEMBERS (Senior executives of leading for-profit and non-profit organizations, philanthropic organizations, researchers and practitioners, and survivors of suicide loss and attempts)
PUBLIC SECTOR MEMBERS and EX OFFICIO MEMBERS

TASK FORCE A
TASK FORCE B
TASK FORCE C

ADVISORY GROUPS
NATIONAL COUNCIL FOR SUICIDE PREVENTION
FEDERAL WORKING GROUP ON SUICIDE PREVENTION
AD HOC ADVISORY GROUPS

http://actionallianceforsuicideprevention.org/?page_id=359
Task Forces of the National Action Alliance for Suicide Prevention

- INFRASTRUCTURE
  - TASK FORCE: DATA AND SURVEILLANCE
  - TASK FORCE: NATIONAL STRATEGY
  - TASK FORCE: RESEARCH PRIORITIZATION

- HIGH-RISK POPULATIONS
  - TASK FORCE: AMERICAN INDIAN / ALASKA NATIVE
  - TASK FORCE: LESBIAN, GAY, BISEXUAL, TRANSgendEr YOUTH
  - TASK FORCE: MILITARY / VETERANS

- INTERVENTIONS
  - TASK FORCE: CLINICAL CARE AND INTERVENTION
  - TASK FORCE: FAITH COMMUNITIES
  - TASK FORCE: YOUTH IN CONTACT WITH THE JUVENILE JUSTICE SYSTEM
  - TASK FORCE: WORKPLACE

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FACT: Approximately $40,000,000 is expended for suicide prevention research each year in the USA.

Priorities for the future?

Source: National Institutes of Health Research Portfolio Online Reporting Tools (RePORT), Suicide Categorical Funding, FY08 = $39 million; FY12 = $49 million http://report.nih.gov/categorical_spending.aspx
Overall U.S. rates of suicide deaths have not decreased appreciably in 50 years. Each year, over 678,000 individuals report that they received medical attention for a suicide attempt; each year, more than 30,000 individuals die by suicide.

RTF Goal: To develop an agenda for research that has the potential to reduce morbidity (attempts) and mortality (deaths) each, by at least 20% in 5 years, and 40% or greater in 10 years, if fully implemented.
Research Prioritization Task Force Members

**PHILLIP SATOW, MA—CO-LEAD** PRIVATE SECTOR; EXCOM REPRESENTATIVE FROM NATIONAL COUNCIL ON SUICIDE PREVENTION; CO-FOUNDER AND BOARD PRESIDENT, JED FOUNDATION

**THOMAS INSEL, MD—CO-LEAD** PUBLIC SECTOR; DIRECTOR, NATIONAL INSTITUTE OF MENTAL HEALTH

**ALAN (LANNY) BERMAN,** Executive Director, American Association of Suicidology (AAS); President, International Association for Suicide Prevention (IASP)

**MARY DURHAM,** Vice-President, The Center for Health Research, Kaiser Permanente

**SAUL FELDMAN,** Chairman Emeritus, United Behavioral Health

**THOMAS FRIEDEN,** Director, U.S. Centers for Disease Control and Prevention (CDC)

**ROBERT GEBBIA,** Executive Director, American Foundation for Suicide Prevention (AFSP)

**MICHAEL HOGAN,** Commissioner, New York State Office of Mental Health

**DAVID GROSSMAN,** Medical Director, Preventive Care, Group Health Research Institute

**DANIEL J. REIDENBERG,** Executive Director, Suicide Awareness Voices of Education (SAVE); Managing Director, National Council for Suicide Prevention

*Over 20 NIMH, NIDA, CDC, VA, and DOJ, staff and contractors help support the Research Task Force, and serve as liaisons with other task forces*
Research Prioritization Task Force
Agenda Development Process

- Process Designed
  - Literature & Grant Portfolio Review
  - Stakeholder Survey and Delphi Process
  - NIH Request For Information
- Selection of Aspirational Research Goals
- Research Agenda Developed Short- and Long-term Goals
- Dissemination of Agenda
- Maintenance & Updating & Changing Behavior

http://actionallianceforsuicideprevention.org/task-force/research-prioritization

Models of potential lives saved
Burden Map of Suicide Attempts & Deaths
Expert Consultants
Literature Reviews: The quality of systematic reviews will be evaluated using Cochrane protocols, and newer studies will be evaluated for the following factors:

a) evidence level/study design strength (e.g., randomized controlled trial, case study, observational),

b) type of prevention approach,

c) measurement of outcome (odds ratio, incidence) and effect size,

d) duration of follow up,

e) characteristics of research subjects (demographic, geographic), and

f) type of suicidal behavior studied (ideation, attempts, deaths).

Grant Portfolios: Online tool that uses a common language and a common classification system to classify and systematically organize information about the research portfolios of over twenty-five organizations that fund suicide prevention research in the United States to identify funding priorities over time.
NIH REQUEST FOR INFORMATION

Request for Information (RFI): A Call to Identify Key Methodological Roadblocks and Propose New Paradigms in Suicide Prevention Research

Notice Number: NOT-MH-12-017

Key Dates
Release Date: February 17, 2012
Response Date: April 27, 2012

Issued by
National Institute of Mental Health (NIMH)
National Institute on Drug Abuse (NIDA)
National Institute of Alcohol Abuse and Alcoholism (NIAAA)

Purpose

The National Institute of Mental Health (NIMH), National Institute on Drug Abuse (NIDA), and National Institute on Alcohol Abuse and Alcoholism (NIAAA) are seeking input to identify the types of research tools needed to support rapid advancement in suicide prevention research. Specifically, this request asks interested parties to provide input on the following topics: a) the key methodological roadblocks that currently exist in suicide prevention research, and b) new paradigms and theoretical models with the potential to spark innovative research. A methodological roadblock is defined as a critical, unresolved challenge that is clearly limiting progress along an important suicide prevention research pathway. New research paradigms and theoretical models are novel ways of thinking about suicidal behavior and avenues for its prevention.

This Request for Information (RFI) is issued as an invitation to interested parties to contribute these specific methodological challenges and new conceptual paradigms for inclusion in a compendium of ways to facilitate suicide prevention research progress.

http://grants.nih.gov/grants/guide/notice-files/NOT-MH-12-017.html
Developing Research Objectives for Each Aspirational Goal

1. Systematically **identify empirically-validated interventions and prevention initiatives** (e.g., universal, selected and indicated) for various subpopulations.

2. **Develop a grant portfolio data extraction tool** that classifies and systematically organizes information about the research targets being addressed by currently-funded suicide prevention scientists.

3. **Prioritize research goals that are practical and widely recognized by diverse groups of stakeholders** as important to burden reduction.

4. **Identify and solve the most important “methodological roadblocks” hindering intervention and prevention research and support the most promising new conceptual models** in suicide prevention science.

**Bring this Information to the Aspiration Goals and**

1. **Quantify burden** within boundaried populations for each research goal.

2. **Characterize the state of intervention development** for each goal with logic models.

3. **Quantify the potential burden reduction associated with specific classes of interventions** by relative accessibility of boundaried population group.
<table>
<thead>
<tr>
<th>Date</th>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Feb 2012</td>
<td>Stakeholder analyses and brief summary completed</td>
</tr>
<tr>
<td></td>
<td>Aspirational goals prioritized</td>
</tr>
<tr>
<td></td>
<td>RFI [Request for Information] issued</td>
</tr>
<tr>
<td>Mar 2012</td>
<td>Portfolio analyses web platform built; portfolio data collected</td>
</tr>
<tr>
<td></td>
<td>Qualitative analyses of stakeholder survey</td>
</tr>
<tr>
<td></td>
<td>Literature review begins</td>
</tr>
<tr>
<td>April 2012</td>
<td>Burden maps / populations and surveillance resources refined</td>
</tr>
<tr>
<td>May 2012</td>
<td>Drafts of logic models and format of agenda develop</td>
</tr>
<tr>
<td></td>
<td>RFI input reviewed and summarized</td>
</tr>
<tr>
<td>June 2012</td>
<td>Experts invited to consultation/writing tasks</td>
</tr>
<tr>
<td>July 2012</td>
<td>Portfolio analyses completed; targeted literature review completed</td>
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<tr>
<td></td>
<td>materials assembled for experts</td>
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<tr>
<td>Sept 2012</td>
<td>Experts initial in person meeting</td>
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<tr>
<td></td>
<td>Experts multiple webinars to review logic models, evidence, identify gaps,</td>
</tr>
<tr>
<td></td>
<td>draft short and long-term research objectives</td>
</tr>
<tr>
<td>Dec 2012</td>
<td>Experts final meeting to review draft agenda</td>
</tr>
<tr>
<td>Feb 2013</td>
<td>Final Research Prioritization Report completed</td>
</tr>
</tbody>
</table>
Overview Question: EX: What interventions prevent individuals from suicidal behavior?

- Specific Question #1
- Specific Question #1

What Do We Know?

- (2 – 3 paragraph summary, written in non-technical language)

What Do We Need?

- (2 – 3 paragraph summary, written in non-technical language)

Aspirational Goal:

Research Opportunities:

- Bulleted, specific research targets

Short-Term Objectives:

Long-Term Objectives:
REDUCING MORTALITY AND MORBIDITY FROM SUICIDE: HOW CAN WE GET THERE?

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Research Prioritization Task Force Agenda Development Process


- Expert Consultants
- Burden Map of Suicide Attempts & Deaths
- Models of potential lives saved
- NIH Request For Information
- Literature & Grant Portfolio Review
- Stakeholder Survey and Delphi Process
- Selection of Aspirational Research Goals
- Research Agenda Developed Short- and Long-term Goals
- Dissemination of Agenda
- Maintenance & Updating & Changing Behavior

http://actionallianceforsuicideprevention.org/task-force/research-prioritization

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Presentation Two:

STAKEHOLDER SURVEY: ASPIRATIONAL GOALS

SHERRY MOLOCK  NATIONAL INSTITUTE OF MENTAL HEALTH
GEORGE WASHINGTON UNIVERSITY
NIH Invitation to Participate in a Conversation about Suicide Prevention Research. Deadline: 8/31/2011

Dear Society for Prevention Researchers:

Every year in this country, approximately 35,000 Americans are dying by suicide and another 648,000 receive medical attention for nonfatal self injuries. The National Action Alliance for Suicide Prevention Research Task Force (RTF; http://actionallianceforsuicideprevention.org/?page_id=359), believes it is possible to do something about this important national problem. I am writing to request your participation in a process designed to help reduce this unacceptable number of annual suicides and suicide attempts in the United States. ....
PURPOSES:

a) Using open-ended questions, to conduct opinion polls among a broad-based sample of stakeholders in order to assess each group’s thoughts about priorities in suicide prevention research.

b) To identify those criteria considered to be the most important in choosing suicide prevention research priorities by a sample of stakeholders representing diverse interest groups.

b) Using a Delphi-type format, to narrow lists of suicide prevention research priorities to those considered most important by a sample of stakeholders representing diverse interest groups.
The Stakeholder Survey asked survey participants to help select Aspirational Research Goals for the final research agenda.

- An Aspirational Research Goal (AG) was defined as an important goal for researchers to achieve to reduce the number of people who die by suicide or attempt suicide. It was understood to be a “big idea,” rather than a single research study—that is, a goal or end-point in a line of research rather than a research method or strategy leading toward such a goal.
Examples offered in the survey: an Aspirational Goal related to

Children and adolescents at risk of suicide might be:
  o To identify youth at risk of suicidal behavior before that behavior emerges, through reliable and validated methods.

A goal related to treating suicidal persons might be:
  o To be able to reverse suicidal thought processes through the use of existing medications. This will in turn reduce the risk of suicide in these individuals.
The Survey recruited four groups of suicide prevention stakeholders including:

- individuals who had attempted suicide or who those had experienced the suicide of a close friend or relative – 30%
- healthcare providers -30%
- researchers – 30%
- policy-makers/administrators -10%
Next, please tell us what factors we ought to take into consideration when selecting the final list of research goals.

For instance, is the **cost** of a research project more important than **the number of lives that might be saved**?

Is **how long it takes to finish the research** more important than **how easy it would be to apply the research findings in real-world settings**?
Survey Recruitment was done entirely by email, and took place between August 9, 2011 and September 1, 2011.

Potential Survey participants were identified from a variety of membership lists maintained by organizations and institutions as well as publicly-available databases.

700 individuals registered for the survey.

Registrants are from 49 U.S. states.

18 foreign countries.

Survey Participants by Respondent Group:
- Suicide prevention researcher or researcher in related field... (30%)
- Policy-maker or administrator (n=96) (14%)
- Health care provider to suicidal patients (n=165) (24%)
- Someone who has been personally touched by suicidal... (32%)
Average Annual Suicide Counts by State in Quartiles,¹ 1999-2007 & Number of Survey Registrants by State

<table>
<thead>
<tr>
<th>Quartile</th>
<th>% Deaths</th>
<th>% Survey Registrants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quartile 1 (&gt; 800 Suicides / yr)</td>
<td>57.38%</td>
<td>57.85%</td>
</tr>
<tr>
<td>Quartile 2 (500-799 Suicides / yr)</td>
<td>23.16%</td>
<td>18.04%</td>
</tr>
<tr>
<td>Quartile 3 (210-499 Suicides / yr)</td>
<td>14.70%</td>
<td>16.33%</td>
</tr>
<tr>
<td>Quartile 4 (&lt; 210 Suicides / yr)</td>
<td>4.66%</td>
<td>7.78%</td>
</tr>
</tbody>
</table>

Survey Results: Aspirational Goals & Criteria for Rating

- In the Idea Generating Round, more than 1,400 Aspirational Goals were suggested.

- Respondents were also asked to select the most important criteria for later rating aspirational goals.

- Aspirational goals were reviewed and coded by 2 raters (S Molock and team) into prevention research domains; sets of aspirational goals were developed and again reviewed by the RTF, resulting in 12 Aspirational Goals.

- The 12 Aspiration Goals were sent out to stakeholder survey respondents for ranking and rating, using the RAND ExpertLens software survey.
The Resulting 12 Aspirational Goals
(see handout)

Goal 1 - Population-based risk-reduction/resilience-building
Goal 2 - Reduction in access to lethal means
Goal 3 - Provider and gatekeeper training
Goal 4 - Affordable, accessible and effective care
Goal 5 - Population-based screening
Goal 6 - Prediction of imminent risk
Goal 7 - Psychosocial interventions for those at risk
Goal 8 - Improved biological interventions
Goal 9 - Prevention of reattempts
Goal 10 - Enhanced continuity of care
Goal 11 - Risk and protective factor interactions
Goal 12 - Stigma reduction
4 Top Criteria for Rating Aspirational Goals

- **Criterion 1:** Potential to prevent fatal and nonfatal suicide attempts.
- **Criterion 2:** How easily and rapidly findings from this line of research could be widely implemented in real-world settings.
- **Criterion 3:** How many of the population groups most vulnerable to suicidal behavior would be impacted.
- **Criterion 4:** How acceptable this type of suicide prevention strategy would be to suicidal persons and their families.
STAKEHOLDER SURVEY Rating Results

Stakeholder Survey process

1. Idea Generating Round
2. Initial Ranking & Rating Round
3. Discussion Round
4. Final Ranking & Rating Round

<table>
<thead>
<tr>
<th>TIER</th>
<th>GOALS</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>AG9 - Prevent Re-attempts</td>
</tr>
<tr>
<td>1</td>
<td>AG10 - Continuity of Care</td>
</tr>
<tr>
<td>1</td>
<td>AG3 - Provider Training</td>
</tr>
<tr>
<td>1</td>
<td>AG4 - Affordable Care</td>
</tr>
<tr>
<td>2</td>
<td>AG7 - Ideator Treatment</td>
</tr>
<tr>
<td>2</td>
<td>AG11 - Risk &amp; Protective Factors</td>
</tr>
<tr>
<td>2</td>
<td>AG12 - Reduce Stigma</td>
</tr>
<tr>
<td>2</td>
<td>AG1 - Community-Level Interventions</td>
</tr>
<tr>
<td>2</td>
<td>AG6 - Predict Imminent Risk</td>
</tr>
<tr>
<td>&gt;2</td>
<td>AG8 - Improved Biological Treatments</td>
</tr>
<tr>
<td>&gt;2</td>
<td>AG2 - Access to Lethal Means</td>
</tr>
<tr>
<td>&gt;2</td>
<td>AG5 - Assess Lifetime Risk</td>
</tr>
</tbody>
</table>

http://actionallianceforsuicideprevention.org/task-force/research-prioritization
Certain stakeholder groups rated some goals in distinct ways, demonstrating the group’s unique perspective on the impact of those suicide prevention goals.

Survivor group thought that AG12 (Increase help seeking and referrals for at-risk individuals by decreasing the stigma associated with suicide) would be more acceptable (Criterion #4) to suicidal persons and their families (Criterion 4) than did other Stakeholder groups.

On Criterion #1 (Impact of a line of research on overall societal burden from suicidal acts), healthcare providers were more enthusiastic about the possible impact of research related to healthcare system enhancements and treatment than were others. The enhancements viewed positively by providers included research on: AG 4 (Affordable and effective care); AG 5 (Population- and setting-based screening); AG 6 (Prediction of imminent risk); AG 7 (Psychosocial interventions for those at risk); and AG 11 (Risk and protective factor interactions).
STAKEHOLDER SURVEY - Available on RTF Website
(see handout for web-link)

NATIONAL ACTION ALLIANCE FOR SUICIDE PREVENTION RESEARCH PRIORITIZATION TASK FORCE

STAKEHOLDER SURVEY RESULTS¹

BACKGROUND: The goal of the National Action Alliance Research Task Force (RTF) is to develop a research agenda that reduces suicidal attempts and suicides by 20 percent each within five years, and by 40 percent or greater within 10 years if the research agenda is fully implemented.

Three types of information-gathering processes will be used to provide input into the RTF suicide prevention research agenda:

- **Ongoing Studies Grant Portfolio Review.** A review of the scientific studies currently underway will be used to develop a working knowledge of the research targets being addressed by suicide prevention scientists.

- **Critical review of the scientific literature.** Literature reviews will be used to identify empirically-validated interventions and prevention strategies for various subpopulations.

- **Constituent Input:** Feedback from suicide attempters, relatives and close friends of individuals who have died by suicide, healthcare providers, policymakers/administrators and suicide prevention researchers in the form of a "Stakeholder Survey" will be used to identify the biggest scientific challenges in doing suicide research. The final results from the Stakeholder Survey will be used to understand the perspectives of many different stakeholder groups about the most important goals for suicide research. In addition, input through a Request for Information...
REDDUCING MORTALITY AND MORBIDITY FROM SUICIDE: HOW CAN WE GET THERE?

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6. Dissemination of Agenda
7. Maintenance & Updating & Changing Behavior

**Process Designed**

**Expert Consultants**

- **Burden Map of Suicide Attempts & Deaths**
- **Models of potential lives saved**

http://actionallianceforsuicideprevention.org/task-force/research-prioritization
Presentation Three:

ESTIMATED BURDEN OF SUICIDE ATTEMPTS AND DEATHS

MARGARET WARNER
LISA COLPE

CENTERS FOR DISEASE CONTROL AND PREVENTION
NATIONAL INSTITUTE OF MENTAL HEALTH
Overview – Surveillance data systems

- How data are gathered
- Types of data systems
- Examples of existing data systems and how they can be utilized
## Types of data collection systems

<table>
<thead>
<tr>
<th>System type</th>
<th>How are data collected</th>
<th>Example system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population based surveys</td>
<td>• Probability sample of persons (households or families)</td>
<td>National Survey on Drug Use and Health (NSDUH)</td>
</tr>
<tr>
<td></td>
<td>• Data collected through personal interview</td>
<td></td>
</tr>
<tr>
<td>Health Care Provider based</td>
<td>• Probability sample of visits (providers)</td>
<td>National Electronic Injury Surveillance System – All Injury Program (NEISS-AIP)</td>
</tr>
<tr>
<td>surveys</td>
<td>• Data abstracted from medical records</td>
<td></td>
</tr>
<tr>
<td>Registry/Census</td>
<td>• Data collected on all cases of a health condition in a defined population, often through registration</td>
<td>National Vital Statistics System, Mortality data (NVSS-MCOD)</td>
</tr>
<tr>
<td>Multiple sources</td>
<td>• Data from multiple source documents</td>
<td>National Violent Death Reporting System (NVDRS)</td>
</tr>
</tbody>
</table>
National Survey on Drug Use and Health (NSDUH)

- Computerized interview administered to selected household respondent (maximizes confidentiality)
- Sample allows national, state, and sub-state estimation
- Focus on substance use and mental health
- Questions regarding medical attention for substance use and mental health
- Lots of demographic information (not in medical records)
Questions on suicidal thoughts / behaviors:

• 2008 – Present: All adults (18 yrs and older) are asked if they experienced suicidal thoughts / behaviors in the past year

• 2004 – Present: Adults (18 yrs and older) and youth (12 – 17) are asked if they experienced suicidal thoughts / behaviors in the context of a major depressive episode assessment module
Number of adults aged 18 or older (in millions) with suicidal thoughts and behavior in the past year: 2010

<table>
<thead>
<tr>
<th>Suicidal Thoughts and Behavior</th>
<th>Number (in Millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Serious Thoughts of Suicide</strong></td>
<td>8.7</td>
</tr>
<tr>
<td>Made a Suicide Plan</td>
<td>2.5</td>
</tr>
<tr>
<td>Made a Suicide Attempt (with or without a Suicide Plan)</td>
<td>1.1</td>
</tr>
</tbody>
</table>

• Adults in 2010 who were unemployed in the past year were more likely than those who were employed full time to
  • Have serious thoughts of suicide (6.7 vs. 3.0 percent)
  • Make suicide plans (2.6 vs. 0.6 percent)
  • Attempt suicide (0.9 vs. 0.2 percent)

• Among the 1.1 million adults who attempted suicide in the past year,
  • 752,000 (67.2 percent) received medical attention for their suicide attempt in the past year
  • 572,000 (51.1 percent) stayed overnight or longer in a hospital as a result of their suicide attempt in the past year.

Source: SAMHSA, Results from the 2010 National Survey on Drug use and Health: Mental Health Findings, NSDUH Series H-42, HHS Publication No. (SMA) 11-4667, Rockville, MD, SAMHSA, 2012
• Emergency department medical record abstraction
• Collects data on all injuries, including self-inflicted injuries.
• Includes intent of injury (unintentional / undetermined, assault, intentional self-harm, legal intervention), major cause of injury, principal diagnosis, primary body part afflicted, up to two consumer products used, place of occurrence, ED discharge disposition.
• Age and sex; race and ethnicity are also available, but are missing for about 20% of cases.
Self-harm injuries seen in the ED, US 2009

Source: CDC, National Electronic Injury Surveillance system – All Injury Program (NEISS – AIP), 2010.
National Vital Statistics System, Mortality data (NVSS – MCOD)

- Data are compiled from information recorded on death certificates and include all resident deaths in the US.
- Death certificate includes section to describe the causal chain of events leading to death.
- Causes of death coded using the International Classification of Diseases, Tenth Revision (ICD – 10).
- Includes age, sex, Hispanic origin, marital status, and others.
# 10 Leading Causes of Death by Age Group, United States – 2009

<table>
<thead>
<tr>
<th>Rank</th>
<th>Age Group</th>
<th>1-4</th>
<th>5-9</th>
<th>10-14</th>
<th>15-24</th>
<th>25-34</th>
<th>35-44</th>
<th>45-54</th>
<th>55-64</th>
<th>65+</th>
<th>Total</th>
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<td>&lt;1</td>
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Data Source: National Vital Statistics System, National Center for Health Statistics, CDC. 
Produced by: Office of Statistics and Programming, National Center for Injury Prevention and Control, CDC using WISQARS™.
National Violent Death Reporting System

• Multiple sources including death certificates, medical examiner / coroner files, law enforcement records and crime laboratories


• Collects characteristics and circumstances on deaths due to violence and injuries of undetermined intent, including self-directed violence.

• Includes information on such variables as mental illness, recent crises, mechanism, and toxicology.
Figure 1  Proportion of male suicide victims ages 65 or over whose death investigation report noted a health problem or a recent physician visit, Oregon, 2003.
Develop a Deployment-Focused Taxonomy of Subgroups for Suicide Prevention in the U.S.

- Definable subgroups
- Substantial numbers
- Concentrated risk
- Service system setting
- Evidence-based practice

36,000 suicide deaths
Definable Subgroups with Suicide Burden

36,000 Suicide Deaths in 2009

- College Students: ~200-1,000
- Recent visit to Emergency Departments: ~9,000
- American Indians/AN: ~430
- Criminal Justice System: ~460
- Army: ~200
- Male Veterans: ~7,000

Data Sources:
- CDC WISQARS 2009
- CDC NVDRS 2005
- Schwartz 2011
- Bureau of Justice Statistics 2008-2009
- US Army 2009-2010
58 million adults report being treated in ED in the past year

4 million had suicidal thoughts

1.2 million made suicide plans

686,000 attempted suicide

2,292,000 adults report being treated for substance use in specialty facility in past year.

- 395,000 had suicidal thoughts
- 173,000 made suicide plans
- 106,000 attempted suicide

17,245,000 adults report receiving Medicaid/CHIP benefits in past year

1,383,000 had suicidal thoughts

471,000 made suicide plans

270,000 attempted suicide

REDDUCING MORTALITY AND MORBIDITY FROM SUICIDE: HOW CAN WE GET THERE?

JANE PEARSON  OVERVIEW OF RESEARCH AGENDA PROCESS

SHERRY MOLOCK  STAKEHOLDER SURVEY: ASPIRATIONAL GOALS

MARGARET WARNER & LISA COLPE  ESTIMATING BURDEN OF SUICIDE

JOEL SHERRILL  CHALLENGES IN ESTIMATING INTERVENTION EFFECTS

BELINDA SIMS  COMMUNITY PREVENTION EXAMPLE
Research Prioritization Task Force
Agenda Development Process

- NIH Request For Information
- Literature & Grant Portfolio Review
- Stakeholder Survey and Delphi Process
- Selection of Aspirational Research Goals
- Research Agenda Developed Short- and Long-term Goals
- Dissemination of Agenda
- Maintenance & Updating & Changing Behavior

Expert Consultants
Burden Map of Suicide Attempts & Deaths
Models of potential lives saved

http://actionallianceforsuicideprevention.org/task-force/research-prioritization
Presentation Four:

CHALLENGES IN ESTIMATING INTERVENTION EFFECTS

JOEL SHERRILL  NATIONAL INSTITUTE OF MENTAL HEALTH
Overview:

- Gaps in the intervention research literature.
- Characteristics of published studies.
- Potential strategies for future efforts.
Overview:

• Gaps in the intervention research literature.
• Characteristics of published studies.
• Potential strategies for future efforts.
Gaps in the Intervention Research Literature

• Few studies explicitly address suicide interventions\(^1\); studies on specific boundary populations are more limited\(^2\)

• Suicidal individuals are often excluded from MH treatment studies\(^3\)

• Methodological approaches and rigor vary across studies\(^1,2,4\)

• Attempts and deaths are often not reported as outcomes \(^4\)

• Effect sizes are often based on limited samples

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\(^1\) Mann, JJ, Apter, A, Bertolote, *Journal of the American Medical Association*, 294: 2064-2074, 2005

\(^2\) Bagley, SC, Munjas, B, Shekelle, P, *Suicide and Life-Threatening Behavior*, 40: 257-265, 2010


Overview:

- Gaps in the intervention research literature.
- Characteristics of published studies.
- Potential strategies for future efforts.
Characteristics of Published Studies

- **Target Population/Sample**
  - Relatively homogenous
  - Characteristics not assessed/reported

- **Interventionists/Clinicians**
  - Highly selected, trained, and monitored
  - Characteristics not assessed/reported

- **Study Interventions**
  - Complex---Multi-component; Multi-session

- **Setting**
  - Resource rich (support for EBPs; training/monitoring)
  - Different case-mix/competing demands

INTERNAL VERSUS EXTERNAL VALIDITY
Overview:

- Gaps in the intervention research literature.
- Characteristics of published studies.
- Potential strategies for future efforts.
Strategies for Intervention Development/Testing

• Broader inclusion criteria
• Standardization in operationalizing outcomes
• Adding suicide morbidity and mortality outcomes to prevention trials
• Deployment-focused intervention development/testing

Methodological Advances/Refinements

• Modeling/Simulations (e.g., propensity scores)
• Standardization -> Integration & Sharing
• Solutions for Methodological Roadblocks

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3 Insel, TR; NIMH Director’s Blog, “Three Principles for Clinical Research,” (7-30-10)
4 NIMH RFI: “…Key Methodological Roadblocks...” (NOT-MH-12-017; 4-27-12)
REDUCING MORTALITY AND MORBIDITY FROM SUICIDE: HOW CAN WE GET THERE?

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Agenda Development Process


- Expert Consultants
- Burden Map of Suicide Attempts & Deaths
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http://actionallianceforsuicideprevention.org/task-force/research-prioritization
Presentation Five:
COMMUNITY-WIDE PREVENTION OF SUBSTANCE ABUSE AND RELATED RISK FACTORS:
EXAMPLE OF DEVELOPING A LOGIC MODEL FOR AN ASPIRATIONAL GOAL

BELINDA SIMS
NATIONAL INSTITUTE ON DRUG ABUSE
Aspirational Goal 1:

Prevent the emergence of suicidal behavior by developing and delivering the most effective prevention programs to build resilience and reduce risk in broad-based populations.
Since 80% of suicidal students do not seek help from health services on campus, what can be done to inspire them to seek help (Survivor)

Evaluate an effective training program for peer support to prevent suicide that can be introduced as part of orientation programs for all students entering educational programs beyond high school (Policy/Administrator)

Educate service providers—doctors, teachers, college professors, police, etc about not fearing to talk about suicide.... Too many fear they will say something wrong (Provider)
Steps in Developing Short- and Long-term Research Objectives for Aspirational Goals

- What was the relative **rating of the goal?** What were the verbatim suggestions for this goal?
- What is the **logic model** behind the intervention(s) related to this goal?
- Are there **specific analytic models** to consider—do some vary by subpopulation or setting?
- Who are the **experts** to consult on this type of intervention?
- What is the **burden of suicide** for populations for which this goal is relevant? What surveillance data are available on suicide deaths and attempts?
Steps in Developing Short- and Long-term Research Objectives for Aspirational Goals, cont.

- What prior research exists in support of the logic model/analytic model? (literature review)
- What currently funded research addresses this intervention approach? (portfolio analysis)
- What are the potential intervention effects that would reduce suicide death and attempt burden? How many suicide attempts could be averted?
- What are the short- and long-term research objectives needed to avert suicide attempts?
- What organizations/agencies/ funders could be accountable for this aspirational goal? Do current research findings indicate any policy changes that could reduce suicide burden?
Develop Overall Logic Model of Processes For Building Resilience

Life Stressors

- Optimal social functioning
- Good health
- Employment

Provide adequate early parenting environment

Promote safe schools & healthy peer & family relations

Promote healthy social connections & Lives worth living

Reduced Suicide Attempts / Deaths

- Gender
- Biological/inherited risk
- Family context
- Geographic location
- Immediate Cultural Context

Life Stressors

- Gender
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Definable Subgroups with Suicide Burden

36,000 Suicide Deaths in 2009

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- Recent visit to Emergency Departments: ~9,000
- Criminal Justice System: ~460
- Male Veterans: ~7,000
- Army: ~200

Data Sources:
- CDC WISQARS 2009
- CDC NVDRS 2005
- Schwartz 2011
- Bureau of Justice Statistics 2008-2009
- US Army 2009-2010
What is the \textbf{Suicide Attempt} Burden for College Students?

\textit{National Survey on Drug Use And Health (NSDUH), 2010}

Full time college students age 18-22 who reported attempting suicide in past year

\( N = 84,000 \)

\textit{Data Source: SAMHSA, Center for Behavioral Health Statistics and Quality}

http://www.oas.samhsa.gov/nhsda.htm
**Promote Mental Health & Well-Being;**
**School Policy & Values**

- **Surveillance & Screening**
  - problem scope
  - high risk groups

- **Means Restriction**
  - bridges/high bldgs
  - alcohol access
  - chemistry/pharm bldgs

- **Life Skills Development**
  - stress management
  - mindfulness

- **Social Marketing**
  - improve help-seeking norms
  - equality for mental health care

- **Social Network Connection & Promotion**

- **Crisis Management**
  - gatekeepers
  - medical leave & return policies

- **Education**
  - student leaders
  - other gatekeepers

**Mental Health Services**
- on campus
- off campus links

**Literature Review Example:**
**Proposed Elements of a Comprehensive Suicide Prevention Program for Colleges and Universities**

(Jed/EDC Model, 2004)

Develop Overall Logic Model of Processes For Building Resilience

Life Stressors

- Gender
- Biological/inherited risk
- Family context
- Geographic location
- Immediate Cultural Context

Provide adequate early parenting environment

Promote safe schools & healthy peer & family relations

Promote healthy social connections & Lives worth living

Reduced Suicide Attempts / Deaths

- Optimal social functioning
- Good health
- Employment
Intervention/Analytic Example:
Life Skills Development Intervention

NIMH Grant by Hayes & Pistorello MH083740
(based on Biglan, Hayes & Pistorello 2008)

Screen
Incoming Freshman for Experiential Avoidance

Course in Acceptance & Mindfulness Psychological Flexibility

Reduced Problem Behaviors
-Alcohol Use
-Sleep Problems
-Body Image

Reduced Suicide Ideation and Attempts

Campus Norms for Enhanced Problem Solving

Potential Moderators
-Gender
-Race/Ethnicity
-Sexual Orientation
-Veteran Status


Hayes & Pistorello MH083740, NIDA COFUNDING.; Biglan, Hayes & Pistorello (2008). Prevention Science 9(3); 139-152
Research Prioritization Task Force
Agenda Development Process

- Process Designed
- Literature & Grant Portfolio Review
- Stakeholder Survey and Delphi Process
- Selection of Aspirational Research Goals
- Research Agenda Developed Short- and Long-term Goals
- Dissemination of Agenda
- Maintenance & Updating & Changing Behavior

http://actionallianceforsuicideprevention.org/task-force/research-prioritization
How can we get there?

**Research Agenda**
- Funders Report Updates on Website
  - Funders Use Agenda To Prioritize Funding
  - Assist in Updating Agenda

**New Actionable Knowledge**
- Improve Care
- Resilient Communities
- Safer Environments
- Reduced Suicide Attempts Deaths

**Accountable Organizations Use New Knowledge**
- **FEDERAL**
  - HRSA
  - CMS
  - SAMHSA
  - AoA
  - Justice
  - Education
  - IHS
- **STATE**
  - Mental Health
  - Substance Abuse
  - Directors
- **PRIVATE**
  - Insurers
  - Hospitals
  - NRA
Research Task Force Information

http://actionallianceforsuicideprevention.org/task-force/research-prioritization

Research Task Force Questions and Information:
jp Pearson@mail.nih.gov