



SUICIDE RISK DETECTION & INTERVENTIONS IN HEALTHCARE SETTINGS:

WHAT DO WE KNOW?

WHAT DO WE NEED?

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Presenter Disclosure

Jane Pearson

The following personal financial relationships with commercial interests relevant to this presentation exist:

No relationships to disclose.

10 Leading Causes of Death by Age Group, United States – 2013

Rank	Age Groups										Total
	<1	1-4	5-9	10-14	15-24	25-34	35-44	45-54	55-64	65+	
1	Cardiovascular Diseases 4,728	Unintentional Injury 1,316	Unintentional Injury 746	Unintentional Injury 775	Unintentional Injury 11,516	Unintentional Injury 13,279	Unintentional Injury 15,594	Unintentional Injury 46,155	Unintentional Injury 113,324	Heart Disease 488,156	Heart Disease 611,105
2	Stroke 4,202	Complicated Anomalies 470	Unintentional Injury 447	Unintentional Injury 446	Unintentional Injury 4,378	Unintentional Injury 4,234	Unintentional Injury 11,349	Heart Disease 35,157	Unintentional Injury 72,588	Unintentional Injury 407,558	Unintentional Injury 544,881
3	Tuberculosis 1,955	Respiratory Diseases 1,331	Complicated Anomalies 179	Unintentional Injury 179	Unintentional Injury 4,531	Unintentional Injury 4,234	Heart Disease 10,341	Unintentional Injury 20,947	Unintentional Injury 17,057	Unintentional Injury 151,174	Unintentional Injury 177,529
4	SIDS 1,593	Unintentional Injury 1,329	Unintentional Injury 133	Unintentional Injury 101	Unintentional Injury 1,495	Unintentional Injury 3,473	Unintentional Injury 6,853	Unintentional Injury 8,785	Unintentional Injury 8,776	Unintentional Injury 100,862	Unintentional Injury 128,879
5	Unintentional Injury 1,156	Heart Disease 109	Respiratory Diseases 75	Unintentional Injury 151	Heart Disease 941	Heart Disease 2,581	Heart Disease 2,901	Heart Disease 3,255	Heart Disease 13,091	Heart Disease 81,776	Heart Disease 128,879
6	Acute Myocardial Infarction 933	Unintentional Injury 102	Heart Disease 73	Heart Disease 100	Complicated Anomalies 392	Heart Disease 654	Heart Disease 1,052	Heart Disease 5,989	Heart Disease 11,951	Heart Disease 53,151	Heart Disease 64,787
7	Bacterial Septicemia 578	Unintentional Injury 64	Unintentional Injury 67	Unintentional Injury 89	Unintentional Injury 197	Unintentional Injury 676	Unintentional Injury 5,425	Unintentional Injury 11,304	Unintentional Injury 11,304	Unintentional Injury 48,031	Unintentional Injury 75,578
8	Respiratory Diseases 522	Unintentional Injury 53	Cerebrovascular Diseases 41	Unintentional Injury 01	Unintentional Injury 193	Unintentional Injury 631	Cerebrovascular Diseases 1,057	Unintentional Injury 4,519	Unintentional Injury 9,135	Unintentional Injury 45,042	Unintentional Injury 56,979
9	Unintentional Injury 455	Bacterial Septicemia 41	Unintentional Injury 35	Cerebrovascular Diseases 48	Unintentional Injury 178	Cerebrovascular Diseases 308	Cerebrovascular Diseases 2,443	Unintentional Injury 4,519	Unintentional Injury 5,135	Unintentional Injury 39,099	Unintentional Injury 47,112
10	Neonatal Mortality 399	Unintentional Injury 45	Bacterial Septicemia 34	Bacterial Septicemia 31	Unintentional Injury 155	Unintentional Injury 439	Unintentional Injury 981	Unintentional Injury 2,316	Unintentional Injury 4,519	Unintentional Injury 19,141	Unintentional Injury 24,966

Data Source: National Vital Statistics System, National Center for Health Statistics, CDC. Produced by National Center for Injury Prevention and Control, CDC using AIBOAR8™.



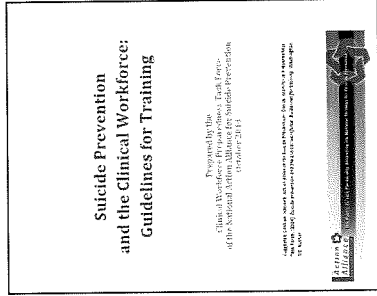
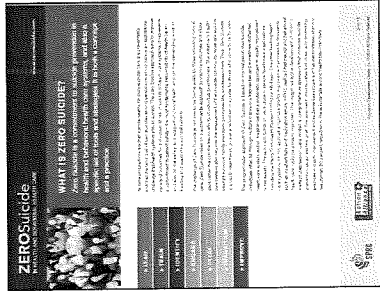
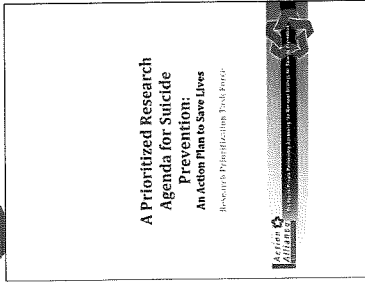
National Action Alliance for Suicide Prevention

The Action Alliance is the Public/Private Partnership Advancing the National Strategy for Suicide Prevention (NSSP) in the U.S.

- 200+ organizations are involved in Action Alliance activities (via the Executive Committee, 14 Task Forces, Priority Initiatives, and Advisory Groups).
 - Mission:** To advance the NSSP by:
 - Championing suicide prevention as a national priority.
 - Catalyzing efforts to implement high-priority objectives from the NSSP.
 - Cultivating the resources needed to sustain progress.
- www.actionallianceforsuicideprevention.org



Examples of National Action Alliance for Suicide Prevention Efforts to Improve Suicide Prevention in Healthcare

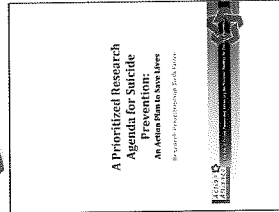


<http://actionallianceforsuicideprevention.org/>



Research Prioritization Task Force Overarching Goal

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.



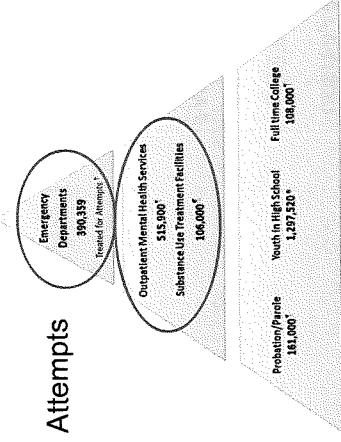
RPTF Goal: To develop an agenda for research that has the *potential* to reduce morbidity (attempts) and mortality (deaths) each, by at least 20% in 5 years, and 40% or greater in 10 years, if implemented successfully.



Suicide Burden (Attempts; Deaths) in the United States

Note overlap in subgroups and multiple opportunities to detect individuals at risk

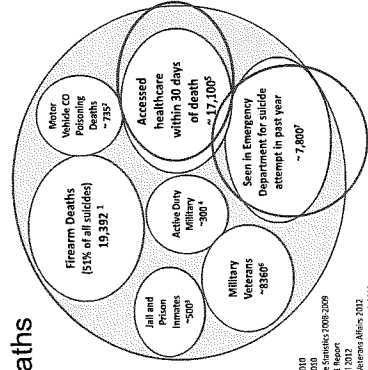
Attempts



Source: CDC's National Electronic Surveillance System, 2006-2009; 2. CDC WONDER, 2009; 3. Bureau of Justice Statistics, 2009-2009; 4. NIMH, 2011; 5. Department of Health and Human Services, 2011; 6. Department of Justice, 2011; 7. CDC WONDER, 2006-2009; 8. Owens et al., 2002

Suicide-research-agenda.org

Deaths

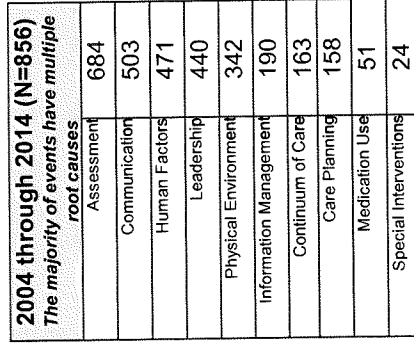


Data Sources: 1. CDC WONDER, 2009; 2. CDC WONDER, 2009; 3. Bureau of Justice Statistics, 2009-2009; 4. NIMH, 2011; 5. Department of Health and Human Services, 2011; 6. Department of Justice, 2011; 7. CDC WONDER, 2006-2009; 8. Owens et al., 2002



Information on Suicide Events Reported by Healthcare Facilities

FIGURE 22: Suicide or Attempted Suicide, 2004-2014



Adverse Health Events in Minnesota, 2015



Research Indicating a Large Proportion of US Decedents Access Care Before they Die by Suicide

- National Violent Death Reporting System for 18 states
57,877 adult (age 18+) suicides from years 2005 through 2010
28.5% (16,4710) had received treatment within two months of suicide. *Niederkrötenhaler et al 2014*
- HMO settings – all types of care settings (ED, specialty, primary care, etc)
83% of participants (all age groups) of the Mental Health Research Network (MHRN) **within 12 months** of suicide. *Ahmedani et al 2014*
- Active Duty Military During 2001-2010
45% of suicide decedents and 75% of attempters had outpatient encounters within 30 days prior to suicide/self-harm. *Trofimovich et al., 2012*

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6 Key Questions & 12 Aspirational Goals (AGs)

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.



6 Key Qs and 12 AGs (continued)

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?

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Settings Where Known At-Risk Groups are Found Adult Suicide Attempters in Emergency Care

136 million ED visits that occur annually in the United States

▪ 390,000 (3%) are adults seen for suicide attempts
2011 data: <http://www.cdc.gov/nchs/fastats/emergency-department.htm>

▪ Estimated 15% (58,500) will reattempt; 2% (7,800) will die by suicide within 12 months [additional 1% die from other causes]
UK figures: Owens et al 2002

▪ 7,800 = ~ 20% of all U.S. Suicide Decedents Access ED

NIMH Research (ED-SAFE) findings to date: Implementing universal screening led to a nearly two-fold increase in identification of suicide risk (severe ideation): from 2.9% to 5.7% of all adult ED patients

Boudreaux et al 2014. Society for Academic Emergency Medicine Annual Meeting

An improvement of 3% detection translates to 3 million more at risk individuals identified and helped



In Progress: Screening with Youth in EDs

Leveraging neurocognitive and statistical approaches to better estimate risk among youth in emergency care

NIMH funded Emergency Department Screen For Teens at Risk for Suicide (ED-STARS) taking place in 14 sites. In addition to the Ask Suicide-Screening Questions (ASQ; Horowitz et al 2012), the study includes innovative approaches to screening and assessment:

- Implicit Association Task (Cha et al., 2010)
- Approach similar to the Computerized Adaptive Screen (Gibbons et al. 2013)

<http://www.nimh.nih.gov/news/science-news/2014/personalized-screen-to-id-suicidal-teens-in-14-ers.shtml>

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Veteran's Administrations National Registry for Depression (NARDEP)

Among 887,859 depressed VA patients, researchers examined suicide rates for five sequential 12-week periods following treatment events that health systems can readily identify:

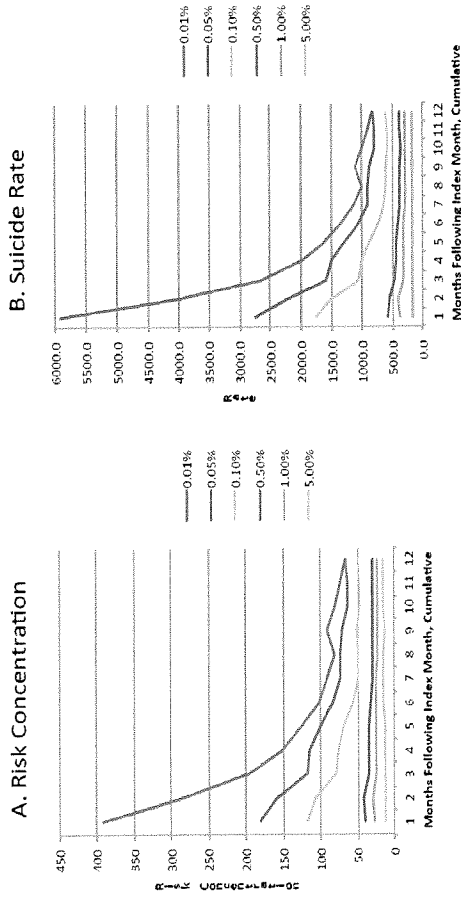
- Psychiatric hospitalizations 568/100,000
- New antidepressant starts (>6 months without fills) 210/100,000
- "Other" antidepressant starts 193/100,000
- Medication dose changes 154/100,000

Valenstein et al., 2009

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Identifying Adults in Health Care Systems at High Risk for Suicide is Possible: Veterans Health Care Example



Predictive modeling based on medical record data in the VHA identified high-risk patients who were not identified on clinical grounds McCarthy et al., 2015

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What Do We Need? More Available, Effective Interventions

Psychotherapy interventions appear robust for adults who made attempts...

Erlangsen (et al 2015) case control study of Danish health care registry, where 5678 recipients of psychosocial therapy and 17,034 controls followed for 20 years:

- Reduced risk for attempt by 16%;
- Reduced risk for suicide deaths by 25%;
- Reduced risk for death of any cause by 31%.

Short-term and long-term effects of psychosocial therapy for people after deliberate self-harm: a register-based, nationwide multicentre study using propensity score matching

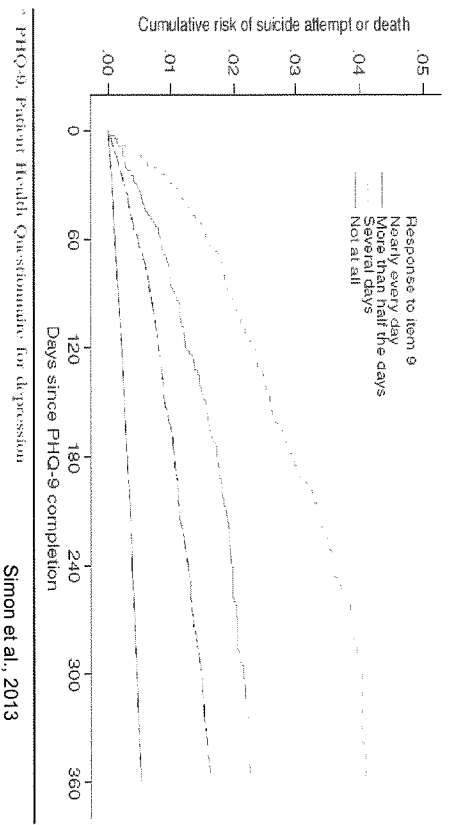
Annette Erlangsen, Bened Dorn Lind, Elizabeth A Stuart, Ping Qin, Elsebeth Steingard, Kim Juul Larsen, August G Wang, Marianne Hval, Ann Colleen Mikkelsen, Christian Møller Pedersen, Jan Henrik Winther, Charlotte Malmgren, Mette Klerkenhoff

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Identify High Risk Patients over 12 Months Using Medical Records

Figure 1
Cumulative risk of suicide attempt or death among 84,418 responders to PHQ-9 item 9 in 2007–2011*



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Interventions Built Into Healthcare contexts

Pragmatic trial testing interventions within systems:

Routine screening in primary care (e.g., Patient Health Questionnaire PHQ-9) item 9, and its associated risk for suicide within the year (Simon et al, 2013), led to testing an intervention to reduce suicide ideation <http://www.nlm.nih.gov/news/science-news/2014/groundbreaking-suicide-study.shtml>

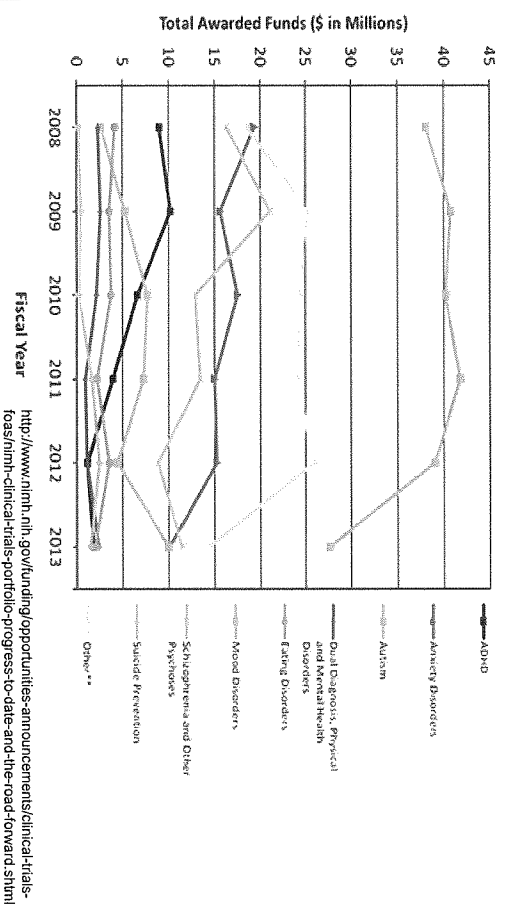
- ~20,000 patients with severe ideation assigned to 1 of 3 conditions--
 - Treatment as usual; Henry Ford/collaborative care; and
 - “Now Matters Now” – developed by Whiteside (et al 2014) as an educational website that teaches DBT skills. This intervention (e.g., approach; content) was informed by persons with ‘lived experience’. <http://www.nowmattersnow.org/>
- Differences in suicide rates at 18 months will be examined

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What Do We Need? More Trials for Suicide Prevention

Figure 2: NIMH Awards to Clinical Trials by Disease
FY 2008 – FY 2013



<http://www.nlm.nih.gov/funding/opportunities-announcements/clinical-trials-fost/nimh-clinical-trials-portfolio-progress-to-date-and-the-road-forward.shtml>



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