NATIONAL ACTION ALLIANCE FOR SUICIDE PREVENTION’S RESEARCH PRIORITIZATION TASK FORCE: NATIONAL SUICIDE RESEARCH AGENDA UPDATE

CYNTHIA CLAASSEN, PH.D. UNT Health Science Center
JANE PEARSON, PH.D. NIMH
LISA COLPE, PH.D. MPH, NIMH
ALEXANDER CROSBY, M.D. MPH CDC/ONDIEH/NCIPC
PHILLIP SATOW, RTF Private Sector Co-Lead, Jed Foundation

MORTON SILVERMAN, M.D. Suicide Prevention Resource Center, Moderator
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
Research Prioritization Task Force Members

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

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

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

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

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

**ROBERT GEBBIA**, Executive Director, American Foundation for Suicide Prevention

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

**DANIEL J. REIDENBERG**, Executive Director, Suicide Awareness Voices of Education AND MANAGING DIRECTOR OF THE NATIONAL COUNCIL FOR SUICIDE PREVENTION

Over 20 NIMH & NIDA staff and contractors help support the research task force, and serve as liaisons with other task forces
WHY DO WE NEED A RESEARCH PRIORITIZATION AGENDA FOR SUICIDE?

Cindy Claassen, PhD
Unprecedented Advancement in the Diagnosis & Treatment of Mental Illness; Relatively Intractable Suicide Rates

Why do we need an agenda?

Suicide Research Publication Impact over Time

Compared to other lines of mental health research, suicide publications as a whole demonstrate relatively less sustained value over time.

<table>
<thead>
<tr>
<th></th>
<th>30-year Ave. H-Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suicide</td>
<td>89.3</td>
</tr>
<tr>
<td>Depression</td>
<td>148.5</td>
</tr>
<tr>
<td>Bipolar Disorder</td>
<td>94.7</td>
</tr>
<tr>
<td>Schizophrenia</td>
<td>143.5</td>
</tr>
<tr>
<td>Hypertension</td>
<td>135.8</td>
</tr>
</tbody>
</table>

Source: ISI Web of Knowledge Citation Report; extracted 04.15.10
### Why do we need an agenda?

#### Content Indicators by the Numbers

<table>
<thead>
<tr>
<th></th>
<th>Cardiovascular Disease</th>
<th>Cancer</th>
<th>Depression</th>
<th>Suicide</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year of first major pub</strong></td>
<td>1905</td>
<td>1912</td>
<td>1917</td>
<td>1897</td>
</tr>
<tr>
<td><strong>Year of first Nobel Prize</strong></td>
<td>1936</td>
<td>1926</td>
<td>N / A</td>
<td>N / A</td>
</tr>
<tr>
<td><strong>Year of first public health messaging</strong></td>
<td>1960s-1970s</td>
<td>1970s</td>
<td>1990s</td>
<td>2000s</td>
</tr>
<tr>
<td><strong>How predictive--symptom / risk factor measurement</strong></td>
<td>90%+</td>
<td>5 of 100+ cancers have NCI endorsed screening tests</td>
<td>See below</td>
<td>Suicide cannot be predicted at individual person level</td>
</tr>
<tr>
<td><strong>Outcomes Mortality, Morbidity Trends</strong></td>
<td>50.4% drop in deaths since 1981</td>
<td>8.2% drop in deaths since 1976</td>
<td>While there is considerable variation, rates of MDD appear to be increasing worldwide</td>
<td>Essentially stable rates since 1950s</td>
</tr>
</tbody>
</table>

Critical Review of Progress on Recommendations from Suicide Prevention in the 70’s (1973), CSSP/NIMH

1965 NIH-developed Center for Studies of Suicide Prevention appointed a Task Force charged with establishing directions and priorities for the field of suicide prevention for the decade ahead.” Dublin address critiqued progress on recommendations from the six working committees of this Task Force.

<table>
<thead>
<tr>
<th>Working Committee Recommendation:</th>
<th>Berman progress score as of 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification and Nomenclature (Aaron Beck, Chair)</td>
<td>“D”</td>
</tr>
<tr>
<td>Death &amp; Self-Destructive Behavior (Avery Weisman, Chair)</td>
<td>“D”</td>
</tr>
<tr>
<td>Research (Norman Faberow, Chair)</td>
<td>“C+/B”</td>
</tr>
<tr>
<td>Treatment (Jan Fawcett, Chair)</td>
<td>“C”</td>
</tr>
<tr>
<td>Delivery of Suicide Prevention &amp; Crisis Services (Richard McGee, Chair)</td>
<td>“B”</td>
</tr>
<tr>
<td>Education and Training (Ron Maris, Chair)</td>
<td>“C”</td>
</tr>
</tbody>
</table>
WASHINGTON (CNN) -- One week after the U.S. Army announced record suicide rates among its soldiers last year, the service is worried about a spike in possible suicides in the new year. The Army said 24 soldiers are believed to have committed suicide in January alone -- six times as many as killed themselves in January 2008, according to statistics released Thursday. If those prove true, more soldiers will have killed themselves than died in combat last month. "This is terrifying," one official said. "We do not know what is going on."

http://www.cnn.com/2009/US/02/05/army.suicides /accessed 4.27.09
WHAT DOES A RESEARCH PRIORITIZATION AGENDA LOOK LIKE?
EXCOM Meeting
Our Executive Committee met to plan strategically for the National Strategy for Suicide Prevention and Action Alliance priorities and to discuss long-term roles, communication, and sustainability.

http://actionallianceforsuicideprevention.org
National Action Alliance Research Prioritization Task Force

**PHIL SATOW—CO-LEAD** PRIVATE SECTOR; EXCOM REPRESENTATIVE FROM NAT’L COUNCIL; CO-FOUNDER & BOARD PRESIDENT, JED FOUNDATION

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

**ALAN BERMAN** EXECUTIVE DIRECTOR, AMERICAN ASSOCIATION OF SUICIDIOLOGY

**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

**ROBERT GEBBIA** EXECUTIVE DIRECTOR, AMERICAN FOUNDATION FOR SUICIDE PREVENTION

**MICHAEL HOGAN** COMMISSIONER, NEW YORK STATE OFFICE OF MENTAL HEALTH

**DAVID GROSSMAN** MEDICAL DIRECTOR, PREVENTIVE CARE, GRP HEALTH RESEARCH INSTITUTE

**DANIEL REIDENBERG** EXECUTIVE DIRECTOR, SUICIDE AWARENESS VOICES OF EDUCATION & MANAGING DIRECTOR OF THE NAT’L COUNCIL FOR SUICIDE PREVENTION
Research Prioritization Task Force Support Team (Partial List)

JOEL SHERRILL, Chief, Psychosocial Treatment Research Program
Child & Adolescent Treatment & Preventive Intervention Branch

BEVERLY PRINGLE, Program Chief, Child & Adolescent Mental Health Services Research; Services Research and Clinical Epidemiology Branch

ROBERT K. HEINSSEN, Director, Division of Services and Intervention Research

LIZA BUNDESEN, Acting Branch Chief, Science Policy and Evaluation Branch; Office of Science Policy, Planning, and Communications

LISA NICHOLS, AAAS Fellow, Science Policy and Evaluation Branch; Office of Science Policy, Planning, and Communications

DAVID ZIEHLINSKI, Science Policy Analyst, Science Policy and Evaluation Branch; Office of Science Policy, Planning, and Communications

ANNE SPERLING, Science Policy Analyst, Science Policy and Evaluation Branch; Office of Science Policy, Planning, and Communications

YANCY BODENSTEIN, Chief, Reports and Analysis Branch, Office of Science Policy, Planning and Communications

LESHAWNDRA N. PRICE, Deputy Dir for Rsrch; Disparities & Global Mental Health

GEMMA WEIBLINGER, Director, Office of Constituency Relations and Public Liaison

KEISHA SHROPSHIRE, CHES Health Science Analyst, Science Policy and Evaluation Branch; Office of Science Policy, Planning, and Communications

SHERRY DAVIS MOLOCK, Senior Advisor for Outreach & Engagement Research, Office of Constituency Relations & Public Liaison

BELINDA E. SIMS, Health Scientist Administrator; Epi Services & Prevention Research

REX ROBISON, Informationist/ Biomedical Librarian

CYNTHIA (CINDY) CLAASSEN, Associate Professor, Department of Psychiatry
Two National Strategies (2001; 2012) have called for a National Research Agenda

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

2012 National Strategy for Suicide Prevention

Goal 12.1  Develop a national suicide prevention research agenda with comprehensive input from multiple stakeholders
Some Approaches to Developing Strategic Research Agendas

- **Grand Challenge**: conceptual or methodological “barriers in research pathways (Varmus 2003). Looks to investigators to organize and solve.

- **Capacity Building**: Multiple research domains grown; research goals known and resources available to support systematic research pathways (NLM 2010).

- **Knowledge-to-Action Networks**: Links researchers with front-line field workers where applied research is most needed (Matson, 2008)
Key Concepts in a Research Agenda Designed to Reduce Suicide Burden

1. Develop a list of high-priority goals which – if met – could substantially reduce suicide burden

2. Define and articulate viable research pathways through which these goals can be realized
   a. Identify and sequence the studies required to reach each goal
   b. Address the most critical methodological and conceptual barriers to achieving these goals

3. Prioritize the research needed across goals and pathways

4. Disseminate the final agenda & cultivate the funding streams necessary to accomplish the research agenda
WHAT WAS THE RESEARCH TASK FORCE PROCESS FOR DEVELOPING A RESEARCH PRIORITIZATION AGENDA?
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.

RFT 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 implemented successfully.
CORE VALUES & OPERATING PRINCIPLES:

CORE VALUES: Through this research agenda development process, the Task Force seeks to produce a final agenda in which the very best science is represented as the highest priority. The Task Force seeks to do this by using procedures that promote inclusiveness, innovation and accountability.

THE GENERAL PRINCIPLES guiding the process are:

- **Timeliness:** We will take relatively prompt steps to meet established timelines.
- **Accuracy:** We will proceed in a way that minimizes the possibility of bias, inconsistencies or errors once the process has been completed.
- **Balanced Input:** We will design an input system with optimal variation in the choice of stakeholder groups surveyed.
Adequate Sampling: We will provide for an adequate sampling approach for stakeholder groups.

Critical Review: We will give due consideration to what suicide research already has been completed and identify the important gaps that currently exist.

Structured Decision-Making: We will develop plans for prioritization of research topics.

Transparency and Public Access: We will build transparency into the process by ensuring public access to agendas and minutes and a way for unsolicited input to be received and considered.

Adequate Dissemination: We will implement a plan for dissemination of information on the agenda development process and on the final agenda.

Behavior Change: We will encourage both United States funding agencies and suicide prevention scientists to consider and respond to key ideas in the final agenda and to adjust their priorities accordingly.

Long-term Maintenance: We will create protocols to ensure that the agenda becomes a “living document.”
Research Task Force Agenda Development Process

- Literature Review and Portfolio Analysis
- NIH Request for Information *(methodological roadblocks and proposed new paradigms)*

**Process Designed**

- Burden of Suicide Deaths and Attempts Identified
- Stakeholder Survey and Delphi Process

**Models of Potential Attempts Averted and Lives Saved**

**Selection of Aspirational Goals**

- Research Agenda Development *(short- and long-term objectives)*

**Expert Consultants**

- Dissemination of Agenda
- Maintenance, Updating
<table>
<thead>
<tr>
<th>Month</th>
<th>Event</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 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>Experts invited to consultation/writing tasks</td>
</tr>
<tr>
<td></td>
<td>RFI input reviewed and summarized</td>
</tr>
<tr>
<td>June 2012</td>
<td>Initiate portfolio analyses &amp; targeted literature review</td>
</tr>
<tr>
<td>July 2012</td>
<td>Drafts of logic models and format of agenda developed; materials</td>
</tr>
<tr>
<td></td>
<td>assembled for experts</td>
</tr>
<tr>
<td>Sept 2012</td>
<td>Models of interventions developed</td>
</tr>
<tr>
<td>Oct 2012</td>
<td>Experts initial in person meeting</td>
</tr>
<tr>
<td></td>
<td>Experts multiple webinars to review logic models, evidence, identify</td>
</tr>
<tr>
<td></td>
<td>gaps, draft short and long-term research objectives</td>
</tr>
<tr>
<td>Mar 2013</td>
<td>Experts final meeting to review draft agenda</td>
</tr>
<tr>
<td>Summer 2013</td>
<td>Research Prioritization Agenda draft completed for public comment</td>
</tr>
</tbody>
</table>
Stakeholder Survey

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

© 2010 NATIONAL ACTION ALLIANCE FOR SUICIDE PREVENTION. ALL RIGHTS RESERVED.
6 Key Questions & 12 Aspirational Goals

Question 1: Why Do People Become Suicidal?

Aspirational Goal 1: Know what leads to, or protects against, suicidal behavior, and learn how to change those things to prevent suicide.

Question 2: How Can We More Optimally Detect/Predict Risk?

Aspirational Goal 2: Determine the degree of suicide risk (e.g., imminent, near-term, long-term) among individuals in diverse populations and in diverse settings through feasible and effective screening and assessment approaches.

Aspirational Goal 3: Assess who is at risk for attempting suicide in the immediate future.

Question 3: What Interventions Prevent Individuals From Engaging in Suicidal Behavior?

Aspirational Goal 4: Ensure that people who are thinking about suicide but have not yet attempted, receive interventions to prevent suicidal behavior.

Aspirational Goal 5: Find new biology treatments and better ways to use existing treatments to prevent suicidal behavior.

Aspirational Goal 6: Ensure that people who have attempted suicide can get effective interventions to prevent further attempts.
Question 4: What Services Are Most Effective for Treating the Suicidal Person and Preventing Suicidal Behavior?

Aspirational Goal 7: Ensure that health care providers and others in the community are well trained in how to find and treat those at risk.

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 throughout their treatment so they don’t fall through the cracks.

Aspirational Goal 10: Increase help-seeking and referrals for at-risk individuals by decreasing stigma.

Question 5: What Other Types of Preventive Interventions (Outside Health Care Settings) Reduce Suicide Risk?

Aspirational Goal 11: 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.

Aspirational Goal 12: Reduce access to lethal means that people use to attempt suicide.

Question 6: What Existing Infrastructure Can Be Better Utilized, and What New Infrastructure Needs Must Be Met In Order to Further Reduce Suicidal Behavior in the United States?
What the Agenda Goals ARE & What they ARE NOT

They ARE:

• Broadly representative of the perspectives of a large cohort of individuals with a significant investment in suicide prevention

• Geared to save the MOST LIVES and prevent the MOST ATTEMPTS as quickly as possible

• Supportive of “Boots-on-the-Ground” research efforts

They ARE NOT:

• Based solely on the assumptions and conclusions of suicide prevention researchers over the past several decades

• Uniformly supportive of systematic, programmatic development within a variety of lines of suicide prevention research

• Permanent – they are designed to be modified / revised / replaced as time and evidence suggests is necessary
CHARTING THE RESEARCH PATHWAY FOR EACH ASPIRATIONAL GOAL

1. Scientific process: Consistent pipeline of Researchers and funding

2. Promising Approaches

3. Find high value targets

4. Breakthroughs in: Conceptual / methodological precision New constructs

5. Design & test practical interventions

6. Deploy

7. Adoption of evidence-based practices

8. Reduced suicide attempts & deaths

General Research Pathway Model
Summary of Advances in Autism Spectrum Disorder Research: Calendar Year 2012

- Introduction
- Articles Selected for the Summary of Advances
  - Question 1: When Should I Be Concerned?
  - Question 2: How Can I Understand What Is Happening?
  - Question 3: What Caused This To Happen and Can This Be Prevented?
  - Question 4: Which Treatments and Interventions will Help?
  - Question 5: Where Can I Turn for Services?
  - Question 6: What Does the Future Hold, Particularly for Adults?
  - Question 7: What Other Infrastructure and Surveillance Needs Must Be Met?
- Citation List – Articles Selected for the 2012 Summary of Advances
- Full Listing of Nominated Articles
- About the IACC
- IACC Member Roster
- Office of Autism Research Coordination (OARC) Staff List

Printer Friendly Version

http://iacc.hhs.gov/summary-advances/2012/index.shtml
WHAT IS THE POTENTIAL IMPACT THE RESEARCH PRIORITIZATION AGENDA CAN HAVE ON SUICIDE ATTEMPTS AND SUICIDE DEATHS?

Jane Pearson, PhD
## Organization of Prioritized Research Agenda

*For Each Key Question 1-5*

**Description of the relevant Aspirational Goal**

**What do we know?**

**What do we need?**

**What is the suicide burden related to this (these) Aspirational Goal(s)?**

**What approaches could used to reduce suicide burden?**

**What is the potential benefit of approaches/interventions?**

- Example of intervention models
- Gaps in burden information and intervention models

**What are the proposed research pathways?**

**What are the research opportunities?**

| SHORT-TERM OBJECTIVES | LONG-TERM OBJECTIVES |
How do we use research to lower suicide rates?

**Step 1:** Identify a “Burden Map” that provides systematic information on the largest high-risk subgroups

**Step 2:** Identify those “Boundaried” settings in which these large, high-risk subgroups can be accessed

**Step 3:** Estimate the effects of wider deployment of existing or hypothetical evidence-based interventions in reducing suicide within boundaried settings on these high-risk groups

**Step 4:** Create a timeline projecting the most likely period of time needed to achieve large-scale deployment of the interventions modeled in Step 3
Crude Rates per 100,000 U.S. Population

Projected suicide rate given 20% decrease in 5 years

Projected suicide rate given 40% decrease in 10 years

Source: 2002-2010 Rates: CDC. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online].
Public Health Approach

Develop a Burden Map of Suicide Decedent Subgroups in the United States

36,000 Suicide Deaths in 2009

- Emergency Departments
  - ~9,300 (est.)
- Male Veterans
  - ~7,000 (est.)
- U.S. Army (CONUS)
  - ~200 (est.)
- Criminal Justice System
  - ~465
- American Indians/AN
  - ~430
- College Students
  - 200-1,000

Data Sources:
- CDC WISQARS 2009
- CDC NVDRS 2005
- Bureau of Justice Statistics 2008-2009
- U.S. Army(2009-2010)
- Schwartz 2011
Past Year Suicide Attempts in “Boundaried” Settings

- Emergency Departments: 390,359 treated for attempts
- Outpatient Mental Health Services: 515,900
- Substance Use Treatment Facilities: 106,000
- Probation/Parole: 161,000
- Youth in High School: 1,297,520
- Full time College: 108,000

†Source: CDC’s National Electronic Surveillance System, 2010
‡Source: SAMHSA’s National Survey on Drug Use and Health, 2008–2009
*Source: CDCs Youth Risk Behavior Surveillance System, 2011 (Attempts treated by Doctor or Nurse)
Q: How many suicide deaths/attempts could be averted:

by fully implementing ______ intervention

with ______ subgroup

in ______ setting?
Step 4: Timeline for implementation & research

Medication to treat underlying psychiatric disorder in primary care

Wasserman, Rihmer, Rejescu et al., 2012
Purpose of Modeling Estimates

- Understand potential outcomes that could accrue if optimally implemented effective interventions
- Provide a general idea of the magnitude of outcomes
- Highlight areas where more data is needed
- Spark further modeling over longer period with more rigorous methods

Lynch, F. 2013. Kaiser Permanente Center for Health Research
Advantages of Models

- Synthesize data from multiple sources and studies
- Makes assumptions explicit
- Clearly defines alternatives, events, and outcomes
- Formal method to combine evidence
- Identify gaps in knowledge
- Helps to guide decisions when full information isn’t available

Lynch, F. 2013. Kaiser Permanente Center for Health Research
Disadvantages of Models

- Limited by data currently available
- Potential for manipulation of results
- Needs to follow systematic review of alternatives
- More sophisticated models may be difficult to communicate succinctly
- Strength of evidence weaker than in more highly controlled research

Lynch, F. 2013. Kaiser Permanente Center for Health Research
Example 1: Psychotherapeutic Intervention in Persons Coming to ER with Suicide Attempt

**Question:**

If we provide evidence-based psychotherapeutic intervention for prevention of suicide reattempt *initiated in* emergency room settings, how many suicide attempts and suicide deaths could we avert in 1 year? In 5 years?

*Lynch, F. 2013. Kaiser Permanente Center for Health Research*
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Values Used in Model</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>POPULATIONS</td>
<td>Defines populations that might benefit from the intervention being evaluated</td>
<td></td>
</tr>
<tr>
<td>Adults (ages 18-64) with Past Year Suicide, and an <strong>ED visit linked</strong> to Suicide Attempt</td>
<td>390,359</td>
<td>NEISS 2010</td>
</tr>
<tr>
<td>RATES OF KEY EVENTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proportion who attempt Suicide and Survive in Year following Attempt</td>
<td>15% in first year following attempt, cumulative risk at end of five years is 25%</td>
<td>Owens, Horrocks &amp; House 2002</td>
</tr>
<tr>
<td>Proportion who Die of Suicide Attempt in Year following Attempt</td>
<td>2% in first year following attempt, cumulative risk at end of 5 years is 3%</td>
<td>Owens, Horrocks &amp; House 2002</td>
</tr>
<tr>
<td>Other Causes Death Rate</td>
<td>Rate varies by age, average rate is 0.0073</td>
<td>CDC Website Kochanek KD, et al 2011. <strong>NOTE:</strong> persons who attempt suicide may be much more likely to die of other causes such as accidents (Bergen et al. 2012)</td>
</tr>
<tr>
<td>INTERVENTION RELATED PARAMETERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficacy of Intervention (Relative Risk)</td>
<td>RR=0.68 (95% CI – 0.56-0.83)</td>
<td>AHRQ – EPC Task Force report 2012</td>
</tr>
<tr>
<td></td>
<td></td>
<td>O’Connor EO, et al. (in press 8/2012)</td>
</tr>
<tr>
<td>Decay rate of Intervention Effectiveness</td>
<td>100% in Year 1, decays to zero effect by 5 years</td>
<td>ACE Suicide Review</td>
</tr>
<tr>
<td>Hospital and ER based Clinicians are able to refer directly to PST</td>
<td>No delay in linking patients to services</td>
<td>ACE Suicide Review</td>
</tr>
<tr>
<td>No Dose Effect of Intervention</td>
<td>Anyone receiving any intervention benefits at indicated efficacy</td>
<td>ACE Suicide Review</td>
</tr>
<tr>
<td>Uptake of Intervention</td>
<td>Main Analysis 100%, Sub Analysis 80% Uptake refers to the number of people who are likely to accept the intervention. Intentionally optimistic since task is to provide estimates of number of suicide attempts and suicide deaths that could be averted with optimal dissemination of EBT.</td>
<td>Jane Pearson notes</td>
</tr>
</tbody>
</table>

*Lynch, F. 2013. Kaiser Permanente Center for Health Research*
Potential Outcomes for *Psychotherapeutic Interventions in ER Setting*—Adults 18-64 with Suicide Attempt—–an ED Visit

### Problem Solving Therapy for Prevention of Repeat Suicide Attempts 100% Uptake

RR=0.68 (95% CI – 0.56-0.83)

<table>
<thead>
<tr>
<th>Estimated Suicide Attempts and Suicide Deaths Averted</th>
<th>Actual Suicide Attempts seen in ER</th>
<th>Estimated % of Total Attempts Averted</th>
<th>Actual Suicide Deaths Ages 18-64</th>
<th>Estimated % of Total Suicide Deaths Averted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Number</td>
<td>NEISS 2010</td>
<td>WISQARS 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-fatal Suicide Attempts Averted in 1 year</td>
<td>18,737</td>
<td>390,359</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Non-fatal Suicide Attempts Averted in 5 years</td>
<td>109,306</td>
<td>1,951,795</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Suicide Deaths Averted in 1 Year</td>
<td>2498</td>
<td></td>
<td>31,354</td>
<td>8%</td>
</tr>
<tr>
<td>Suicide Deaths Averted in 5 years</td>
<td>13,928</td>
<td></td>
<td>156,770</td>
<td>9%</td>
</tr>
</tbody>
</table>

### Problem Solving Therapy for Prevention of Repeat Suicide Attempts 80% Uptake

RR=0.68 (95% CI – 0.56-0.83)

<table>
<thead>
<tr>
<th>Estimated Suicide Attempts and Suicide Deaths Averted</th>
<th>Suicide Attempts seen in ER</th>
<th>Estimated % of Total Attempts Averted</th>
<th>All Suicide Deaths Ages 18-64</th>
<th>Estimated % of Total Suicide Deaths Averted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Number</td>
<td>NEISS 2010</td>
<td>WISQARS 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-fatal Suicide Attempts Averted in 1 year</td>
<td>14,990</td>
<td>390,359</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Non-fatal Suicide Attempts Averted in 5 years</td>
<td>84,447</td>
<td>1,951,795</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Suicide Deaths Averted in 1 Year</td>
<td>1999</td>
<td>31,354</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Suicide Deaths Averted in 5 years</td>
<td>11,146</td>
<td>156,770</td>
<td>7%</td>
<td></td>
</tr>
</tbody>
</table>

*Lynch, F. 2013. Kaiser Permanente Center for Health Research*
Example 2: Early Intervention in School Settings — Good Behavior Games for First Graders

Question:

If we provide an evidence-based early prevention program that mitigated risks associated with suicide in schools to first grade children, how many suicide attempts and suicide deaths could we avert in 15 years?

Lynch, F. 2013. Kaiser Permanente Center for Health Research
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Values Used in Model</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>POPULATIONS</td>
<td>Defines populations that might benefit from the intervention being evaluated</td>
<td></td>
</tr>
<tr>
<td>School Age Children in first grade (ages 6)</td>
<td>3,750,000 million first grade children (25% of kids receive GBG intervention)</td>
<td>US Department of Education – Number of First Graders</td>
</tr>
<tr>
<td>INTERVENTION RELATED PARAMETERS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Relative Risk for SUICIDE ATTEMPT</td>
<td>RR=0.50 (95% CI - 0.3-0.9)</td>
<td>Wilcox et al. 2008 (page 11); Kellam et al. 2011</td>
</tr>
<tr>
<td>Relative Risk for SUICIDE DEATH</td>
<td>Assume 10% decrease in suicide death rate</td>
<td>Literature does not provide estimate of impact on suicide deaths</td>
</tr>
<tr>
<td>RATES OF KEY EVENTS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rate of reported suicide attempt with medical care</td>
<td>Varies by age group, Average rate 2.1%</td>
<td>YRBSS 2009 for ages 14-18; NSDUH for ages 19-22</td>
</tr>
<tr>
<td>Rate of Suicide death from ages 13-22 (up to 15 years post intervention)</td>
<td>Varies by age group Average rate across 13-22 age range 7.9/100,000</td>
<td>WISQARS actual number of suicide deaths ages 13-22</td>
</tr>
<tr>
<td>NO suicide attempts or deaths prior to age 13</td>
<td></td>
<td>WISQARS notes that prior to age 13 estimates are unstable so assume no deaths or attempts prior to this age</td>
</tr>
<tr>
<td>Proportion who attempt Suicide and Survive in Year following Attempt</td>
<td>15% in first year following attempt, cumulative risk at end of five years is 25%</td>
<td>Owens, Horrocks &amp; House 2002</td>
</tr>
<tr>
<td>Proportion who Die of Suicide Attempt in Year following Attempt</td>
<td>2% in first year following attempt, cumulative risk at end of 5 years is 3%</td>
<td>Owens, Horrocks &amp; House 2002</td>
</tr>
<tr>
<td>Other Causes Death Rate</td>
<td>0.0006</td>
<td>CDC Website; Kochanek KD, et al 2011. Adults with suicide attempt may have increased risk of other causes of death (Bergen et al. 2012), uncertain if pertains to children.</td>
</tr>
<tr>
<td>No Dose Effect of Intervention</td>
<td>Anyone receiving any intervention benefits at indicated efficacy</td>
<td>ACE Suicide Review</td>
</tr>
<tr>
<td>Uptake of Intervention</td>
<td>25% receive full intervention as delivered in Wilcox et al. 2008</td>
<td></td>
</tr>
</tbody>
</table>
Potential Population Health Outcomes for *Early Childhood Intervention*—Good Behavior Game for Children in First Grade

<table>
<thead>
<tr>
<th>Good Behavior Game Provided to 15 Cohorts of First Graders</th>
<th>25% of First Grade Children Receive the Intervention</th>
</tr>
</thead>
<tbody>
<tr>
<td>RR=0.50 (95% CI – 0.3-0.9) for Suicide Attempt</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Estimated Suicide Attempts and Suicide Deaths Averted</th>
<th>Expected Suicide Attempts Requiring Medical Care Ages 13-22</th>
<th>Estimated % of Total Attempts Averted</th>
<th>Expected Suicide Deaths Ages 13-22</th>
<th>Estimated % of Total Suicide Deaths Averted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated Number</td>
<td>YRBS 2010/NSDUH 2010</td>
<td>WISQARS 2010</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-fatal Suicide Attempts <strong>Averted</strong> in 15 years following Intervention</td>
<td>542,096</td>
<td>4,345,125</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Suicide Deaths <strong>Averted</strong> in 15 years following Intervention</td>
<td>687</td>
<td></td>
<td></td>
<td>14,425</td>
</tr>
</tbody>
</table>

*Estimated* Suicide Attempts and *Averted* in 15 years following Intervention

---

Lynch, F. 2013. Kaiser Permanente Center for Health Research
Past Year Suicide Attempts in Boundaried Settings

Opportunities to Reduce 648,000 Adult Suicide Attempts by 20% (135,600 fewer attempts)

- Emergency Departments 390,359 Treated for Attempts†
- Outpatient Mental Health Services 515,900†
- Substance Use Treatment Facilities 106,000†
- Probation/Parole 161,000†
- Youth in High School 1,297,520*
- Full time College 108,000†

†Source: CDC’s National Electronic Surveillance System, 2010
‡Source: SAMHSA’s National Survey on Drug Use and Health, 2008–2009
*Source: CDCs Youth Risk Behavior Surveillance System, 2011 (Attempts treated by Doctor or Nurse)
For adult suicide deaths in one year (7,471 fewer suicide deaths):
How many suicide deaths would be averted if 25% of suicidal people who would otherwise have access to a firearm in their home, no longer had access (offsite storage, effective locking etc):

3,612 fewer suicide deaths

How many suicide deaths would be averted if 85% of all carbon monoxide poisoning in vehicle deaths were prevented (automatic shut-off valve):

600 fewer suicide deaths

How many suicide deaths would be averted if all persons seen in emergency care for a suicide attempt received evidence-based psychotherapy?

2,498 fewer suicide deaths

TOTAL 6,710 adult suicide deaths averted in a year
Suicide Deaths Prevented by Proposed Interventions

- 90% of the Goal
- 20% of 2010
- Separating Suicidal Individuals from Firearm Access
- Separating Suicidal Individuals from Carbon Monoxide Motor Vehicle
- Psychotherapy Provided in Emergency Care

- 3,612
- 2,498
- 600
HOW WILL THE RESEARCH PRIORITIZATION AGENDA BE USED?
Utilizing the Research Prioritization Agenda

**Funders**
- Inform funding organizations; encourage coordination; Portfolio Analyses

**Researchers**
- Focus the field of suicide research-Meetings (e.g., common data elements) What’s important?

**Advocates**
- Provide guidance- what’s possible? What’s important?
Crude Rates per 100,000 U.S. Population

Projected suicide rate given 20% decrease in 5 years

Projected suicide rate given 40% decrease in 10 years

Short-term and Long-term Objectives in Prioritized Research Agenda Have Potential to Reduce Suicide Burden

Annual U.S. Suicide Rates, 2002-2010; Projected Benefits of Applied Prioritized Research Agenda

Source: 2002-2010 Rates: CDC. Web-based Injury Statistics Query and Reporting System (WISQARS) [Online].
Strategic Research Efforts Coordinate Short-term & Long-term Investments Across Funders to Reduce Suicide Rate
Research Prioritization Task Force

The Research Prioritization Task Force meeting following the National Action Alliance for Suicide Prevention Executive Committee (EXCOM) February meeting at the Key Bridge Marriott in Arlington, Virginia. Members and staff pictured include, clockwise from upper left: Ira Katz, Kathy O’Leary, Gemma Weilbinger, Jane Pearson, Mary Durham, Robert Mays, Sherry Molock, Beverly Pringle, Dan Reidenberg, Chelsea Booth, Cynthia Claassen, Lanny Berman, Phillip Satow.

The National Action Alliance for Suicide Prevention Research Prioritization Task Force (RTF) was initiated in November 2010. The RTF is comprised of 11 organizations, representing the public and private sectors in research, advocacy, and practice.