The Intersection of Suicide Research and Public Health Practice: Laying the Foundation for Partnership

Presenters: Eric D. Caine, M.D. and Elly Stout, M.S.  
Moderator: Ann Marie White, Ed.D.

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The Intersection of Suicide Research and Public Health Practice: Laying the Foundation for Partnership

Ann Marie White
Polls
Challenges for Suicide Prevention 2013

Eric D. Caine, MD
Injury Control Research Center for Suicide Prevention &
Center for the Study and Prevention of Suicide,
University of Rochester Medical Center, Rochester, NY;
VA Center of Excellence for Suicide Prevention,
Canandaigua, NY
The conundrum….needles in the haystack!

- The suicide rate of ~12 per 100,000 per year in the general population = 0.12 per 1000, or 0.012 per 100. That means probabilistically, you can say with ~99.9% likelihood that no person from the general population will kill him/herself imminently.

- If the suicide rate is ~500 per 100,000 among clinically depressed people, it is ~5 per 1000, or ~0.5 per 100 depressed individuals. That means probabilistically, you can say with ~99.5% likelihood that no depressed person will kill him/herself imminently.
Suicide among all persons by sex – United States, 1933-2009

Rate per 100,000 population

Year

ICRC-S

Source: CDC vital statistics
Provided by Crosby, US CDC
CHALLENGE 1. An inability to discriminate the relatively few true cases from the numbers of ‘FALSE POSITIVE’ cases.
“Risk Factors” for suicide do not predict outcomes!

- Suicide “risk factors” were derived *retrospectively* using psychological autopsy methods.
- There were not prospective or hypothesized.
- Common features cannot predict rare events! When someone has all of the risk factors, the chances of suicide are *very small*.
- Suicide “risk factors” are *clinical features, and perhaps, contributing factors*. 
Self-inflicted injury among all persons by age and sex – United States, 2010

Source: CDC WISQARS NEISS Provided by Crosby, US CDC
Suicides and suicide rates among all persons – United States, 2009

Source: CDC vital statistics
Provided by Crosby, US CDC
The Language of Prevention applied to Suicide and Attempted Suicide – *Indicated*

<table>
<thead>
<tr>
<th>Intervention terminology</th>
<th>Approach</th>
<th>Target</th>
<th>Objectives</th>
<th>Examples of potential prevention efforts</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Indicated Preventive Interventions</strong> (<em>“Proximal” Prevention Efforts</em>)</td>
<td>High Risk</td>
<td>Identify <em>high-risk individuals with detectable symptoms.</em></td>
<td>Treat individuals with precursor/prodromal signs and symptoms to prevent emergence of full-blown disorder.</td>
<td>1) Increase detection and treatment for depressed elders in primary care.</td>
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<td>Future: Include asymptomatic individuals bearing defined risk markers.</td>
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<td>2) Lithium maintenance for persons with recurrent bipolar disorder.</td>
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<td>3) Use targeted psychoRx to treat suicidal thoughts and behaviors.</td>
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<td>4) <strong>Engage previously suicidal patients who could be ‘lost’ to care!</strong></td>
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</table>
### The Language of Prevention applied to Suicide and Attempted Suicide – *Selective*

<table>
<thead>
<tr>
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</table>
| Selective Prevention Interventions | High Risk | Identify *groups* bearing a significantly higher-than-average risk of developing mental disorders, substance use disorders, and adverse outcomes. | Prevent disease through addressing population-specific characteristics that place individuals at higher-than-average risk | 1) Community programs contact isolated elders.  
2) **Court-based programs:**  
   (a) Provide services support for *safety planning* to victims of domestic violence.  
   (b) Deploy engagement interventions for criminal defendants with substance use disorders.  
3) Vigorously treat elders with chronic pain syndromes and functional limitations. |
Preventive (selective) and therapeutic (indicated) interventions for people with “risk factors” are clinically indicated and highly desirable.

However, it has yet to be demonstrated that these efforts reduce deaths due to suicide.
CHALLENGE 2. The large numbers of ‘FALSE NEGATIVE’ individuals who escape preventive detection or disappear from clinical settings before killing themselves.
The Language of Prevention applied to Suicide and Attempted Suicide – *Universal*

<table>
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| Universal Prevention Interventions ("Distal" Prevention Efforts) | Population | Implement sweeping, broadly directed initiatives to entire populations, not based upon individual risk. Develop programs that reach asymptomatic individuals. | Prevent disease through reducing risk, and enhancing protective or mitigating factors across broad groups of people. | 1) **Means Restriction** (firearm safety, pill packaging, bridge barriers)  
2) Alcohol & substance use prevention & control  
3) Develop effective violence reduction programs among men, ages 16-34 years.  
4) **Hotlines** to enhance access to care  
5) Remove insurance barriers & other impediments to treatment |
The Coal Gas Story

(Kreitman, 1976)

Percentage of CO in domestic gas, United Kingdom 1955-74

[Graph showing the percentage of CO in domestic gas from 1955 to 1974, gradually decreasing over time.]
**The Coal Gas Story**

(Kreitman, 1976)

Sex-specific suicide rates by mode of death: England & Wales

![Graph showing sex-specific suicide rates by mode of death: England & Wales.](chart.png)
**Means matter and so does means restriction!**

Major national trends vary with the availability of new or different methods, and means restriction can occur at a level where the impact of ‘detection failure’ is mitigated.
The application and impact of means restriction are limited by ecological factors (e.g., hanging; jumping from buildings) and social forces (e.g., firearm access in USA).
**Challenge 3.** The inability of clinical and social service providers to **REACH** many potentially lethal individuals. They live beyond the walls of the clinical world (...in which we work).
Two fundamental differences between selective & indicated preventive interventions and clinical treatments!

1. Public health preventive interventions reach into communities to find and engage those who require treatment. They do not wait for patients to come to the door of the clinic.

2. To be most effective, public health approaches should involve ‘co-owning’ community partners.
### Site – Population Approaches (social geography)

<table>
<thead>
<tr>
<th>Sites</th>
<th>Populations potentially captured</th>
<th>Populations likely to be missed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Middle and High Schools</td>
<td>Adolescents attending school</td>
<td>School dropouts; youth in legal trouble</td>
</tr>
<tr>
<td>Universities</td>
<td>Vulnerable individuals with new onset or recurrent mental disorders</td>
<td>Young adults not pursuing further education, or unemployed</td>
</tr>
<tr>
<td>Organized Work Sites</td>
<td>Those employed in organized work sites, men and women in the middle years</td>
<td>Workers in small businesses, union/hiring halls, day labor, unemployed workers, immigrant and migrant labor, day labor, underground workers</td>
</tr>
<tr>
<td>Medical Settings</td>
<td>Those with health insurance; those that are willing to access traditional medical settings</td>
<td>Un/under insured; low “utilizers” of health care (men); utilizers of nontraditional health care</td>
</tr>
<tr>
<td>Community NGOs (e.g., United Way)</td>
<td>Those targeted for service by the NGO funding source; those in private homeless shelters</td>
<td>Anyone outside perceived scope of agency</td>
</tr>
<tr>
<td>Religious/Faith Organizations</td>
<td>Those who attend on a regular basis</td>
<td>Non-participants and those that drop out</td>
</tr>
<tr>
<td>Sites</td>
<td>Populations potentially captured</td>
<td>Populations likely to be missed</td>
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<tr>
<td>Courts/Criminal Justice/Jails</td>
<td>Perpetrators/victims of domestic violence, probationers, prisoners</td>
<td>Failure to gain access for mental health and chemical dependency services for those identified through CJ settings</td>
</tr>
<tr>
<td>Local Government Agencies</td>
<td>Recipients from County-level social service and health departments; those in homeless shelters, county supervised housing; government food banks</td>
<td>Those who do not access services from local Health Dept clinics or Department of Social Services</td>
</tr>
<tr>
<td>State Government Agencies, Medicaid</td>
<td>Unemployed workers seeking services, the mentally ill in state housing; state operated mental health centers and clinics, including high risk populations such as SMI and CD patients in clinics; Medicaid recipients</td>
<td>Chronically unemployed, migrants not eligible for services</td>
</tr>
<tr>
<td>Federal Agencies, Medicare, Social Security, in collaboration with States—REGULATORY IMPACT</td>
<td>Elders, Medicaid recipients, high risk families</td>
<td>Broad swaths of the general population – e.g., people living in underserved rural &amp; urban areas</td>
</tr>
<tr>
<td>High-risk groups</td>
<td>Sites</td>
<td>Potential interventions</td>
</tr>
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<td>------------------------------------------------------</td>
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</tr>
<tr>
<td>High Risk Youth— “drop outs,” violent youth, &amp; foster care youth</td>
<td>Community centers, police, jails, foster services; alternative schools</td>
<td>Comprehensive family and youth services, integrated across community and gov’t systems</td>
</tr>
<tr>
<td>People with severe, persisting mental disorders</td>
<td>Mental health treatment settings; courts, jails, prisons,</td>
<td>Fostering of early interventions; assertive community treatments; linkages among courts, clinics, and other agencies</td>
</tr>
<tr>
<td>Men with alcohol and substance disorders; perpetrators of domestic violence; victims of DV</td>
<td>CD treatment settings; courts &amp; jails</td>
<td>Integration of mental health and prevention services into CD programs; court integrated mental health services</td>
</tr>
<tr>
<td>High-risk groups</td>
<td>Sites</td>
<td>Potential interventions</td>
</tr>
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<tr>
<td>Depressed Women and Men</td>
<td>Primary care settings</td>
<td>Enhanced detection, treatment, and follow up of emerging symptoms</td>
</tr>
<tr>
<td>Elders with Pain, Disability, Depression</td>
<td>Primary care offices, residential settings;</td>
<td>Pre-emptive treatment of pain and increasing medically related disability</td>
</tr>
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<td>Agency on Aging outreach programs</td>
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<tr>
<td>Suicidal people—may be counted as well among other groups, but also include</td>
<td>ERs, ICUs, inpatient psych. and medical</td>
<td>Community outreach for contacting “no-shows,” reminder cards, assertive case management; surveillance as</td>
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<tr>
<td>patients with personality d/o, varying mood disturbances, and CD problems</td>
<td>services – *need for novel approaches to</td>
<td>case identification and follow-up</td>
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<tr>
<td></td>
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Mosaic...

...is the art of creating images with an assemblage of small pieces of colored glass, stone, or other materials. Small pieces, normally roughly quadratic, of stone or glass of different colors...are used to create a pattern or picture.
Suicide prevention efforts must form a *mosaic* built within the contexts of local *geography* and the *social ecology* of populations — and individuals—as well as their families and their communities. *This mosaic cannot be built or effectively sustained outside the domains of people’s lives!*
CHALLENGE 4. Insufficient knowledge & theory regarding the psychological, biological, social, and cultural factors that contribute to suicide risk among diverse populations and groups – varying according to age, race, gender and sexual orientation, residential geography, and socio-cultural and economic status. Lack of understanding how protective factors ‘act’ in the face of risks.
Age-adjusted suicide rates among all persons by state – United States, 2009 (U.S. avg 11.8)

Source: Centers for Disease Control and Prevention (CDC) vital statistics
Overall and Method-Specific Suicide Rates, Hong Kong, 1983-2002 (Liu et al, JCEH 2007)

Poverty  
High crime levels  
High residential mobility  
High unemployment  
Local illicit drug trade  
Weak institutional policies  
Inadequate victim care services  
Inadequate community cohesion

Psychological/personality disturbance (d/o)  
Alcohol/substance abuse  
Victim of child maltreatment or current abuse  
Violent behavior—past or current  
Suicidal behavior—past or current  
Access to lethal means

Exposure to poor parenting or violent parental conflict  
Fractured family structures  
Family history of suicide  
Current relationship/marital turmoil—participant in intimate violence  
Financial, work stress; under- or unemployed  
Friends & family that engage in violence

Unstable social infrastructure  
Economic insecurity  
Discrimination: gender; race; other  
Policies that increase inequalities  
Poverty  
Weak economic safety nets  
Cultural norms that support violence  
Access to lethal methods (firearms)
CHALLENGE 5. The lack of coordinated strategies of suicide prevention that can deal effectively with myriad local, regional, state, and national agencies and organizations that could, in theory, play a role in preventing suicide.
Premature Death in Early Adulthood

Common Developmental Contexts for Different Adverse Outcomes

Emerging Behavioral Problems & Mental Health Disturbances
School Difficulties
Alcohol and Substance Misuse

Disruptive Family Factors
Disadvantaged Economic & Social Factors

Legal System Involvements
Emergency Room Visits
Mental Health & Chemical Dependency Treatment Contacts

Prevention & Intervention Opportunities
Indicated & Clinical
Selective & Indicated
Universal & Selective

Caine et al, 2011
Looking to the future: What will be the *speed bumps* for suicide prevention?
The nation’s only federally supported resource center devoted to advancing the *National Strategy for Suicide Prevention*. 
The Public Health Approach to Suicide Prevention

ICRC-S Webinar
January 9, 2013

Elly Stout, M.S.
Prevention Support Program Manager, SPRC

Suicide Rate
2000–2006, United States
Age-adjusted Death Rates per 100,000 Population

Note: Reports for All Ages include those of unknown age.

Data courtesy of CDC
Key Elements of a Public Health Approach

- Population focus
- Starts and ends with data
- Primary, secondary, tertiary prevention
- Aim: reduce morbidity and mortality

The Public Health Model

1. Define the problem
2. Identify risk and protective factors
3. Develop & test prevention strategies
4. Assure widespread adoption
Beyond Individual Behaviors
Suicide in the United States 2000-2010

Source: CDC WISQARS Fatal Injuries Report, 2000-2010
Define the problem

Figure 2. Suicidal Thoughts and Behaviors in the Past Year among Adults, by Gender: 2008

Source: 2008 SAMHSA National Survey on Drug Use and Health (NSDUH).
Key high-risk groups

✓ Individuals in justice and child welfare settings
✓ Specific populations:
  – American Indian/Alaska Native
  – Lesbian, gay, bisexual, and transgender
  – Members of the armed forces and veterans
  – Men in mid-life
  – Older men
✓ Individuals who:
  – engage in non-suicidal self-injury
  – have been bereaved by suicide
  – have a medical condition(s)

Risk and Protective Factors

Main Risk Factors
- Prior suicide attempt(s)
- Substance abuse
- Mood disorders
- Access to lethal means

Main Protective Factors
- Effective mental health care
- Connectedness
- Problem-solving skills
- Contacts with caregivers

Suicide Prevention Strategies

1. Identify Individuals At Risk
2. Increase Help-Seeking Behavior
3. Provide Effective Mental Health Services
4. Restrict Access to Potentially Lethal Means
5. Follow Crisis Response Procedures
6. Develop & test prevention strategies

Comprehensive Suicide Prevention and Mental Health Promotion

- Promote Social Networks
- Develop Life Skills
New National Strategy for Suicide Prevention

2012 National Strategy for Suicide Prevention:
GOALS AND OBJECTIVES FOR ACTION
A report of the U.S. Surgeon General
and of the National Action Alliance for Suicide Prevention
Evidence-Based Public Health Programs

Air Force Suicide Prevention Program

Model Adolescent Suicide Prevention Program

The Air Force Suicide Prevention Program

Adolescent Suicide Prevention Program Manual: A Public Health Model for Native American Communities
Patricia Serna, LISW
SPRC/AFSP Best Practices Registry

✓ Section I: NREPP (evidence-based)
✓ Section II: Consensus Statements
✓ Section III: Adherence to standards
Public Health Intervention Levels

- **Primary Prevention:**
  - Teaching life and coping skills
  - Promoting Connectedness
  - Early Childhood Interventions

- **Secondary Prevention:**
  - Screening
  - Gatekeeper Training
  - Improving Treatment

- **Tertiary Prevention:**
  - Continuity of Care
  - ED Follow-Up
Collaboration in Suicide Prevention

“Each and every one of us has a role to play in preventing suicide and promoting health, resilience, recovery and wellness for all.”

- NSSP, 2012
State and Local Efforts

Montana
Website: Montana Office of Suicide Prevention

Materials
- Montana Strategic Suicide Prevention Plan
- EMDR Community Planning and Integration Guide
- Montana State Hospital Policy and Procedures: Suicide Precautions
- Montana Suicide Survivor Support Groups

Organizations
NAMI Montana
Montana Children’s Initiative
Phone: (406) 259-3835
Montana Chapter, American Foundation for Suicide Prevention
Contact: Joan Nye, Co-Chair
Phone: (406) 322-4897
Critical Illness and Trauma Foundation
Phone: (406) 582-2659

Recent Developments and Legislation
2011
The Office of Suicide Prevention has broadly distributed toolkits and resources to schools, primary care practices, senior living communities, cosmetologists, funeral homes, and colleges.

2011
The state has distributed over 4,000 gunlocks over the past two years to 7 county health departments, sheriff’s offices, and police.
Emerging Issues in Suicide Prevention

- Upstream approaches
- ‘Moving the needle’
- Integration/connection with health systems
- Safe and effective communications
- Building the evidence base
- Building partnerships across sectors
Resources

- Suicide Prevention Resource Center: www.sprc.org
- Best Practices Registry for Suicide Prevention: http://www.sprc.org/bpr
- National Action Alliance for Suicide Prevention: http://actionallianceforsuicideprevention.org/
References


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Washington, DC 20007
Summary

• Merits and Frameworks of a Public Health Approach to Suicide Prevention and Research
  – Ecological orientation
• Application
  – Collaboration
  – Partnerships between fields growing
• Current Challenges, Promising Directions, Pressing Questions
  – “Upstream” approaches as suicide prevention
Designing Effective Public Health Systems for Suicide Prevention: Collaboration and Partnership

A. Example Community Health Improvement Model

B. Prevention System or Health Services Partnership Models Embedded in Science (e.g., Communities that Care, PROSPER, Centers of Excellence, etc.).

The Community Tool Box.

Conceptual Logic Model of Community-based Participatory Research (CBPR)

CBPR Development in Suicide Prevention Teams: Training Evaluation Model

**Partnership Agency**
- Quality of interaction
- Community implementation of research
- Community-centeredness
- Application of CBPR principles

**Personal Knowledge & Capabilities**
- Scientific content expertise
- Positive relationships
- Grantsmanship
- Community-engaged research

**Partnership Benefits**
- Recognized value of collaboration
- Knowledge of community
- Research objectives met
- Observed measures of team success (e.g., grants, publications)

Steps to Effective Coalitions: Working to Influence Prevention Outcomes

CCB procedures
- Tape-recording meetings
- In-depth interviews
- Photovoice project
- Educational projects
- Research seminars
- Quarterly meetings
- Sub-committees
- Board retreats
- Trainings
- Informal networking

Your Partnerships:
Be Prepared to Emphasize and Present …

• How is community defined?
• How is collaboration maintained?
• What best practice of community engagement, including characteristics of your academic-community partnerships, do you pass on?
• What are essential elements of CBPR implementation?
• How is partnership success monitored?

In Closing...

“To be effective [in Suicide Prevention] takes the involvement of a broad coalition of state and community agencies” - NYS

“...prevention should be woven into all aspects of our lives”
– 2012 National Strategy for Suicide Prevention