On the Road to Suicide Prevention -

Improving Identification, Triage, Care Delivery and Redirecting Scarce Resources with the Columbia Suicide Severity Rating Scale

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Principal Investigator Columbia/FDA Classification Project for Drug Safety Analyses
Principal Investigator Center for Suicide Risk Assessment Columbia University

Suicide is a Major Public Health Crisis

- Suicide is one of the world’s greatest public health crises – more deaths than war, homicide and natural disasters combined
- Leading cause of death across the world and across ages
- Every 40 sec. worldwide and every 13 minutes in the US a person dies by suicide
- #1 cause of injury mortality in U.S.; more people die by suicide than motor vehicle crashes

“The under-recognized public health crisis of suicide”
- Thomas Insel, Director of NIMH

Suicide is a preventable cause of death
Need to Ask Like We Monitor for Blood Pressure

- Nearly 50% of people who die by suicide see their primary care doctor the month before they die
  - 70% of older adults
  - 90% adolescents in the year prior
- Many adolescent attempters in the ER do not present for psychiatric reasons (King et al., 2009)
- 25% of all people who die by suicide are seen in ER in past 12 months for non-psychiatric reasons (Gairin et al., 2003)

A GREAT OPPORTUNITY FOR PREVENTION!
If we ask we can find them!!

Youth Suicide

- Every 1 hour and 48 minutes, a person under the age of 25 dies by suicide ...this number used to be 2 hours and 11 minutes
An Increasing Crisis in Youth and Young Adults

- 2010 became the 2nd leading cause of death in youth 10-24 passing homicide for the first time in last decade

- Suicide by hanging for African American girls 10-18, increased 238% between 2006-2010

- 10-14 y.o. - from lowest point in 2007 increased 60% by 2011

Suicide Ideation and Attempts Are Unbelievably Common...

IN YOUR AVERAGE HIGH SCHOOLERS
- 8-10% attempted in the past year!
- 15% of Latinas in 2013 - highest group
- Almost 16% seriously considered it

IN DEPRESSED TEENS
- Attempt: 30%
- Ideation: 60%

Within any typical classroom, it is likely that three students (one boy and two girls) have attempted suicide in the past year.
Relationship to Acts of Gun and School Violence
(Safe Schools Initiative, 2002; Langman, 2009)

- 90% of attackers exhibited history of suicide attempts or suicidal thoughts at some point prior to their attack
- 27% reported suicide as a motive in their attack - *a suicide in disguise*
- 60% had a documented history of extreme depression or desperation and yet, only 34% of attackers had received a mental health evaluation and just 17% had been diagnosed

Suicide Rates on the Rise in the U.S. Military...

*Almost 20% of all U.S. suicides are active duty or veterans - many connected to systems of care*

- **ACTIVE DUTY**
  - 1 suicide per day
  - Suicide has surpassed combat deaths
- **AIR FORCE**
  - 9 suicides within first 15 days (2012)
- **VETERANS**
  - 22 suicides per day
  - 1000 attempts/month
- **ARMY RESERVISTS AND NATIONAL GUARDSMEN**
  - Doubled in 2010

Population Health Management
A CRISIS Everywhere...from Police to Corporations

**Police Force**
- 1st or 2nd leading cause of death of law enforcement officers alongside car accidents
- In 2012, almost as many died by suicide as were killed in the line of duty
- The rate of police suicide is comparable to the rate of suicides in the US Army

**Corrections**
- Most common cause of death in correctional facilities
- Many within first 24 hours
- US prisons and jails, rate of suicide is close to three times that of general pop
- Nearly 60% of inmates who die by suicide have no psychiatric illness & no clear warning signs
- Incarcerated youth: 31% report a suicide attempt

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**Suicide Everywhere...**

- Within corporate family consisting of 100,000 employees (average of 4 blood relatives per employee):
  - **Every 7 days**, one employee or family member will die by suicide
  - **Every day, 3 attempts**, some resulting in significant medical injury and disability, which directly impacts health care costs, particularly for self-insured companies.
Suicides in Rural Areas

- Highest rates of suicide
- Large populations, spread out across great distances
- Less consistent access to primary care
- Closest physicians may be several hours away and overburdened
- High rates of poverty and gun ownership

Economic Burden: What Not Being Able to Identify High Risk Costs...

- Worldwide (2008): $141 billion—years of life disabled or lost
- US (2010): $34 billion—lost wages and work productivity
  - Tennessee: costs of $1.3 billion a year

Attempts constitute high proportion of all emergency referrals to child, adolescent, and adult psychiatric services
  - Subsequently, commands disproportionate level of resources

Centers for Disease Control and Prevention 2011, Suicide Prevention Resource Center, 2012
Depression: Most Debilitating Disease in the World

- Depression is the #1 cause of work related absence
- Depression will be the world’s most burdensome disease by the year 2030 (WHO, 2008)
- Depression is the most burdensome disease in middle and high income countries (WHO, 2008)

Unfortunately, People Who Need Treatment Do Not Get It!

- 90% of individuals who die by suicide have untreated mental illness (60% depression)
- Under-treatment of mental illness is pervasive
  - 50-75% of those in need receive no treatment or inadequate treatment (Alonso et al., 2007; Wang et al., 2005)
  - 70% of children and teens with depression go untreated
  - > 80% of adolescents and college students who die by suicide never received any consistent treatment prior to their death
Sex Effect Really About Treatment??
Gibbons 2010, Personal Communication

*Lower Antidepressant Treatment Rates in Males than in Females*

- Only 17% of male suicide completers tested positive for antidepressants versus 44% in females
- Violent suicide death rates are much higher in males
- The rate of violent suicide death is much higher in those not taking antidepressants

Perhaps Stigma???

"Real Men Get Depressed"

- "Especially with the men I've worked with, those who are in professions that tend to be macho, it's the stigma attached to admitting you have any kind of problems that gets in the way of beating depression. But when you see a real person up there, and you know it's a real person who has the same kind of thing I have, it creates an opening for them, and they know they're not alone and can go out and get help.”

New York City firefighter
Jimmy Brown
Furthermore, Expect to See It Across All Medical Disorders and beyond…

- Ideation and behavior prevalent across all medical disorders (Druss & Pinus, 2000)
  - 25.5% have ideation
  - 8.9% make an attempt

- Cancer patients' ideation, independent of depression: 17.7% (Schneider & Shenassa, 2008)

- Increased risk of ideation and attempt, independent of mental disorder: high blood pressure, heart attack/stroke, cancer, epilepsy, arthritis, chronic headache, chronic pain, respiratory conditions

- Patients with one or more of these medical disorders (Scott et al., 2010)
  - 30-160% more likely to have suicidal thoughts
  - 40-90% more likely to have an attempt

**So need to get it right…..**

Suicide prevention efforts depend upon appropriate identification & screening
The Problem...

Field of medicine challenged by lack of conceptual clarity about suicidal behavior and absence of well-defined terminology (research and clinical)

Variability of terms referring to same behaviors (threat, gesture) “Slap in the face”

16 different terms for the same behavior

...Consequences

Negative implications on appropriate management of suicide and research - if suicidal behavior and ideation cannot be properly identified, it cannot be properly understood, managed or treated in any population or diagnosis

Furthermore, comparison across epidemiological or drug safety data sets is compromised, decreasing confidence in data

We Need Reliable Tools

“Research on suicide is plagued by many methodological problems... Definitions lack uniformity,...reporting of suicide is inaccurate...”

Reducing Suicide Institute of Medicine 2002

“reliable diagnostic tools to screen for behavioral health issues (are needed).”

General Chiarelli
(retired US Army general who served as the 32nd Vice Chief of Staff of the U.S. Army, forefront of suicide prevention efforts)
ESSENTRI S Military
Electronic Health Records

- Retrospective chart review: 1500 cases admitted for suicide-related events to Walter Reed, 2001-2006
- 11% admitted for serious suicidal ideation 12% with suicide attempt had no documentation of past suicide behaviors
- No suicide screening and/or assessment measure administered in a single case

Study PI “strongly recommends that military providers be trained in the usage of a screening and/or assessment tool such as the C-SSRS”

How to Fix the Problem...
Columbia - Suicide Severity Rating Scale

- Developed by leading experts (collaboration with Beck’s group) for National Adolescent Attempter’s Study in response to need for a measure to:
  - 1st scale to assess Full range of behavior and ideation together
  - Look at density/severity
  - Track change

- Excellent feasibility - no mental health training required to administer
- Evidence based and supported
- 116 languages
- Low-burden, Very brief
- Extremely sensitive and specific

Includes only the most essential, evidence-based items needed in a thorough assessment
Also from CDC: “Unacceptable Terms”
- Completed suicide
- Failed attempt
- Parasuicide
- Successful suicide
- Suicidality
- Nonfatal suicide
- Suicide gesture
- Manipulative act
- Suicide threat

Department of Defense and the Department of Veterans Affairs Require the CDC-adopted Columbia Definitions
Everyone, Everywhere Can Ask

- First Responders
- Juvenile Justice
- Corrections
- All Schools
- Crisis Response Teams

- Hospitals
- Pediatricians
- VA
- Clergy
- Parents
- Youth
- Child Protective Services
- Hotlines

Up Until the Last Second...

- “I instantly realized that everything in my life that I’d thought was unfixable was totally fixable - except for having just jumped.” Golden Gate Jumper

- “My first thought was – what the hell did I just do? I don’t want to die!”

- “He wanted to be saved.”

THE NEW YORKER
Everyone, Everywhere Can Ask

- The Joint Commission Best Practices Library
- World Health Organization-Europe: 100 Best Practices for Adolescent Suicide Prevention
- AMA Best Practices Adolescent Suicide
- Health Canada
- Hospitals and Community Clinic Settings
- Inpatient and ERs: general medical and psychiatric, Crisis services, Special Needs Clinics, VA's

A county-wide Suicide cluster in New York
- Japanese National Institute of Mental Health and Neurology
- Israeli Defense Forces and Israeli National Suicide Prevention Program
- Korean Association for Suicide Prevention
- Planned statewide dissemination in Victoria, Australia - Health and Law Enforcement agencies
- Managed Care Organizations/Mobile Crisis Teams
- Tribal Nations
- International Mission Organizations
- Drug and Alcohol Addiction Centers
- National Institute on Alcohol Abuse and Alcoholism: NIAAA
- Commissioned by VA to do online training for clinical trials
- Center of Excellence for Research on Returning War Veterans
- Fire Departments
- Police Departments
- Judges/legal/police - to help reduce unnecessary hospitalisation
- Primary care
- Worker's Compensation Administration
- Surveillance Efforts: CDC Definitions are Columbia Definitions
- Prisons / juvenile justice
- Suicide Section of SCID
- Clinical Practice, nationally and internationally
- Crisis negotiation teams
- Schools (Middle Schools, High Schools, and College Campuses)
- Homeless populations
- Claims/HMOs
- Clergy (ex: Hindu priests and priestesses)
- EAPs

How the C-SSRS is Making an Impact...

Linking Systems

"The C-SSRS has made a big difference. Historically, the issue of lethality was “turfed out” to their psychologist. However, after the entire ACT team began using the C-SSRS, the discussions about suicide became more team wide and robust. Everyone was now providing observations and ideas about suicide risk management and wanting to take responsibility for client care. The greater clarity provided by the C-SSRS has been tremendously helpful!"

- OMH, NY
Linking of Systems: Organizational Vision/ Top-Down Models

Department Health & Mental Health

Provider By Provider  All Services  Between Services  All Systems of Care

First Responders  Schools  Law Enforcement  Hospitals  Primary Care

Linking Systems

Inpt → Bridge → Outpt

Precision of communication: enables quicker response to those who need it.

Rhode Island Senate Commission Hearing Report on ER Overuse: for State Wide Implementation

"State wide coordination and implementation of an evidence-based tool and training for healthcare providers and first responders for determination of placement...critical in assisting those in the field with an additional tool for everyday use."

Population Health Management  Policy at the state level, even legislation: ~30 States

Linking of Systems...

- Georgia – Military Bases connecting to State Department of Behavioral Health and community providers
- Army Bases: Community partners they work with routinely-Shared Networks - community of care

Inpt → Bridge → Outpt

Enables quicker response to those who need it due to precision of communication.
Ft. Carson: Community Model

**On-Post**
- BH Providers in Schools
- Non-hospital Soldier assessment and care agencies

**Off-Post**
- Outpatient BH Clinics
- Hospital Screening

What A Country Can Do: Organizational Vision/Top-Down Models

**Department of Corrections**

<table>
<thead>
<tr>
<th>MH Workers</th>
<th>Case Officer</th>
<th>Crisis Hotline</th>
<th>Prisons</th>
<th>Warden</th>
<th>Admin.</th>
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<tr>
<td>Lawyers</td>
<td>Judges</td>
<td>Police</td>
<td>Probation Off.</td>
<td>Guards</td>
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<tr>
<td>Local Jails</td>
<td>Parole Officer</td>
<td>Forensics</td>
<td>EMTs</td>
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National Implementation Efforts in the Military/VA:

- **The National Guard** Psychological Health Program
- **Air Force** - Guide for the Management of Suicidal Behaviors
- **Navy** - Primary Care
- **Marine Corps** - “total force Rollout” use by all support workers (family advocacy workers, substance abuse specialists, victim advocates, attorneys, and chaplains)
- **VA** - Engaged in a collaborative empirical process while supporting *simultaneous national implementation*
  - Already used or requested in 30-40 VA hospitals
- **Army** - Behavioral Health Data Platform
- **Tri-Service** - Inpatient/Outpatient

Military Medical Systems

- **Medcom requires in ED**
  - US Navy uses in primary care

- **Tri-service Surgeon General recommends for treatment facilities**
National Implementation Efforts in the Marines

- Intended use in all support workers:
  - Family advocacy workers
  - Substance Abuse Specialists
  - Victim Advocates
  - Attorneys
  - Chaplains
- Mandated for use in Marine Corps Defense Services
- Force Preservation
- Train 16 installations including Okinawa

Endorsed by SAMHSA Center for Integrated Health Solutions

- The Columbia Suicide Severity Rating Scale (C-SSRS) is a non-structured tool for suicide screening. It is available in many country-specific languages. Mental health training is not required to administer the C-SSRS. Variousware can administer this scale, including physicians, nurses, psychologists, counselors, peer counselors, care coordinators, substance abuse counselors, school counselors, teachers, and social workers.
- The SAEFT (Suicide Assessment Five-Step Evaluation and Triage) was integrated in collaboration with the Suicide Prevention Resource Center and the Center for Integrated Health Solutions.
- The Suicide Outcome Questionnaire-SR (SOQ) is a measure of suicide risk and behavior.

Intended use in all support workers:
- Family advocacy workers
- Substance Abuse Specialists
- Victim Advocates
- Attorneys
- Chaplains

Mandated for use in Marine Corps Defense Services
- Force Preservation
- Train 16 installations including Okinawa
C-SSRS Used Education & Justice

**Elementary → High School Education**
- School Districts
- School Clergy
- Autism, Intellectually Disabled, BOCES
- School-based Wellness Centers
- Suicide Clusters

**Higher Education**
- College Campuses and Counseling Centers
- Graduate, Medical, Nursing Schools
- International Universities

**Justice**
- Police and Sheriff's Departments
- Departments of Corrections
- Departments of Juvenile Justice
- Lawyers and Judges
- Probation and Parole

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Kerr et al. showed non-clinicians in Juvenile facilities use the C-SSRS effectively.
C-SSRS Uses in the Military/ VA

C-SSRS used among active military personnel and veterans for a myriad of populations and interventions:

- PTSD
- MDD
- Treatment Resistant MDD
- TBI
- Alcohol/Substance Abuse
- Bipolar disorder
- Schizophrenia
- Suicide
- Suicide risk tracking, prevention & treatment
- Group Intervention for OEF/OIF TBI Survivors & Families

- **Over 40,000** active and veteran military personnel will be enrolled in studies using the C-SSRS for various indications
  - One Study – 7,000 Schizophrenia/Schizoaffective – VA clients

- Self-Injury component of the Army Study to Assess Risk and Resilience in Service Members (Army STARRS)
  - Epidemiologic study of mental health, psychological resilience, suicide risk, suicide-related behaviors, and suicide deaths in the U.S. Army
  - Largest study of suicide and mental health among military personnel ever undertaken
  - One of a series of efforts by the Army aimed at reducing the rate of suicide among its soldiers
  - The Army STARRS study includes soldiers from all phases of Army service

PhenX:
"Essential" Measure for all NIMH research

State-Wide Dissemination

- Georgia Crisis and Access Line (GCAL) through Behavioral Health Link (BHL)
- Mobile Crisis Response Teams
- Community Hospitals providing designated beds
- Crisis Stabilization Units (CSU) provide walk-in psychiatric and counseling services in a center that is clinically staffed 24 hours per day, 7 days per week, to receive individuals in crisis.
- Crisis Apartments (in development) that provide an alternative to crisis stabilization units and hospitalization
- Assertive Community Treatment teams (ACT) that operate with fidelity to the Dartmouth ACT model.
- Intensive Case Management teams, comprising 10 full-time case managers per team, which coordinate treatment and support services and assist individuals with accessing community resources.
- Peer support Services
- Medicaid
- Projects for assistance in Transition from Homelessness (PATH)

**Anticipated large majority of hospitalizations can be avoided**

- Forensic services
- Case Management service providers that coordinate treatment and support services and help maintain services and supports already in place.
- Supported housing services
- Supported employment services
- Core services provided through core providers
  - Physician Assessment & Care
  - Diagnostic Assessment
  - Behavioral Health Assessment
  - Group Counseling/Training
  - Family Counseling/Training
  - Community Support
  - Service Plan Development
  - Crisis Intervention
  - Individual Counseling
  - Psychological Testing
  - Nursing Assessment & Care
  - Medication Administration
- Prevention Services such as Suicide Prevention

Policy
Recommendation:

• “Support the **state wide coordination and implementation** of an evidence based suicide/mental health assessment tool and training for Rhode Island healthcare providers and first responders for determination of placement in emergency department or alternative settings.”

• “…this recommendation would be critical in assisting those in the field with an additional tool for **everyday use**”
  - Testimony by a Pawtucket police officer: “…the officer highlighted the important and timely decisions that law enforcement must make…the limited training that law enforcement often receives outside of the police academy was discussed and the importance of providing our first responders with the appropriate tools to assess an individual was identified as a necessary tool.”

**Top-Down Efforts**

**New Jersey Youth**

- K-12 schools
- Social service agencies
- Religious organizations
- Military facilities
- Primary care offices
- Colleges and universities across the state

**Tennessee**

- Policy of DOMH to use in all divisions and contract vendors
  - K-12 schools
  - Colleges, & Universities
  - Indian Health Services
  - Legal facilities
  - Hospitals
  - TN Suicide Prevention Network
  - Managed Care (statewide)
  - **State Crisis Assessment Tool**
  - Catholic Charities
  - Military facilities

**Maine**

- Core of plan is throughout primary care; included as part of Statewide Health Improvement Plan
What A Medical Center Can Do: Organizational Vision/ Top-Down Models

Policy: Nurse Screens, Worry of High Risk Among Patient, “Nurses Hotline”

Utah “All in” Effort - so far...

- **Association for Utah Community Health** - Federally Qualified Health Centers
  - Front line personnel and support staff
  - Street medicine/homeless outreach providers

- **University of Utah Department of Emergency Medicine** - crisis and social work teams using C-SSRS and S&B Safety Plans.

- **Utah Division of Child and Family Services** - all new child welfare caseworkers trained in screening, referral and safety planning

- **Utah Commission on Criminal and Juvenile Justice**
  - Statewide domestic violence sentencing and treatment guidelines.
  - Law enforcement, judges, prosecutors and state-contracted DV treatment providers

- **Utah Domestic Violence Coalition**
  - Promoting the C-SSRS at annual DV conference
  - Staff at state-contracted domestic violence shelters

- **Utah Department of Commerce/ Utah Trafficking in Persons Committee**

- **Utah Association of Domestic Violence Treatment Providers** - contracted treatment providers providing court ordered treatment to individuals adjudicated on charges of cohabitant abuse.

- **Unified Fire Authority** - EMT/Paramedic and Fire Fighters.

UTAH State Suicide Prevention Plan: Planned Legislation

Goal 3: Improve the ability of health providers (including Behavioral Health) and first responders to better support individuals who are at risk of suicide.

Objective 3.1: By June 2018, identify and promote a universal screening and assessment tool to be used and promoted throughout Utah.

Activity 1: Assess screening tools to establish the most effective on to use universally with Utah’s population.

Committee: Education and Training

Progress: Oct. 10, 2012: Recommendations to use the C-SSRS screening and assessment tool along with the Stanley/Brown Safety planning tool were formally given.

Nov. 13, 2012: Work has begun to review C-SSRS tools and Stanley/Brown Safety planning tool to better identify and support individuals with suicidal ideation.

August 2013: The Columbia Suicide Severity Rating Scale has been shown as Utah’s universal screening tool.

Objective 3.2: Through August 2015, train a minimum of 1,500 health care providers (including Behavioral Health), and first responders to utilize the Universal tools.

Activity 2: Provide training to a minimum of 1,500 providers.

Committee: Education and Training

Progress: Feb. 13, 2013: Phone call with Melanie Proctor-Comes director of NY Suicide Prevention took place Jan. 31, 2013 to better identify barriers to presenting universal tools, and how best to promote and train on use of tools. Work is being done to lay a foundation for training through conferences, webinars and outreach to key players to support Utah wide integration of universal tools into treatment and screening processes.

A COMPREHENSIVE SUICIDE PREVENTION INITIATIVE FOR GEORGIA’S MENTAL HEALTH PROVIDERS

“AIM” Assessment, Intervention and Monitoring

Georgia DBHDD Implementation Plan

1. Introduced Statewide
2. Overview by Region and regional support
3. Policy development at state level
4. Provider by Provider implementation
5. Providers implement in all services, between services, and in systems of care

Georgia’s Suicide Prevention Flow Chart

- Assessment
- Intervention
- Quality Management
- Mental Safety Plan
- Identify Risk for Suicide
- Identify Risk for Suicidal
- Best Practice Interventions for All Risk Categories
- Develop Suicide Prevention Safety Plan for All Risk Categories
- Monitor Assessments and Assessments of Risk Category
- Suicide Prevention Plan
- Referral to Community
New York State Suicide Prevention Initiative

Revolutionizing Policy and Care

- Eval of recent suicides all same picture: No good risk assessment, no safety plan, no warm hand-off
- Comprehensive systems approach to suicide prevention
- Organizational vision of zero suicides
- All Adult and Youth Behavioral Health Care organizations statewide
- *All patients* screened using C-SSRS
- C-SSRS and Safety Planning online learning modules to be used in training all staff

Public-Private Partnership: National Action Alliance - Toolkit for Zero Suicide
County-Wide Dissemination
One Example: Lapeer County, Michigan

“Complete Blanket Coverage”

Court workers
Mental health workers
K-12 school staff: teachers, bus drivers, cafeteria workers, etc.
Clergy
Law enforcement
ER staff
Child welfare workers
Police Officers, Sheriff, Road Patrol, Village & State Troopers

*All first responders: EMT, Fire Department, Police Officers, etc.

*Especially critical in rural areas

Why is it Helpful?
From the Ground…

“Suicide Screening Tool to be Rolled Out in Rhode Island”:
Released: March 20, 2012

“The scale is an easy way to save lives...Our staff have been trained by Dr. Posner, the creator of the C-SSRS, and have found it easy to use and effective. By tying it to our electronic health records, it becomes that much more streamlined into every day care.”

New York State, Office of Mental Health

“...the feeling is that the C-SSRS has separated the wheat from the chaff; it focuses attention where it needs to be. This easy to use instrument allows our clinicians to move ahead with confidence and we are similarly confident that we are providing them with the best technology available.” – OMH, NY
"It (the C-SSRS) was able to show, for the first time, that behaviors beyond previous suicide attempts—such as self-injury or making preparations for an attempt—may be used as predictors of subsequent suicide attempts...It also was able to determine clinically meaningful points at which a person may be at risk for an impending suicide attempt, something that other scales have been unable to consistently determine."

- NIMH Science Update, Nov. 28, 2011

**Prediction Leads to Prevention**

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**C-SSRS in the Military & VA**

**Walter Reed National Military Medical Center:**
- “This scale is so helpful, especially in the military, when providers have to make very quick judgments.”
- “Assessors find the tool easy to use...and helpful in treatment approach with the patient.”

**Navy Medical Center, San Diego:**
- “I am very impressed with how comprehensive and how well-conceptualized the scale is designed.”

**Tennessee Valley VA Healthcare System:**
- “Valuable tool to ensure that necessary steps were taken to safeguard an individual or return them back home with support. It can help avoid unnecessary hospitalization or save a life.”

**John D. Dingell VA Medical Center:**
- “I am impressed with the increased quality of the C-SSRS in assessing this area in patients and feel it would serve our Veteran better in this area.”
- “to tease out those who have serious suicidal ideations from those who say they are suicidal...”
“Ultimately, the C-SSRS serves as an effective mobile crisis tool which gets to the right people at the right time and right place and helps to save lives and save public dollars.”

Hope at last to break suicide's silence
March 25, 2012
Kelly Posner, Ph.D., principal investigator for Columbia’s Center for Suicide Risk Assessment earlier this month brought this information to Middle Tennessee, in a meeting of health professionals at Nashville’s Oasis Center for troubled teens, and a separate briefing with authorities at Fort Campbell.

Other methods that use imprecise terminology and have variable concepts of what constitutes suicidal behavior... often hinder communication about an individual that could prevent suicide.”

The new system is gradually being implemented by the Army, Navy, Air Force and National Guard; by police and fire departments; drug and alcohol addiction centers; and public schools and colleges.

Commentary on Article:
• “A leading cause of death”? I have my doubts about that assertion.” “Maybe in some third-world, oppressed countries - or among some teenagers, but certainly not in the US.”
• “Hope at last to break suicide’s silence. I was not aware there was any.” - Retired Mental Health Editor
• “Suicide is very much preventable. I applaud the development of an instrument to help identify those in need of help...”
Simply….

- 1-5 rating for suicidal ideation, of increasing severity (from a wish to die to an active thought of killing oneself with plan and intent)

  - Have you wished you were dead or wished you could go to sleep and not wake up?
  - Have you actually had any thoughts of killing yourself?

**If answer is “No” to both, no more questions on ideation**

- All relevant behaviors assessed
- All items include definitions for each term and standardized questions for each category are included to guide the interviewer for facilitating improved identification

**Screening Questions**

*If #1 and #2 are no ideation section is done

**This is the Full C-SSRS**

Typical Administration Time = Few Minutes
This is the C-SSRS Screener

COLUMBIA SUICIDE SEVERITY RATING SCALE

Screen Version - Recent

**SUICIDE IDEATION DEFINITIONS AND PROMPTS**

Ask questions that are bolded and underlined. [YES/NO]

1) Wish to be Dead:
   - Have you wished you were dead or wished you could go to sleep and not wake up?

2) Suicidal Thoughts:
   - Have you actually had any thoughts of killing yourself?

   **If YES to 2, ask questions 3, 4, 5, and 6. If NO to 2, go directly to question 6.**

3) Suicidal Thoughts with Method (without Specific Plan or Intent to Act):
   - Have you been thinking about how you might kill yourself?

4) Suicidal Intent (without Specific Plan):
   - Have you had these thoughts and had some intention of acting on them?

5) Suicide Intent with Specific Plan:
   - Have you started to work out or worked out the details of how to kill yourself? Do you intend to carry out this plan?

6) Suicide Behavior Question:
   - Have you ever done anything started to do anything, or prepared to do anything to end your life?

**If 2 is no, go to 6**

*Minimum of 3 Questions*

*Max of 6 Questions*

*Auditory hallucinations qualify as ideation*

**Fort Carson Military Screener**
Tennessee Crisis Assessment Tool

- Risk Assessment page and screener for all crisis evaluations
Research Supported Items

- **Preparatory Behavior**
  - Those with recent preparatory behavior (e.g., collecting pills, razors, or loaded weapon) **8-10x** more likely to die by suicide (Brown & Beck, unpublished)

- **Interrupted Suicide Attempts**
  - **3x** more likely to die by suicide (Steer, Beck & Lester, 1988)

- **Aborted Suicide Attempts**
  - Subjects who made aborted attempts **2x** as likely to have made a suicide attempt (Barber et al., 1998)

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eC-SSRS...Depressed Subjects...
**ALL Behaviors Are Prevalent and Predictive**

- Each behavior is **EQUALLY PREDICTIVE to an attempt**
- Multiple behaviors = greater risk
- *Only 1.7% had any worrisome answer*
- *Only .9% with ~50,000 administrations*

472 Interrupted, Aborted and Preparatory (87%)
vs. 70 Actual Attempts (13%)  
Mundt et al., 2011
Data Supports Importance of Full Range:
All Lifetime Suicidal Behaviors Predict Suicidal Behavior

<table>
<thead>
<tr>
<th>Behavior reported at baseline</th>
<th>Patients not prospectively reporting suicidal behavior</th>
<th>Patients prospectively reporting suicidal behavior</th>
<th>Odds ratio of prospective suicidal behavior report (95% CI; ***p-values &lt; .001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Attempt</td>
<td>522 (85.6 %)</td>
<td>88 (14.4 %)</td>
<td>4.56 (3.40 - 6.11)***</td>
</tr>
<tr>
<td>Interrupted Attempt</td>
<td>349 (82.7 %)</td>
<td>73 (17.3 %)</td>
<td>5.28 (3.88 - 7.18)***</td>
</tr>
<tr>
<td>Aborted Attempt</td>
<td>461 (84.7 %)</td>
<td>83 (15.3 %)</td>
<td>4.75 (3.53 - 6.40)***</td>
</tr>
<tr>
<td>Preparatory Behavior</td>
<td>177 (81.2 %)</td>
<td>41 (18.8 %)</td>
<td>4.92 (3.38 - 7.16)***</td>
</tr>
</tbody>
</table>

A person reporting any one of the lifetime behaviors at baseline is ~5X more likely to prospectively report a behavior during subsequent follow-up.

Number of Different Lifetime Suicidal Behaviors Predict Suicidal Behavior

<table>
<thead>
<tr>
<th>Patients not prospectively reporting suicidal behavior</th>
<th>Patients prospectively reporting suicidal behavior</th>
<th>Odds ratio of prospective suicidal behavior report (95% CI; ***p-values &lt; .001)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N = 3577</td>
<td>N = 201</td>
<td></td>
</tr>
<tr>
<td>No Behaviors Reported at BL</td>
<td>2791 (97.3%)</td>
<td>76 (2.7%)</td>
</tr>
<tr>
<td>One Behavior</td>
<td>345 (91.5 %)</td>
<td>32 (8.5 %)</td>
</tr>
<tr>
<td>Two Behaviors</td>
<td>214 (84.3 %)</td>
<td>40 (15.7 %)</td>
</tr>
<tr>
<td>Three Behaviors</td>
<td>172 (81.5 %)</td>
<td>39 (18.5 %)</td>
</tr>
<tr>
<td>Four Behaviors</td>
<td>55 (79.7 %)</td>
<td>14 (20.3 %)</td>
</tr>
</tbody>
</table>

Any type of lifetime behavior increases likelihood of future behavior by ~ 3.4 times and increases proportionally with increased number of different behaviors reported.
Patients not prospectively reporting suicidal behavior: N = 8489

Patients prospectively reporting suicidal behavior: N = 348

Odds ratio of prospective suicidal behavior report (95% CI)

Common Odds Ratios for prospectively reporting a suicidal behavior as a function of the ideational intensity scores

<table>
<thead>
<tr>
<th>Ideational Intensity</th>
<th>Patients not prospectively reporting suicidal behavior</th>
<th>Patients prospectively reporting suicidal behavior</th>
<th>Odds ratio of prospective suicidal behavior report (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>NONE</td>
<td>4918 (99.2%)</td>
<td>39 (0.8%)</td>
<td>—</td>
</tr>
<tr>
<td>MINIMAL (2-5)</td>
<td>778 (95.5 %)</td>
<td>37 (4.5%)</td>
<td>6.00 (3.80 – 9.46)***</td>
</tr>
<tr>
<td>MODERATE (6-10)</td>
<td>1686 (92.1 %)</td>
<td>145 (7.9 %)</td>
<td>10.85 (7.58 – 15.51)***</td>
</tr>
<tr>
<td>MODERATELY SEVERE (11-15)</td>
<td>921 (90.5 %)</td>
<td>97 (9.5 %)</td>
<td>13.28 (9.10 – 19.38)***</td>
</tr>
<tr>
<td>SEVERE (16-20)</td>
<td>175 (86.6 %)</td>
<td>27 (13.4 %)</td>
<td>19.46 (11.64 – 32.51)***</td>
</tr>
<tr>
<td>VERY SEVERE (21-25)</td>
<td>11 (78.6 %)</td>
<td>3 (21.4 %)</td>
<td>34.39 (9.23 – 128.09)***</td>
</tr>
</tbody>
</table>

*** p <.001; ** p <.01; * p <.05; no asterisks p >.05

Screening Vets with C-SSRS:
Only .17% Required Referral to More Acute Care

- Only 14 out of 2962 screened positive (.47%)
- Only 5 (.17%) required more acute care

Negative Screens: n=2948 (99.53%)
Positive Screen without Hospitalization: n=9 (0.30%)
Positive Screen needing Hospitalization: n=5 (0.17%)
... systematically assessing using the C-SSRS decreases burden while improving detection.

Decreases False Positives and False Negatives

PHQ-9 (commonly used depression screening tool)

Suicide Item: Thoughts that you would be better off dead or of hurting yourself in some way

...Calls instances suicidal that shouldn't be and misses every type of ideation and behavior that need to be identified

Data confirm that when item followed by C-SSRS, cases that should not have been called suicidal are eliminated

C-SSRS reduces false positives and avoids false negatives
Improved Identification with Decreased False Positives

Outpatient Psychiatry Pilot – Self Report Computer Version (523 Encounters)

- 6.2% positive screen on C-SSRS
- vs.
- 23.8% endorsed item #9 of PHQ-9

Most, but not all, of the positive Columbia screen patients endorsed #9 of PHQ9 e.g. Cases were missed

C-SSRS Findings: Obesity Patients

Comparison of Retrospective and Prospective Data

<table>
<thead>
<tr>
<th>Trial Phase</th>
<th>Retrospective</th>
<th>Prospective C-SSRS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Patients</td>
<td>Double-blind 8600</td>
<td>Extension ~ 5600</td>
</tr>
<tr>
<td>Suicidal Ideation</td>
<td>452</td>
<td>12*</td>
</tr>
<tr>
<td>Suicidal Behavior</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

1 Stemmed from positive responses on PHQ-9
2 Double-blind phase ranged from 12 to 104 weeks; Extension phase 52 weeks
3 Maximum number of patients entering the extension phase of the trials

* Markedly lower rates of suicidal behavior with systematic monitoring
C-SSRS vs. Open Ended Leads to Improved Detection

- Detected 29.7% of patients with suicidal ideation and 18.7% of patients w/ history of suicide attempt undetected by clinician interview (Bongiovi-Garcia et al., 2009).
- Telephone assessment w/ C-SSRS detected (59%) of suicide attempts compared to chart reviews (18%) (ED-SAFE study, Arias et al, 2014).

Impact on Care Delivery and Service Utilization...
Advantages....Operationalized Criteria for Next Steps

- Allows for setting parameters for triggering next steps whatever they may be (e.g. referral to mental health, one-to-one, etc.)
  - 4 or 5 on recent ideation item to indicate need for immediate action
  - Decreases unnecessary referrals, interventions, etc.

- Provides the best available information to inform your clinical judgment

*In the past, people didn’t know what to manage, so they would hear any wish to die and intervene.*

Clinical Monitoring Guidance: Threshold for Next Steps

**SEUICIDAL IDEATION**

<table>
<thead>
<tr>
<th>Question</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. White to be Dead</td>
<td>(Yes)</td>
</tr>
<tr>
<td>Have you wished you were dead or wished you could go to sleep and not wake up?</td>
<td>No</td>
</tr>
<tr>
<td>If yes, describe.</td>
<td></td>
</tr>
<tr>
<td>2. Non-Specific Active Suicidal Thoughts</td>
<td>(Yes)</td>
</tr>
<tr>
<td>General, non-specific thoughts of wanting to end one’s life/commit suicide (e.g. “I’ve thought about killing myself”) without thoughts of ways to kill themselves/accompanying method, alone, or in.</td>
<td>No</td>
</tr>
<tr>
<td>Have you actually had any thoughts of killing yourself?</td>
<td></td>
</tr>
<tr>
<td>If yes, describe.</td>
<td></td>
</tr>
<tr>
<td>3. Active Suicidal Ideation with Any Method(s) Without Intent to Act</td>
<td>(Yes)</td>
</tr>
<tr>
<td>Subject endorses thoughts of suicide and has thought of at least one method during the assessment period. This differs from a specific plan with time, place or method details worked out (e.g. thought of method to kill self but not a specific plan). Include persons who would say, “I thought about killing myself but I never made a specific plan as to when, where or how I would actually do it.....and I would never go through with it.”</td>
<td>No</td>
</tr>
<tr>
<td>Have you been thinking about how you might do this?</td>
<td></td>
</tr>
<tr>
<td>If yes, describe.</td>
<td></td>
</tr>
<tr>
<td>4. Active Suicidal Ideation with Some Intent to Act, Without Specific Plan</td>
<td>(Yes)</td>
</tr>
<tr>
<td>Active suicidal thoughts of killing oneself and subject reports being more sure in acting on thoughts, as opposed to “I have these thoughts but definitely will not do anything about them.”</td>
<td>No</td>
</tr>
<tr>
<td>Have you had these thoughts and had some intention of acting on them?</td>
<td></td>
</tr>
<tr>
<td>If yes, describe.</td>
<td></td>
</tr>
<tr>
<td>5. Active Suicidal Ideation with Specific Plan and Intent</td>
<td>(Yes)</td>
</tr>
<tr>
<td>Thoughts of killing oneself with details of plan fully or partially worked out and subject has some intent to carry it out.</td>
<td>No</td>
</tr>
<tr>
<td>Have you started to work out or worked out the details of how to kill yourself? Do you intend to carry out this plan?</td>
<td></td>
</tr>
<tr>
<td>If yes, describe.</td>
<td></td>
</tr>
</tbody>
</table>

Indicates Need for Next Step

---

37
Screener Demo

http://youtu.be/fx3N3uDUQbo

Streamlining Identification, Triage & Care Delivery in the Military

Fort Carson
New York State EMR

- 4/5 past month OR behavior past 3 months = highest level “SUICIDE WARNING”
- 4/5 OR behavior ever = “SUICIDE HISTORY” = suicidal risk elevated

Easily Integrated into Existing Tools i.e. Nursing Mental Status Checklists
Centerstone Alert and Monitoring System

**Largest Provider of Behavioral Healthcare in the United States**

Thresholds facilitate identification of those at highest, triage, and care delivery

4/5 → Psych consult
3 → Consult to Care team

<table>
<thead>
<tr>
<th>Level</th>
<th>Question</th>
<th>Trigger</th>
</tr>
</thead>
</table>
| 4/5   | Yes to question 4 or 5 | • Nursing Order to call MD for Psych Consult  
• Nursing Interventions (print on order sheet)  
• PS Safety Monitor – 1:1 Observation  
• PS Safety Monitor – Within arm’s reach at all times  
• Complete Self-harm Safety Assessment every shift  
• Affix Suicide Risk Magnet to door  
• Revise Diet order to Safe Tray  
• Alerts to ATC, Nutrition Services, Environmental Services and Security  
• Progress note for chart |
| 3     | Yes to question 5 (and no to question 4 and 5) | • Consult to Care Team  
• Nursing Interventions (print on order sheet)  
• PS Safety Monitor – 1:1 Observation  
• PS Safety Monitor – Within arm’s reach at all times  
• Complete Self-harm Safety Assessment every shift  
• Affix Suicide Risk Magnet to door  
• Revise Diet order to Safe Tray  
• Alerts to ATC, Nutrition Services, Environmental Services, Triage Facilitator and Security  
• Progress note for chart |

(Reading Hospital Policy)
This is the C-SSRS Screener with Triage Points (Reading Hospital)

### SSI Total Score by Highest Level of Ideation on the C-SSRS

![Graph showing SSI Total Score by level of ideation](image)

- **None**: Wish to Die
- **Active SI**: Method
- **Intent Plan**

**Formula**: 

\[ F(5, 185) = 14.35, \ p < 0.001 \]

*Currier, Brown & Stanley (2009)*
Data Confirmation...
4 and 5 Predicts Attempts in National Attempeter Study
(Posner et al., AJP December 2011)

- C-SSRS Lifetime Ideation, types 4 and 5, predicted suicide attempts in adolescent suicide attempters, followed over a year
  - Beck SSI NOT predictive

- C-SSRS Lifetime Ideation, types 4 and 5, predicted actual, interrupted or aborted attempts on CSHF

Prediction in Non-Suicidal Adults and Adolescents

- Confirmed by eC-SSRS data: 35,007 (3776 subjects) across depression, epilepsy, insomnia, fibromyalgia (Mundt et al., JCP 2013)
  - Patients with baseline prior ideation of 4 or 5 or prior behavior are 4-5x more likely to report suicidal behavior at follow up
  - Patients with both are 9x more likely to report suicidal behavior
- Prediction in adolescent emergency department follow-up study (King et al)
  - Duration predictive
  - Attempt and lifetime attempt not predictive, reinforcing ideation assessment
  - NSSI not predictive
Decreased Unnecessary Intervention & Getting Care to Those Who Need It

Psychiatric Consultations for Suicide Attempts
July, 2009 to June, 2011 (Reading Hospital)

After C-SSRS, # of psychiatric consults always stayed below rates before implementation

** Economic crises/increases in unemployment worse than national average in Reading and Berks county area
Reduction in Unnecessary Interventions/ Redirecting Scarce Resources

- **Hospital system**: steadily decreased one-to-ones (27,000 screened)
  - Reading Hospital - “allowed us to identify those at risk and **better direct limited resources in terms of psychiatric consultation services and patient monitoring** and it has also given the **unexpected benefit of identification of mental illness in the general hospital population** which allows us to better serve our patients and our community.”

- **Corrections**:  
  - California corrections department spent approx. **$20 million in 2010** on a suicide-watch program, which they believe **could be cut in half by these methods**

- **Policy**:  
  - Discussed during the Rhode Island Senate Commission Hearing to address ER overuse and ER diversion. Senators aim to have frontline responders use scale - specifically EMS and community police

The Problem in Schools: Who Do We Refer?

- **New York City**
  - Four hospitals: **61-97% of referrals did not require hospitalization.**
  - NYC DOE:
    - “The great majority of children & teens referred by schools for psych ER evaluation are not hospitalized & do not require the level of containment, cost & care entailed in ER evaluation.”
    - “Evaluation in hospital-based psych ER’s is **costly, traumatic** to children & families, and may be less effective in routing children & families into ongoing care.”

  One Student sat 9 hours in a principal’s office waiting for EMT!
Screening in Schools – The Solution

“City schools expand suicide training” (C-SSRS): “This enhanced service has made more appropriate referrals for students to see support staff in the school and referrals to community agencies as needed…”

- Crain’s, NY 7/20/12

-38 middle schools/nurse delivery: an estimated 100+ students were identified that would have otherwise been missed, while dramatically reducing unnecessary referrals.

310 Middle Schools this year - Every Middle School next year

2 weeks after training Tennessee schools, “may have already saved a life, 9 year old with aborted suicide attempt.”

25% of teachers report being approached by an at-risk child

Asking These Questions Protects Against Risk

“If a practitioner asked the questions... It would provide some legal protection”

- Bruce Hillowe, mental health attorney specializing in malpractice litigation
  (Crain’s NY, 11/8/11)

Implemented by national risk managers of The Doctor’s Company, a medical malpractice insurance company to be used by physician members

“I believe it sets the standard...we take a proactive position in patient safety” - Patient Safety Risk Manager

- Policies now place more burden on universities to implement interventions to protect students from self-harm (Franke, 2004; Lake et al., 2002)
Multiple Sources: Don’t Have to Rely on Individual’s Report

- Most of the time, people will give you relevant info, but when indicated,...

- Allows for utilization of multiple sources of information
  - Any source of information that gets you the most clinically meaningful response (subject, family members/caregivers, records)

Examples...

Loved one brings a family member into the ER. The patient denies suicidal thoughts, but the family member shares with you that he has been talking about suicide for the past two weeks and wrote a note yesterday and that is why he is here in the ER.

Client is at intake for outpatient services and denies lifetime suicidal ideation and behavior but medical record sent from inpatient hospital indicates admission for recent attempt.

A friend of a student comes to your office and reports that the student posted on Facebook that he has been feeling like he wants to die.
Suicide Attempt Definition

A self-injurious act committed with at least some intent to die, as a result of the act

- There does not have to be any injury or harm, just the potential for injury or harm (e.g., gun failing to fire)
- Any “non-zero” intent to die – does not have to be 100%
- Intent and behavior must be linked

Inferring Intent

- Intent can sometimes be inferred clinically from the behavior or circumstances
  - e.g., if someone denies intent to die, but they thought that what they did could be lethal, intent can be inferred
  - “Clinically impressive” circumstances; highly lethal act where no other intent but suicide can be inferred (e.g., gunshot to head, jumping from window of a high floor/story, setting self on fire, or taking 200 pills)
As Opposed To
Non-suicidal Self-injurious Behavior

- Engaging in behavior PURELY (100%) for reasons other than to end one's life:
  - Either to affect:
    - Internal state (feel better, relieve pain etc.) - “self-mutilation”
    - and/or -
  - External circumstances (get sympathy, attention, make angry, etc.)

Suicidal Behavior

<table>
<thead>
<tr>
<th>SUICIDAL BEHAVIOR</th>
<th>Since Last Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actual Attempt:</td>
<td></td>
</tr>
<tr>
<td>A potentially self-injurious act committed with at least some wish to die, as a result of act. Behavior was in part thought of as a method to kill oneself. Intent does not have to be 100%. If there is any intent/ide to die associated with the act, then it can be considered an actual suicide attempt. There does not have to be any injury or harm, just the potential for injury or harm. For example, a highly lethal act that is clearly an accident so no other intent but suicide can be inferred (e.g. gunshot to head, jumping from window of a high floor/strike). Also, if someone denies intent to die, but they thought that what they did could be lethal, intent may be inferred.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>May help to infer intent</td>
<td></td>
</tr>
<tr>
<td>Important: Shows you did the appropriate assessment and decided it should not be called suicidal.</td>
<td></td>
</tr>
<tr>
<td>Has subject engaged in Non-Suicidal Self-Injurious Behavior?</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Total # of Attempts: [ ]
Suicide Attempt? Yes or No

The patient wanted to escape from her mother’s home. She researched lethal doses of ibuprofen. She took 6 ibuprofen pills and said she felt certain from her research that this amount was not enough to kill her. She stated she did not want to die, only to escape from her mother’s home. She was taken to the emergency room where her stomach was pumped and she was admitted to a psychiatric ward.

1. Yes
2. No
3. Not enough information

Age: the C-SSRS is suitable across the lifespan for use with adults, adolescents, and young children.

Special Populations: indicated for cognitively impaired (e.g. Alzheimer’s, Autism)

C-SSRS Feasibility

- Millions of administrations
- Many thousands of settings
- Available in 116 languages
- All Gatekeepers
- Developing an app for phones/ipads, etc.
- Ease of training: very scalable; Online via website or DVD (45 minutes); 18 min training video for screener;
- Free to train and use

Various Uses

- Screening upon entry
- Component of comprehensive Suicide Risk Assessment
- Treatment benefit outcomes
- Monitoring during treatment
- Measuring worsening and improvement
- Collection of epidemiological data
Good Acceptance in Practice by Providers and Patients

- **Good Acceptance in Practice:**
  - 1,000 sites across the country (nurses, coordinators, physicians) - overwhelming majority said “easy to incorporate”, “has improved safety”, “is beneficial”
  - Patient Satisfaction Study at Cleveland Clinic:
    - 80% felt electronic tablet was easy to use
    - 98% did not think suicide screening increased thoughts of suicide
    - 45% found that using tablet made reporting sensitive topics easier

All Gatekeepers Can Do It
No Mental Health Training Required

- 812 nurses trained - 99% reliability independent of mental health training and education
- Strong inter-rater reliability among non-clinicians in juvenile justice - (Kerr, et. al. 2014)
- In behavioral healthcare settings:
  - Peer counselors
  - Paraprofessionals
  - Professionals
  - Nurses
  - Nurses’ aides, etc.
- Other settings: All types of gatekeepers
  - Teachers
  - First responders
  - Coaches
  - Road patrol
  - Bus drivers

Critical to have next steps in place for people who screen as high risk (e.g. teacher referral to counselor)
Innovative Delivery:
Implementation by All Gatekeepers

Examples of utilization:
- Laminated cards
- Metal key chains
- Apps on phone
- Portable printers in EMT

By healthcare professionals:
- Electronic records
- Piece of paper in a chart
- Phone kiosks

The AVERT Approach in Practice

Assessment Completed By Patient ➔ AVERT System Provides Instant Evaluation and Report ➔ Staff is Alerted in Real-Time

If Positive

Web
Tablet
Phone

Electronic delivery, automatic risk notification
eC-SSRS A Critical Piece of an Optimal Prevention Plan

**FDA Best Practices Meeting for Meta-analyses – optimal solution for minimizing bias**

- Coordinated data – like pilot, surgeon and anesthesiologist checklists
- Computers and clinicians are complementary
- Widely deployed and proven to be low burden to patients and providers
- Scalability

- **NY** - Post Discharge
  - Most at-risk time
  - Can call from home
- **NJ** - Youth in Schools
  - Summertime vulnerability
  - Reduced burden on school personnel
- Veteran’s Administration Hospital

---

**Have the Courage to Help a Buddy**

- Did you ever wonder what you should do if you felt like you could just go and not wake up?
- Actually you are thoughts of killing yourself?
- Have you thought about how you might do this?
- Do you have any plans to actually hurting yourself?
- Ever have any thoughts of doing anything to end your life? (e.g., suicide or self-harm)?
- Have you had any thoughts of hurting yourself?
- Have you tried to hurt yourself?
- Have you ever considered hurting yourself?
- Have you ever tried to hurt yourself?
- Have you ever done anything to hurt yourself?
- Have you ever thought about hurting yourself?
- Have you ever thought about hurting yourself?

If you are in any of these contact your Division of Psychological Health (PSYCHO) or Chaplain!  

**One Suicide is One Too Many.**

- Talk to your Battle Buddy and chain of command
- Call the Military Crisis Line 315-099-272-TALK (10273)
- and press 1 for Military Crisis Line

DPH. Michelle Hammond Susten; 774-045-5677
Chaplain: SIO: 

Don’t wait, call them now.
Monitoring is Critical...

Capture all events and types of thoughts since last assessment:

"Since I last saw you have you done anything......had thoughts of..."

<table>
<thead>
<tr>
<th>Monitoring is Critical...</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-SSRS is a Component of</td>
</tr>
<tr>
<td>Many National, State and</td>
</tr>
<tr>
<td>Agency Policies and</td>
</tr>
<tr>
<td>Procedures...Examples</td>
</tr>
</tbody>
</table>
NATIONAL NETWORK OF DEPRESSION CENTERS SCREENING TOOL

Harvard Partners in Care Safety Assessment
### CORRECTIONS SYSTEM NSW GUIDELINES FOR USING THE C-SSRS SUICIDE SCREENING TOOL

**Guide to Version Selection and Interpretation**

There are five versions of the C-SSRS that are appropriate for different settings and purposes. The following tables identify the appropriate versions for the intended purpose and recommended actions:

<table>
<thead>
<tr>
<th>Version Purpose</th>
<th>Appropriate C-SSRS Version</th>
<th>Years of Use</th>
<th>Notes</th>
<th>Recommended Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>Screening</td>
<td>C-SSRS V1.0</td>
<td>1-2 years</td>
<td>-</td>
<td>Refer to PC-Psychology.</td>
</tr>
<tr>
<td>Training Support Plan</td>
<td>C-SSRS V1.0</td>
<td>3-5 years</td>
<td>-</td>
<td>Refer to TC-Psychology.</td>
</tr>
<tr>
<td>Engagement Plan</td>
<td>C-SSRS V2.0</td>
<td>6-8 years</td>
<td>-</td>
<td>Refer to PC-Psychology.</td>
</tr>
<tr>
<td>Management Plan</td>
<td>C-SSRS V3.0</td>
<td>9-12 years</td>
<td>-</td>
<td>Refer to PC-Psychology.</td>
</tr>
<tr>
<td>Supervision Plan</td>
<td>C-SSRS V4.0</td>
<td>13-16 years</td>
<td>-</td>
<td>Refer to PC-Psychology.</td>
</tr>
<tr>
<td>Follow-up Plan</td>
<td>C-SSRS V5.0</td>
<td>17-20 years</td>
<td>-</td>
<td>Refer to PC-Psychology.</td>
</tr>
</tbody>
</table>

**Guideline for Determining Level of Suicide Risk**

<table>
<thead>
<tr>
<th>Score</th>
<th>Low Risk</th>
<th>Moderate Risk</th>
<th>High Risk</th>
<th>Very High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Y, Question 2</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
</tr>
<tr>
<td>1</td>
<td>Y, Question 2</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
</tr>
<tr>
<td>2</td>
<td>Y, Question 2</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
</tr>
<tr>
<td>3</td>
<td>Y, Question 2</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
</tr>
<tr>
<td>4</td>
<td>Y, Question 2</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
</tr>
<tr>
<td>5</td>
<td>Y, Question 2</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
<td>Y, Question 4.6</td>
</tr>
</tbody>
</table>

**Key Points:** Research indicates that "yes" to any of Questions 4.5 or 4 indicates risk of suicide for 4-6 years, and "yes" to Questions 4.5 and 4.6 indicates increased suicide risk.
TITLE: SUICIDE RISK ASSESSMENT

PURPOSE:
1. To assess an individual's current potential to engage in suicidal behavior.
2. To develop an understanding of the factors in the individual's past and current life situation which have resulted in considering and/or attempting suicide as a maladaptive means of coping with existing stressors.
3. To arrive at:
   a. A clinical decision as to the current level of risk that an individual represents for suicidal behavior.
   b. Recommendations for appropriate suicide precautions.
   c. Identification of treatment measures which may result in decreased potential for suicidal behavior based on results from the risk assessment.
4. To use standardized language to promote universal communication. This will improve consistency, enable accurate assessment and encourage an interdisciplinary treatment approach to suicide risk assessment and suicide prevention.

POLICY STATEMENTS:
Suicide assessments specifically focus on evaluation of an individual's potential to engage in suicidal behavior at the time of evaluation. A second aspect of suicide assessment is to establish an understanding of the factors involved in the individual's past and current life situation which have resulted in considering and/or attempting suicide. The results of suicide assessments will yield a clinical judgment as to current level of risk an individual represents for suicidal behavior, recommendations for appropriate safety planning, and the identification of needs which may result in decreased potential for suicidal behavior.

Guidelines for completion:
Assessment of suicidal behavior will occur at the following times:
1. At time of intake screening.
2. At any time during treatment when a patient is perceived to be at risk for suicidal behaviors.
3. Following any episode of suicidal behavior or psychiatric hospitalization.
4. Updated annually.

DEFINITIONS:
1. Suicide Assessment: A suicide assessment will include the completion of the appropriate Columbia Suicide Severity Rating Scale, a current mental status report, synopsis of active psychiatric symptoms, and any identified protective factors, as well as acute and chronic risk factors.
Safe-T and C-SSRS Combined Tool for NY Office of Mental Health

Ft. Carson Implementation Policy

1. Forms - menu of options
   - C-SSRS Screening (Adult, Child/Adolescent)
   - C-SSRS Risk Assessment (Adult, Child/Adol)
   - Military Version (SM, FM)
   - Risk Assessment Summary Page

2. Administration
   - Self-administered Screening handed out by front desk staff
   - Risk Assessment administered by provider
   - C-SSRS Risk Assessment is a semi-structured interview, you do not need to administer it rigidly
Implementation, cont.

3. Documentation
- Document negative screen results and risk level in AHLTA note
- Document risk assessment results on Summary Page (many items rely on interview and items on military version) and scan into AHLTA

4. Decisionmaking
- Review C-SSRS results with patient, know your patient, it is easy to over report and under report
- Overall risk requires your judgment regarding data on Summary Page and patient’s ability to commit to a Crisis Response Plan

Sample Narrative

**Positive Screen/Risk Assessment results:** The result of this patient’s suicide screening was positive, so a comprehensive suicide risk assessment was completed. The C-SSRS risk assessment is a semi-structured interview designed to obtain information regarding the severity and intensity of past and present (recent) suicidal ideation, and the type and lethality of past and recent suicidal behavior. The patient obtained the following scores:

<table>
<thead>
<tr>
<th>Recent SI (&lt;1 month)</th>
<th>Past SI (&gt;1 month)</th>
</tr>
</thead>
<tbody>
<tr>
<td>__/5 SI severity</td>
<td>__/5 SI severity</td>
</tr>
<tr>
<td>__/25 SI intensity (range = 2-25)</td>
<td>__/25 SI intensity (range = 2-25)</td>
</tr>
<tr>
<td>Recent SB (&lt;3 months)</td>
<td>Past SB (&gt;3 months)</td>
</tr>
<tr>
<td>-- Actual Attempt</td>
<td>-- Actual Attempt</td>
</tr>
<tr>
<td>-- Aborted Attempt</td>
<td>-- Aborted Attempt</td>
</tr>
<tr>
<td>-- Interrupted Attempt</td>
<td>-- Interrupted Attempt</td>
</tr>
<tr>
<td>-- Preparatory Behavior</td>
<td>-- Preparatory Behavior</td>
</tr>
</tbody>
</table>
In addition, the following variables were found to either increase or mitigate risk (variables found on Risk Assessment Summary Page):

<table>
<thead>
<tr>
<th>Increase Risk</th>
<th>Mitigate Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Previous diagnosis</td>
<td>Suicide against religious beliefs</td>
</tr>
<tr>
<td>Wish to be dead</td>
<td>Supportive family</td>
</tr>
<tr>
<td>Suicidal thoughts</td>
<td>Fear of death/dying due to pain/suffering</td>
</tr>
<tr>
<td>Current isolation/feeling alone</td>
<td>Belief that suicide is immoral, high spirituality</td>
</tr>
<tr>
<td>Hopelessness</td>
<td></td>
</tr>
<tr>
<td>Substance abuse</td>
<td></td>
</tr>
<tr>
<td>Anxiety</td>
<td></td>
</tr>
<tr>
<td>Perceived burden on family members</td>
<td></td>
</tr>
<tr>
<td>Homicidal ideation</td>
<td></td>
</tr>
<tr>
<td>Availability (pills)</td>
<td></td>
</tr>
</tbody>
</table>

Overall, this patient's suicide risk was identified as _______.

The following action was taken to protect patient safety:

**Inpatient Admission**  **Crisis Response plan and Urgent BH F/U**

Patient and Provider developed a Crisis Response Plan that included use of EACH ER, if necessary, and the patient was given the following phone # to contact in an emergency: 1-800-273-8255 and Press 1 (VA/Military suicide helpline). The SM was also provided the EBH or SCS phone number to call during duty hours. In addition, SM was asked to name at least one individual SM can call for support in a crisis.

The C-SSRS can be tailored for Population Specific Data Collection
Pediatric C-SSRS / Cognitively Impaired

Suicide Cluster - Schenectady County

SUICIDAL IDEATION

Ask questions 1 and 2. If both are negative, proceed to “Suicidal Behavior” section. If the answer to question 2 is “yes,” ask questions 3, 4, and 5. If the answer to question 1 and/or 2 is “yes,” complete “Litany of Ideation” section below.

1. Wish to be dead
   Subject states thoughts about wish to be dead or not alive anymore, or wish to fall asleep and not wake up.
   Have you wished you were dead or wished you could go to sleep and not wake up?
   Yes No
   Yes No
   Yes No
   Yes No
   If yes, describe.

2. Non-specific Active Suicidal Thoughts
   Second or specific thoughts of ending one’s life through suicide (e.g., “I wish I would just kill myself”). Without thoughts of ways to kill oneself or methods of suicide, except in planning the assessment period.
   Have you actually had any thoughts of killing yourself?
   Yes No
   Yes No
   Yes No
   Yes No
   Yes No
   If yes, describe.

3. Active Suicidal Ideation with Any Methods (Not Plan) without Intent to Act
   Subject states thoughts of suicide and has thought of at least one method during the assessment period. This is different from a specific plan with date, place, means, and method death worked out (e.g., thought of method to kill self but not a specific plan). Include passive thoughts would say, “I thought about taking an overdose but I never made a specific plan as to when, where, or how I would actually do it … and I would never go through with it.”
   Have you been thinking about how you might do this?
   Yes No
   Yes No
   Yes No
   Yes No
   Yes No
   If yes, describe.

4. Active Suicidal Ideation with Same Intent to Act, without Specific Plan
   Active suicidal thoughts of killing oneself and subject reports having some intent to act on such thoughts, as opposed to “I have the thought but I don’t intend to really do anything about it.”
   Yes No
   Yes No
   Yes No
   Yes No
   Yes No
Screening Programs are Successful

- High-school screening programs associated with 2x in detection of at-risk individuals (Scott et al., 2009)
- Meta-analysis concluded that screening results in lower suicide rates in adults (Mann et al., JAMA 2005)
- Columbia Teen-Screen demonstrated 88% sensitivity and 76% specificity
- College Screening Project - data suggest that screening brings high-risk students into treatment
  - Only 1 suicide in 4 years post-screening vs. 3 suicides in 4 years pre-screening program (Haas et al., 2008)
- Elderly primary care screenings - 118% increase in rates of detection and diagnosis of depression (Callahan et al., 1996)
Working with all aspects of hospitals, systems, states and programs to develop and consult on implementation policies and plans

Helping Develop Alert and Monitoring Systems

Ensuring Fidelity

Integrating into Electronic Medical Records

Providing a Menu of Options

Center for Suicide Risk Assessment

Facilitating Implementation with Innovative Resources

Why it’s good to do one thing...

Science and the Public Health Demand

Uniformity

(Gibbons, NCDEU 2010)

- Moving away from a single instrument inherently degrades the precision of the signal
- The impact of imprecision grows when incidence rates are low
- Multiple measures increase noise, decrease precision and weaken rigor of epidemiological and research data

“...it should be noted that the use of different instruments is likely to increase measurement variance...decreasing the opportunity to identify potential signals in future meta-analyses...this type of imprecision is particularly problematic in dealing with events that have a low incidence, as is the case for suicidal ideation and behavior occurring in clinical trials.” - 2012 FDA Guidance
Finally... . . .

Some Answers...?

Centralized Data Repository

- Schools in Africa
- Prison Systems
- U.S. Hospital Systems
- Forensics
- Clergy
- Fire/Police Dept.
- Justice
- Military
- Crisis Response

For questions and other inquiries, email Dr. Kelly Posner at: posnerk@nyspi.columbia.edu

Website address for more information on the C-SSRS: http://www.cssrs.columbia.edu/
Treatment is Critical....The Story about Medications (the one providers and families don’t have!)

Beginning with FDA data...so many misunderstandings....such limited data
Summary of FDA Findings

- Event Data
  - Risk ratios for pooled analyses were significant (range from 1.7 to 2.2)
  - Signals seen predominantly in MDD patients
  - Inconsistencies remain in risk:
    - Across trials within programs
    - Across programs
  - Nevertheless, a reasonably consistent signal:
    - Evidence for suicide risk in 7 of 9 programs
    - No events in bupronion and nefazodone programs
  - Risk difference overall about 2% to 3%
  - No suicides in any of 24 trials

How Should These Findings Be Interpreted?

- May be increased risk for suicidal behavior/ideation during short-term treatment with all drugs in the antidepressant class
- Signal most compelling in MDD population, but may not be limited to this population
- Many possible explanations for variation in signal within and across programs
Overall relative risks (RR) of suicidal behavior or ideation (codes 1, 2, 6) by drug

<table>
<thead>
<tr>
<th>Drug</th>
<th>Relative Risk (95% CI), MDD trials</th>
<th>Relative Risk (95% CI), all trials, all indications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citalopram</td>
<td>1.37 (0.53, 3.50)</td>
<td>1.37 (0.53, 3.50)</td>
</tr>
<tr>
<td>Fluvoxamine</td>
<td>No MDD trials</td>
<td>5.52 (0.27, 112.55)</td>
</tr>
<tr>
<td>Paroxetine</td>
<td>2.15 (0.71, 6.52)</td>
<td>2.65 (1.00, 7.02)</td>
</tr>
<tr>
<td>Fluoxetine *</td>
<td>1.53 (0.74, 3.16)</td>
<td>1.52 (0.75, 3.09)</td>
</tr>
<tr>
<td>Sertraline</td>
<td>2.16 (0.48, 9.62)</td>
<td>1.48 (0.42, 5.24)</td>
</tr>
<tr>
<td>Venlafaxine</td>
<td>8.84 (1.12, 69.51)</td>
<td>4.97 (1.09, 22.72)</td>
</tr>
<tr>
<td>Mirtazapine</td>
<td>1.58 (0.06, 38.37)</td>
<td>1.58 (0.06, 38.37)</td>
</tr>
<tr>
<td>Nefazodone</td>
<td>No events</td>
<td>No events</td>
</tr>
<tr>
<td>Bupropion</td>
<td>No MDD trials</td>
<td>No events</td>
</tr>
</tbody>
</table>

* Note that TADS data are added to Prozac

Fixed Effect Results on Suicidal Behavior/Ideation (1,2,6), Suicidal Behavior (1,2), and Suicidal Ideation (6) By Drug in MDD Trials (Seven Programs)

<table>
<thead>
<tr>
<th>Drug Program (# of trials)</th>
<th>RR (95% CI) for 1,2,6 (Sui Behav/Ideation)</th>
<th>RR (95% CI) for 1,2 (Sui Behav)</th>
<th>RR (95% CI) for 6 (Sui Ideation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Citalopram (2)</td>
<td>1.37 (0.53,3.50)</td>
<td>2.23 (0.59,8.46)</td>
<td>0.75 (0.19,2.95)</td>
</tr>
<tr>
<td>Venlafaxine (2)</td>
<td>8.84 (1.12,69.51)*</td>
<td>2.77 (0.11,67.10)</td>
<td><strong>7.89</strong> (0.99,62.59)</td>
</tr>
<tr>
<td>Paroxetine (3)</td>
<td>2.15 (0.71,6.52)</td>
<td>2.30 (0.67,7.93)</td>
<td>1.09 (0.24,5.01)</td>
</tr>
<tr>
<td>Fluoxetine (3 + 1)</td>
<td>1.53 (0.74,3.16)</td>
<td>2.15 (0.50,9.26)</td>
<td>1.30 (0.59,2.87)</td>
</tr>
<tr>
<td>Mirtazapine (1)</td>
<td>1.58 (0.06,38.37)</td>
<td>No Events</td>
<td>1.58 (0.06,38.37)</td>
</tr>
<tr>
<td>Nefazodone (2)</td>
<td>No Events</td>
<td>No Events</td>
<td>No Events</td>
</tr>
<tr>
<td>Sertraline (2)</td>
<td>2.16 (0.48,9.62)</td>
<td>0.98 (0.17,5.68)</td>
<td>3.88 (0.44,34.54)</td>
</tr>
</tbody>
</table>
Oh the Testimony......

“I am one of the many victims of the SSRI antidepressant era. I took 6-13 bullets in the heart area at my high school when [Columbine student] Eric Harris, who was on Luvox, fired at me. They almost amputated my leg and arm. My heart was missed by 1 mm...antidepressants are dangerous for those who take them and those they associate with...If antidepressants are effective, why didn’t they help Eric Harris? He said they helped him feel suicidal. He reported having psychotic reactions to the drug and was taken off.

As soon as they put him back on, he was suicidal again...these drugs help increase the rage in people and cause them to do things they wouldn’t anyways...you need to take action immediately before more innocent people like me and you get hurt or die horrible deaths...[as Americans] we have the right to feel safe and if you were doing your jobs we would be safe.”
“Why are we worrying about terrorists in other countries when pharmaceutical companies are our biggest terrorists by releasing these drugs on an unsuspecting public? How are we supposed to feel safe if we cannot trust the FDA to do what we are paying you to do? Where were you when I got shot? We should consider antidepressants accomplices to the murder.”

Mother: “Both Mark and I know that Eric Harris not been given the antidepressants Zoloft and Luvox, the nightmare at Columbine never would have happened...”

“...the most damaging thing...would be to impair one's ability to metabolize serotonin, yet that is exactly how SSRI’s work...this produces nightmares, migraines, heart and chest pain, anxiety, depression, suicide (esp. very violent suicide and repeated attempts) hostility, violent crime, arson, substance abuse, psychosis, mania, autism, brain disease, anorexia, reckless driving, Alzheimer's, etc. How did anyone think it would be therapeutic to induce these reactions? Remember 20 years ago, when depressed people would slip away quietly to kill themselves, rather than themselves and everyone one around them?”

- author of Prozac: Panacea or Pandora, who went on to note a study of violent 'mutant mice' as a parallel to people treated with SSRI's and likened the advent of SSRI drugs to a “national holocaust”
“These drugs change kind, gentle children into monsters.”

“As a psychiatrist, I am very ashamed of how poorly we have served the nation in terms of educating about the dangers of side effects of antidepressants...I personally apologize to anybody whose children have been affected adversely by antidepressants.”

“I took 1 Paxil pill...this is why God saved me – so this shouldn’t happen to anyone else.”

Oh the Media.....

- **Washington Post**: *FDA Confirms Risk Antidepressants Raise Children’s Suicide Risk*

- **Video Games and pictures of deceased children**
**The vote.......**

**FDA Adult Analysis of Risk**

- **OVERALL, NO SIGNIFICANT RISK IN ADULTS**
  - Combined with pediatric findings, results demonstrated an age-effect:
    - Risk of suicidal ideation/behavior in those >25 years in the antidepressant group
    - No effect was found for adults 25-64 (no difference between placebo and drug)
    - Expected or protective effect was found in those 65 years and older.

- **Psychiatric Disorder subgroup:**
  - Sertraline significant for protective effect OR .25 (.07-.90) p=.03
  - Paroxetine significant for risk OR 2.76 (1.16-6.60) p = .02
FDA Adult Analysis of Risk

- Black box warning extended to include young adults
- Concern about declining prescription rates since introduction of pediatric black box warning
- Label stated *depression is the biggest cause of suicide*

**Antidepressants & Suicide:**
*What does the evidence really tell us?*

**Antidepressants Reduce Suicide and Suicidal Behavior**
Antidepressants Save Lives!

- Suicide rate steadily increased prior to SSRIs and has fallen steadily since their introduction
  - Across age groups
  - In many countries (e.g. Japan)
- Areas of the US and all over the world: biggest increases in SSRI prescriptions are associated with the biggest declines in suicide rates.

Antidepressants May Prevent Suicide

- Studies show suicide rate has fallen steadily since the introduction of SSRI antidepressants
  - Across age groups
  - In many countries (Rihmer et al., 2005)
    - Denmark (Erlangsen et al., 2008)
    - Hungary (Rihmer et al., 2000)
    - Sweden (Carlsten et al., 2001)
    - Italy (Barbui et al., 1999)
    - Japan (Nakagawa et al., 2007)
    - USA (Olfson et al., 2003; Gibbons et al., 2005)
    - Australia (Hall et al., 2003)
  - Even after controlling for unemployment & alcoholism (Grunebaum et al., 2004)
  - Antidepressants associated with reduction in suicide attempts (Gibbons et al., 2007)
Not Treating Depression is What Kills People

Autopsy studies show suicide associated with no treatment or non-compliance

- Youth suicides in NYC: antidepressants found in the blood of only one—a homeless 16-year-old who died of an intentional drug overdose.

Medical examiner surveillance: all NYC suicides
Antidepressants detected in only 23.1%

Antidepressants in Adult Suicides in NYC: 2001-2004 (Leon et al., 2007)

- Medical examiner surveillance study of all NYC suicides, 18 years and older
  - N=1,419 suicides
  - Antidepressants detected in 23.1% (267/1158).
  - Antidepressants least prevalent in 18-24 year olds (13.9%).
Evidence That SSRIs May Prevent Suicide

- Studies show suicide rate steadily increased prior to SSRIs and has fallen steadily since their introduction
  - Across age groups
  - In many countries
- Areas of the US with the biggest increases in SSRI prescriptions are associated with the biggest declines in youth suicide rates (Olfson et al., 2003).

Gibbons et al., 2007
VA Data

- Antidepressants & Suicide in a Veterans’ Health Dataset
  - N=226,866 with MDD with 6 month follow-up.
  - Attempt Rate: SSRI (364/100,000) < No SSRI (1057/100,000), p<0.001.
  - Attempt Rate: SSRI only (123/100,000) < No treatment (335/100,000), p<0.0001.
  - Attempt Rate: Before SSRI (221/100,000) > After SSRI treatment (123/100,000), p<0.0001.
Undoing the Myth…

Watch patients closely at the beginning of treatment because anti-depressants can cause suicidal behavior (activate or energize)

Traced back to a line in a 1960s textbook

“Activation Complex”
FDA Time to Event Analysis

- = prior to 20 days!
- Subjects on drug at most risk between 20-60 day period; slightly elevated but not meaningful
- At 80 days the rr between drug and placebo drops to below 1, thus placebo at greatest risk
- Similar message to many other studies: if one goes untreated, more likely to have an event
Risk of Attempts Highest Month Before SSRI: Pattern of Risk Same as Psychotherapy
(Simon et al., 2006, 2007)

- Suicide risk highest in month before commencing treatment - declined steadily after starting treatment
- Risk of suicide attempt in depressed patients
  - 1,124/100,000 Antidepressant from Psychiatrist
  - 778/100,000 Psychotherapy
  - 301/100,000 Antidepressant from Primary Care Physician
- Pattern of attempts over time was the same in all three treatment groups – highest in the month before treatment, next highest in first month of treatment before declining thereafter.

The Bad News…..
*Unintended Consequences*
Impact on Antidepressant Prescriptions

- **Nemeroff et al., 2007**
  - Prescription of antidepressants “decreased dramatically” in the first half of 2004.
  - Shift towards psychiatrist prescribing antidepressants for <18 yr olds. (44% Feb 04 to 63% Feb 05)
  - Increased prescribing of non-SSRIs (primarily bupropion) <18 yr olds.

- **Libby et al., 2007**
  - SSRIs prescription fills were 58% lower than predicted by the pre-FDA advisory prescribing trend.
  - The proportion of pediatric antidepressant cases receiving no antidepressant increased to 3x the rate predicted by the pre-advisory trend.
Clinicians’ Responses

American Academy of Child & Adolescent Psychiatry Survey:
In response to black box warning, >1/3 psychiatrists reported changing to atypical antipsychotics

- Nebraska clinicians decreased prescriptions of antidepressants to pediatric patients (Bhatia et al., 2008)
- >20% of clinicians reported caregiver or patient refused antidepressant medication treatment due to black box warning (Bhatia et al., 2008)

International Impact

- Australia: Recent data show a decline in pediatric antidepressant prescriptions (2003/04 - 2005/06):
  - 0-14 years: 26.6%
  - 15-20 years: 13.7%
- Recent data of suicide rate not yet available.

(Medicare, Australia 2007)
Suicide Epidemic......?

- Gibbons et al., AJP, 2007
- Netherlands: Since warnings, 22% drop in prescriptions and 49% increase in youth suicide 2003 to 2005
- USA: Since warnings, 22% drop in prescriptions and 12% increase in youth (5-19 years) dying by suicide 2003 to 2004
- USA: Single largest year-to-year increase in suicide within this age group since CDC began systematic data collection in 1979
- Canada: Suicide rates among children and adolescents increased significantly after the Health Canada issued a warning

Trouble in a 'Black Box'

Did an effort to reduce teen suicides backfire?

By Tony Dokoupil

July 16, 2007 issue - Seventeen-year-old Michael didn't want to end up crazed and suicidal like the Columbine killers. The Massachusetts teen had read that Zocor (lovastatin) and Cymbalta were linked to depression when they rampaged murderous through their Colorado high school in 1999, and he didn't want to snap as they had. "He'd say it was like there was an evil guy on his left shoulder and a good guy on his right, but the evil guy just kept winning," Michael's mother, Lorraine, recalls. Despite his pain, Michael feared that antidepressants would "just put him over the edge." Lorraine wasn't so sure.

After consulting a specialist, she persuaded Michael in January to try Prezio, one of a family of drugs known as selective serotonin reuptake inhibitors, or SSRIs. By spring, the "good guy" was winning; Michael made the honor roll for the first time.

The FDA has already taken steps to modify the box in reaction to reports that its message was being misunderstood. "Our goal was to inform people of a risk, not hurt treatment," says Dr. Thomas Laughran, head of psychiatry products, the division responsible for the warning. "But it's still only one year of data," he cautions. In May, his office mandated revisions "to reflect the apparent beneficial effect of antidepressants" and remind people that most dissenters are "the most important cause" of suicide.

The next test for the FDA will come this December, when the CDC releases suicide figures for 2005. "If the rates are up again, it's likely we'll go back to the board of advisers," says Laughran. The agency has appealed only one black box in its history, on the acid-reflux medication Prevacid, pulled in 2003. "But I wouldn't rule it out," Laughran admits. "The evidence is very compelling."
**Suicide Epidemic......All data point in the same direction**

- Bridge JAMA, 2008
  - Estimated the expected suicide rates in 2004 and 2005 based upon previous trends between 1996 and 2003
  - 2004 and 2005 suicide rates significantly greater than expected rates with an estimated 326 excess suicide deaths among youth aged 10 to 19 years in 2004 and 292 excess deaths in 2005

**Other Consequences....**

- Libby et al., 2007: After FDA initiated black box warning:
  - **Significant overall decline in rate of newly diagnosed cases of depression** and prescription of antidepressants following Oct 2003 FDA Advisory
  - Rates of MDD diagnosis in the general population declined (to pre-1998 levels)
  - PCPs diagnosed MDD less often
  - Child psychiatrists diagnosed MDD more often but did not compensate for overall decline
Decreased Diagnosis and Treatment of Depression in Both Children and Adults

- Libby et al., 2009
  - National diagnosis rates of depression decreased to 1999 levels for adolescents and to pre-2004 levels for adults
  - SSRI prescriptions decreased for adolescents and adults
  - No increase in the provision of psychotherapy for adolescents
  - “Substitute care did not compensate in pediatric and young adult groups, and spillover to adults continued, suggesting that unintended effects are nontransitory, substantial, and diffuse in a large national population.

Human Capital

THE FDA AND ABCS: THE UNINTENDED CONSEQUENCES OF ANTIDEPRESSANT WARNINGS ON HUMAN CAPITAL
(Busch, Golberstein, Mear, NBER Working Paper, 2011)

- Susan Busch and colleagues at Yale examined 12-17 girls (N=100,000) with depression before and after black box warning.
- Studied academic and behavioral outcomes among those who were and were not likely affected by FDA warnings.
- Academic achievement decreased, substance use and other delinquency measures increased.
  - Just before FDA warnings, those with probable depression had GPAs 0.14 points higher than those with depression just after the warnings.
  - Warnings also coincided with increased delinquency, tobacco use, illicit drug use.
Take home message: The FDA advisories on antidepressants and suicide had a clear "chilling effect" on the diagnosis and treatment of pediatric MDD; this effect spilled over to the adult population as well.

Suicidal Concerns in Other Drugs: Antiepileptic Medications

- FDA conducted a meta-analysis of data from 199 placebo-controlled trials
  - 11 antiepileptic drugs used to treat epilepsy, bipolar disorder, migraine headaches, and other conditions
  - Carbamazepine, Divalproex sodium, Felbamate, Gabapentin, Lamotrigine, Levetiracetam, Oxcarbazepine, Pregabalin, Tiagabine, Topiramate, Zonisamide
  - 27,863 patients in drug arms and 16,029 patients in placebo arms
Suicide Concerns: Antiepileptic Medications

- Overall odds ratio of suicidal behavior or ideation in drug versus placebo 1.80 (95% CI: 1.24-2.66)
  - Epilepsy Indication - 3.53 (95% CI: 1.28-12.10)
  - Psychiatric Indication - 1.51 (95% CI: 0.95-2.45)
  - Other Indication - 1.87 (95% CI: 0.81-4.76)
- Relative risk lower than antidepressants
- FDA recommends clinicians notify patients and their caregivers of the potential for an increase in the risk of suicidal thoughts or behaviors

Problems with the Analyses

- Two-thirds of the trials had no suicidal events
- Majority of the suicidal events were observed in only 2 of the 11 antiepileptics (lamotrigine and topiramate) and these medications already had suicide warnings on their labels
AED Advisory Meeting

- FDA Public Health Advisory Panel votes against black box warning

“Elevated Rate of Teen Suicide Stirs Concern” WSJ 9.3.08

- “The FDA in 2007 called for an update to the boxed warning, adding that depression and certain other serious psychiatric disorders are themselves the most important causes of suicide.”

- Newly published research (Bridge et al., 2008) “could rekindle controversy over the FDA's decision to require the "black box" warnings...The warnings, along with the agency's concerns about antidepressants, contributed to a drop in prescriptions...Are concerns about antidepressants scaring people away from medicines that could help them?”
“Suicide risks studied in drugs for physical ills” The Associated Press
8.31.2008

- Federal drug regulators are investigating the mental and emotional side effects of medications prescribed to relieve physical symptoms.

- “Douglas Briggs, 54, was a family doctor who injured his back in a car crash. Three surgeries over the years failed to completely resolve his problem. In February 2004, he began taking Neurontin, an epilepsy drug also prescribed for nerve-related pain and used for chronic back trouble. On Christmas Day in 2004, Briggs wanted to be alone. He urged his family to go see a movie. *When they returned, they found he had hanged himself in the foyer of their home.*”

Suicidal Concerns: Chantix

- Varenicline (Chantix) - Nicotine receptor partial agonist

- Smoking responsible for 1 in 5 deaths; most effective smoking cessation drug

- Post marketing cases
  - Do not tell you about causal link to a drug
  - Further complicated when underlying condition is associated with high risk

*Smoking big risk factor for suicide*
Headlines...

- "This is my brain on Chantix"
  New York Magazine 2.10.08
- "VA testing drugs on war veterans: Experiments raise ethical questions"
  Washington Times 6.18.08
  - United States Department of Veterans Affairs testing Chantix on war veterans with PTSD without properly warning them of the side effects
  - Vet almost killed during psychotic episode and threatened police officers

"F.A.A. Bans Antismoking Drug, Citing Side Effects" The New York Times 5.22.08

- The Federal Aviation Administration said Wednesday it would no longer permit pilots or air traffic controllers to use the smoking cessation drug Chantix, citing potential side effects that could pose a threat to the safe operation of aircraft"
More Drugs Involved: Singulair

- “The mystery of medications linked to suicide” MSNBC 5.7.08

- Cody Miller, 15, began using Singulair for his allergies in the summer of 2007. When he became moody and anxious, his parents were surprised. He had no history of emotional problems. About two weeks after he started taking his new medication, he hanged himself in an upstairs closet of the family home.

What the Data Actually Tell Us…..

<table>
<thead>
<tr>
<th>Company</th>
<th>Merck</th>
<th>Astra Zeneca</th>
<th>Cornerstone Therapeutics</th>
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<tbody>
<tr>
<td>Mediation</td>
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<td>Cornerstone Therapeutics</td>
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<tr>
<td>Total</td>
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Holbrook et al., 2008: Reviewed 3 double-blind RCTs (adults and children, N = 1,469); 569 patients treated with montelukast (Singulair): No evidence of any significant deterioration of emotional wellbeing; no AE reports of psychiatric disturbances, suicide, or depressive episodes

C-CASA Singulair: 1/13/09 FDA Update
For questions and other inquiries, email Dr. Kelly Posner at: posnerk@nyspi.columbia.edu

Website address for more information on the C-SSRS: http://www.cssrs.columbia.edu/