THE COLUMBIA LIGHTHOUSE PROJECT
IDENTIFY RISK. PREVENT SUICIDE.

Why C-SSRS?
- *Reduce Suicide*
- *Reduce Workload*
- *Reduce Liability*

C-SSRS Return-on-Investment Highlights:

SUICIDE REDUCTION WITH SIGNIFICANT COST SAVINGS/COST-EFFECTIVENESS VIA EVIDENCE SUPPORTED IMMINENT RISK IDENTIFICATION AND ASSOCIATED REDUCTION OF WORKLOAD, REDIRECTION OF RESOURCES AND IMPACT ON CARE DELIVERY

Screening and prospective monitoring with the C-SSRS has had a significant positive impact on:

1. Reducing treatment costs (reduction in 1:1s, recidivism, linking of systems/continuity of care)
2. Reducing suicide or suicide attempt rates evaluated over various time periods
3. Early identification of suicide risk (predictive validity, diagnostic accuracy)
4. Suicide prevention policy (liability protection, regulatory decision making)
5. Increasing knowledge and standards of care with a common method of detection
6. Identification of treatment response leading to improved treatment outcomes
7. Reducing stigma (training evaluations increasing confidence in SRA)

DATA ON REDUCING BURDEN USING OPERATIONALIZED STREAMLINED THRESHOLDS FOR RISK ACROSS SYSTEMS

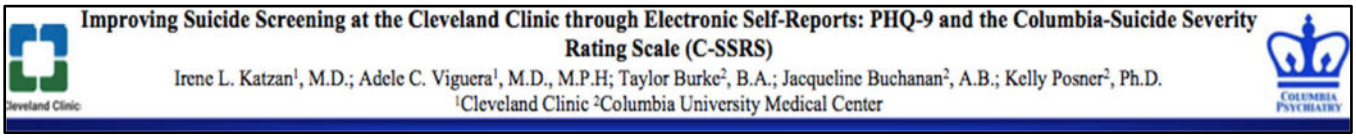
1. REDUCING TREATMENT COSTS (REDUCTION IN 1:1s, RECIDIVISM) IMPROVING ACCESS TO APPROPRIATE MENTAL HEALTH SERVICES/ EXPANDING ACCESS TO MENTAL HEALTH CARE

Research suggests that improved continuity of care reduces the number of suicidal re-attempts. By some estimates, additional medical, counseling, and linkage services for suicide attempters **would result in a benefit-cost ratio of 6 to 1 for investments** (*Shepard et al. (2016). Suicide and suicidal attempts in the United States: costs and policy implications. SLTB, 46(3), 352-362*).

C-SSRS demonstrates high impact on linking of systems and quality of care:

- ***Nation's Largest Provider of Community-Based Behavioral Healthcare, Centerstone: 65% Reduction in Suicides in the First 20 Months*** **in Just One State** (U.S. News)
  - *REDUCED EMERGENCY DEPARTMENT RECIVIDISM* ***from over 40% to approximately 7%***
  - Saved approximately $750,000 for 250 patients
  - EHR algorithm to place in or remove from clinical pathway. Every visit including multiple times per day and still approximately 1% positives
- **Atrium Health, large system across two states with acute care facilities saw A *50% REDUCTION* IN SUICIDE in the year and a half after implementing C-SSRS in April 2019, and an *86% REDUCTION* in calls to the Atrium Health Behavioral Health Service Line.**

- **Behavioral Health Data Portal, Department of Defense:** Mental health care including C-SSRS screening was integrated into regular medical care. ***U.S. Army lowered suicide while reducing unnecessary inpatient overnights by 41%, saving $30-40 million in 4-5 years,*** **facilitating more appropriate use of outpatient services, while preventing the negative sequelae of post-hospitalization.** (Highest risk is post-hospitalization – i.e. struggle to reintegrate into unit or community, stigma, false sense of recovery)
- **All 50 states have comprehensive C-SSRS policy across systems; many have reported reductions in suicide as well as resource optimization; e.g. Rhode Island youth suicide rates improved while saving millions of dollars on unnecessary ED holds**
- **Detroit VA Medical System:**
  - *Only 5 of 3,000 high-risk vets* (ones going to see psychiatrist) needed more acute care
- **Of approximately 50,000 administrations to depressed patients, *less than 1% of 50,000 contacts (327 patients) deemed high-risk requiring follow-up***
- **First ever *UNIVERSAL SCREENING* hospital at Parkland Hospital in Dallas:**
  - *Only 1.8% of approximately 100k* patients required next steps
  - Specialized algorithm in electronic health record that triggers appropriate clinical intervention based on patient answers to C-SSRS questions
  - "When suicidal behaviors are detected early, lives can be saved…. even within the first few days of implementing the screening program, we were able to intervene with patients at high risk." - Dr. Celeste Johnson, Director of Nursing
- **Connecticut National Guard Periodic Health Assessment:**
  - In 38,000 screenings in the Periodic Health Assessment only 17 identified as high risk
- **Cleveland Clinic:**
  - Improved Identification with decreased false positives
  - *Reduced false positives from PHQ-9 by 75%* while identifying high risk patients that were missed



A. C. Viguera, N. Milano, L. Ralston, N. R. Thompson, S. D. Griffith, R. J. Baldessarini and I. L. Katzan 2015 Comparison of Electronic Screening for Suicidal Risk With the Patient Health Questionnaire Item 9 and the Columbia Suicide Severity Rating Scale in an Outpatient Psychiatric Clinic

- **Air Force family health clinics**:
  - Increased sensitivity, dramatically reduced false positives with C-SSRS:
    at risk (intake) **16% PHQ9 vs 6.5% C-SSRS**
    at risk (follow-up) **13% PHQ9 vs 1.3% C-SSRS**

REDUCTION OF 1:1, PSYCHIATRIC CONSULTS and ED HOLDS

- ***Reading Med/surg hospital reduces 1:1 and psychiatric consultations.***
  - *Pumariega, A. J., Good, K., Posner, K., Millsaps, U., Romig, B., Stavarski, D., ... & Yarger, H. (2020). Systematic suicide screening in a general hospital setting: process and initial results. World Social Psychiatry, 2(1), 31.*
  - C-SSRS criteria used for placing on and removing from 1:1 (see the C-SSRS version for 1:1 with response protocols)
- **Rhode Island youth suicide rates improved while saving millions of dollars on unnecessary ED holds**
- **Northwest Community Hospital – 25% reduction in ED holds**
- **Centerstone - *REDUCED EMERGENCY DEPARTMENT RECIVIDISM from over 40% to approximately 7%***

- C-SSRS criteria used for placing on and removing from 1:1 status (see the C-SSRS version for 1:1 with response protocols
- *Omolewa, P., & Tribble, K. L. (2018). The Impact of C-SSRS (Columbia-Suicidal Severity Rating Scale) Usage on Quality of Care in John George Psychiatric Hospital (San Leandro, CA): a Medical Care Evaluation Study.*
- *Dunlap, L. J., Orme, S., Zarkin, G. A., Arias, S. A., Miller, I. W., Camargo Jr, C. A., ... & Boudreaux, E. D. (2019). Screening and intervention for suicide prevention: a cost-effectiveness analysis of the ED-SAFE interventions. Psychiatric services, 70(12), 1082-1087.*

THE HIGH COST OF NOT SCREENING IN THE GENERAL MEDICAL ED

- **Non-psychiatric screening at CU: Approx. only 2% high risk C-SSRS answers**
    - Prior: 400% increase in hospitalizations in past 2 years; 300% increase in ED visits (Gibbons, JAMA)

2. EXAMPLES OF REDUCING SUICIDE OR SUICIDE ATTEMPT RATES EVALUATED OVER VARIOUS TIME PERIODS

Across healthcare and other public health settings, implementation of the C-SSRS has helped reduce suicide and suicide attempt rates.

Across Healthcare and Communities

Centerstone, the largest provider of outpatient community behavioral healthcare in the U.S., **reduced their suicide rate 65% in the first 20 months in Tennessee**, while reducing ED recidivism from 40% to 7%.

Atrium Health acute care facilities saw a **50% reduction in suicide** in the year and a half after implementing the C-SSRS in April 2019. Atrium Health Behavioral Health Service Line saw an **86% reduction**.

Institute for Family Health – ***Reduction in Suicide in Largest Federally Funded Primary Care System in NY***

Buffalo Psychiatric Center has seen ***over 3 consecutive years with no suicide deaths*** **compared to a few annual deaths previously**

Interfaith Medical Center – ***Zero suicides hospital-wide and zero suicide attempts in inpatient psychiatry for over 3 years***

In the Military

In the DoD/VA, the Undersecretary of Defense wrote an urgent policy memo stressing the importance of taking a public health approach with the C-SSRS, calling it central to their national strategy.

Total Force Rollout in U.S. Marines Helped Lead to a 22% Reduction in Suicides **– lowest of any branch in that year. Trained all support workers**. They also saw a reduction in ***domestic violence, alcohol-related incidents and sexual assault.***

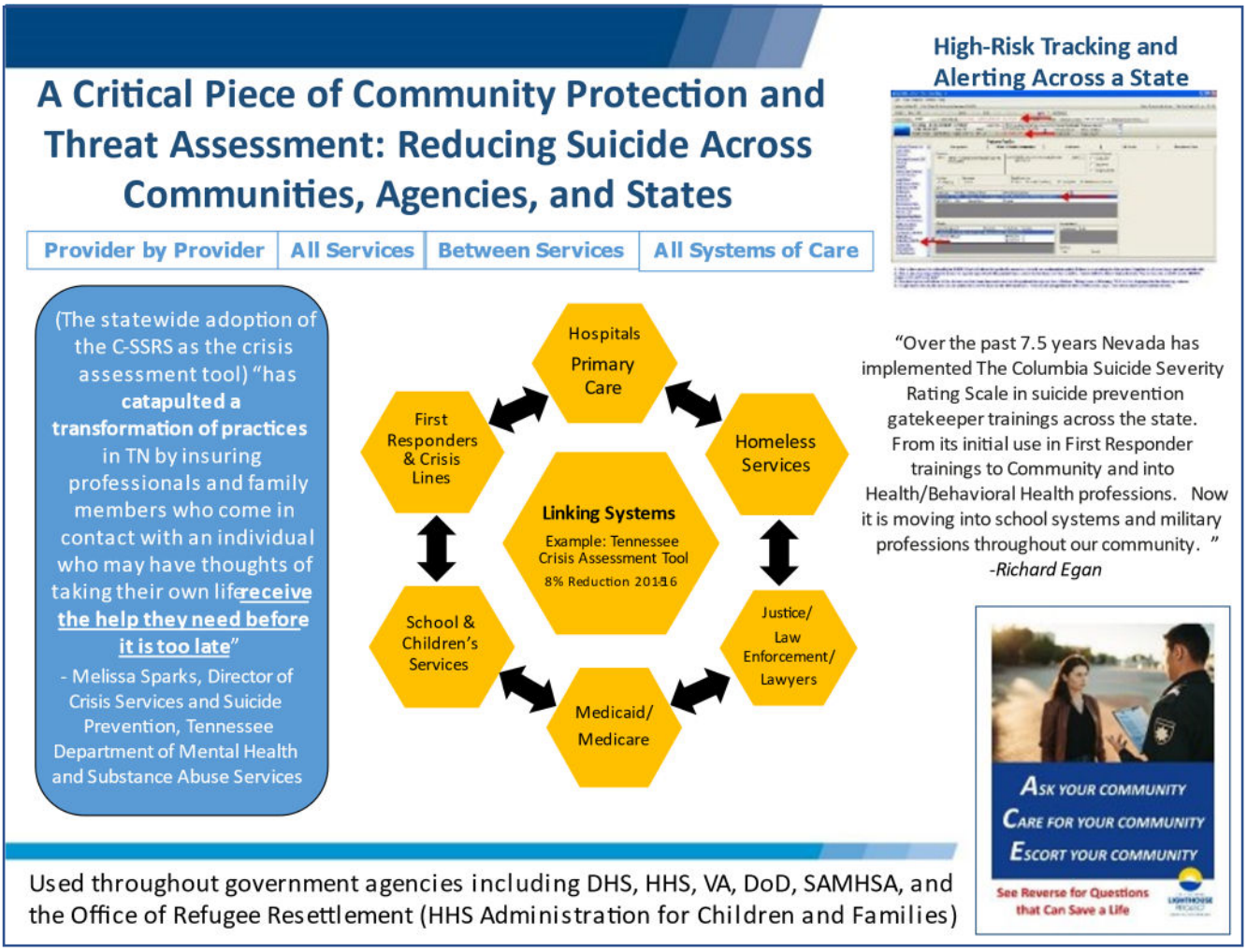
C-SSRS force rollout **U.S. Air Force** across all medical services, clergy, peer-to-peer support, etc. The Air Force was the **only branch of the U.S. military to see a reduction in suicide the following year**, and had the smallest number of suicides in the Reserves since 2012.

Examples of State Policy Impact and Consequent Suicide Reduction; C-SSRS as Central Policy Tool Across Systems (All 50 States)

The **state of Utah** achieved the **first reduction in suicide** after a decade of increases after adopting the C-SSRS as part of state policy. *"Screening and assessment using the C-SSRS has been an important piece to this comprehensive multi system approach. We are on year two of a state-wide Medicaid Improvement Project that highlights the use of the C-SSRS and subsequent interventions… Another step in our 'all-in' adoption of shared tools and language."*

A former Nevada Senator grappled with her state's suicide rate and looked to progress made in Utah for hope, saying, "Utah recently reversed an upward trend in suicides and experts are citing the implementation of the Columbia Suicide Severity Rating Scale."

Tennessee sees 8% suicide reduction in 2016 following implementation of C-SSRS: State crisis assessment tool while adeopted across all other sectors, facilitating linking of systems



Utilization of C-SSRS to Determine Effectiveness and Surveillance Across Systems, States, etc

In San Diego County, C-SSRS was included in the San Diego County Suicide Prevention Action Plan. A data-driven program evaluation report facilitated a 5-year grant from San Diego County Health and Human Serves Agency to implement county-wide standardized risk assessment procedures and expand crisis intervention.

Mobile Crisis EMTs, part of the Magellan Behavioral Health in PA: When dispatched to a community location, the team provides clinical interventions to help the individual and their natural supports (i.e., family, friends, neighbors, faith communities, etc.) stabilize the crisis situation, assess the individual for the level of care needed to provide ongoing crisis support, and facilitate the referral process to ensure individuals get the help they need. Compared to staying home with supports, a person is 66% more likely to be recommended for voluntary hospitalization for C-SSRS score increase, but only 42% more likely to be recommended for involuntary hospitalization for every increase.

3. EARLY IDENTIFICATION OF SUICIDE RISK (PREDICTIVE VALIDITY, DIAGNOSTIC ACCURACY)

Many studies have shown the C-SSRS's predictive validity and diagnostic accuracy for suicide, attempts and other suicide-related outcomes. Many public health settings have shown the same.

In Healthcare

Sweden ERs/C-SSRS Predicts Death by Suicide for First Time Ever in the Field: A large national study of **emergency departments in Sweden** demonstrated the C-SSRS screener's robust ability to **predict death by suicide utilizing the C-SSRS screener and imminent risk timeframes**. (Bjureberg 2021)

The **Cleveland Clinic** improved Identification with decreased false positives, **reducing false positives from PHQ-9 by 75%** while identifying high risk patients that would have been missed.

First-ever universal Screening uses the C-SSRS at **Parkland Memorial Hospital**: **only 1.8% positives out of 100,000 patients** (reducing unnecessary interventions)

- Developed a specialized algorithm in electronic health record that triggers appropriate clinical intervention based on patient answers to C-SSRS questions
- "When suicidal behaviors are detected early, lives can be saved…. even within the first few days of implementing the screening program, we were able to intervene with patients at high risk." - Dr. Celeste Johnson, Director of Nursing

In Corrections

A study across 6 correctional facility sites in **New Zealand** found corrections officers were able to effectively identify current suicidal ideation and behavior, and recommended use of the C-SSRS for all staff (Wilson 2017).

In Veterans

Screening veterans at **the VA**, in one hospital **only 5 out of 3000 veterans** required more acute care. VA SAFE-VET demonstration project: First large-scale study of C-SSRS in the VA (Bridget Matarazzo and Lisa Brenner). Severity, Intensity and Behavior subscales predicted suicidal behavior 6 months later.

Predictive Validity

- K. Posner, G. K. Brown, B. Stanley, D. A. Brent, K. V. Yershova, M. A. Oquendo, G. W. Currier, G. A. Melvin, L. Greenhill, S. Shen and J. J. Mann 2011 The Columbia-Suicide Severity Rating Scale: Initial Validity and Internal Consistency Findings from Three Multisite Studies With Adolescents and Adults
- ^J. C. Mundt, J. H. Greist, J. W. Jefferson, M. Federico, J. J. Mann and K. Posner 2013 Prediction of Suicidal Behavior in Clinical Research by Lifetime Suicidal Ideation and Behavior Ascertained by the Electronic Columbia-Suicide Severity Rating Scale

- ^J. H. Greist, J. C. Mundt, C. J. Gwaltney, J. W. Jefferson and K. Posner 2014 Predictive value of baseline electronic Columbia–Suicide Severity Rating Scale (eC–SSRS) assessments for identifying risk of prospective reports of suicidal behavior during research participation
- ^A. C. Viguera, N. Milano, L. Ralston, N. R. Thompson, S. D. Griffith, R. J. Baldessarini and I. L. Katzan 2015 Comparison of Electronic Screening for Suicidal Risk With the Patient Health Questionnaire Item 9 and the Columbia Suicide Severity Rating Scale in an Outpatient Psychiatric Clinic
- ^A. G. Horwitz, E. K. Czyz and C. A. King 2015 Predicting Future Suicide Attempts Among Adolescent and Emerging Adult Psychiatric Emergency Patients
- ^B. P. Chang and T. M. Tan 2015 Suicide screening tools and their association with near-term adverse events in the ED
- ^C. A. King, J. Berona, E. Czyz, A. G. Horwitz and P. Y. Gipson 2015 Identifying Adolescents at Highly Elevated Risk for Suicidal Behavior in the Emergency Department
- ^E. A. Youngstrom, A. Hameed, M. A. Mitchell, A. R. Van Meter, A. J. Freeman, G. P. Algorta, A. M. White, P. J. Clayton, A. J. Gelenberg and R. E. Meyer 2015 Direct Comparison of the Psychometric Properties of Multiple Interview and Patient-Rated Assessments of Suicidal Ideation and Behavior in an Adult Psychiatric Inpatient Sample
- ^G. K. Brown, G. W. Currier, S. Jager-Hyman and B. Stanley 2015 Detection and Classification of Suicidal Behavior and Nonsuicidal Self-Injury Behavior in Emergency Departments
- ^P. Y. Gipson, P. Agarwala, K. J. Opperman, A. Horwitz and C. A. King 2015 Columbia-Suicide Severity Rating Scale Predictive Validity With Adolescent Psychiatric Emergency Patients
- ^E. K. Czyz, A. G. Horwitz and C. A. King 2016 Self-rated expectations of suicidal behavior predict future suicide attempts among adolescent and young adult psychiatric emergency patients
- ^T. E. Ellis, K. A. Rufino and K. L. Green 2016 Implicit measure of life/death orientation predicts response of suicidal ideation to treatment in psychiatric inpatients
- ^E.-H. Park, N. Hong, D.-I. Jon, H. J. Hong and M. H. Jung 2017 Past suicidal ideation as an independent risk factor for suicide behaviours in patients with depression
- ^P. M. Conway, A. Erlangsen, T. W. Teasdale, I. S. Jakobsen and K. J. Larsen 2017 Predictive Validity of the Columbia-Suicide Severity Rating Scale for Short-Term Suicidal Behavior: A Danish Study of Adolescents at a High Risk of Suicide
- D. S. Azcurra 2017 Psychometric validation of the Columbia-Suicide Severity rating scale in Spanish-speaking adolescents
- D. Serrani Azcurra 2017 Psychometric validation of the Columbia-Suicide Severity rating scale in Spanish-speaking adolescents
- ^B. Nam, M. R. Hilimire, D. Jahn, M. Lehmann and J. E. DeVylder 2018 Predictors of suicidal ideation among college students: A prospective cohort study
- ^S. Mullinax, C. E. Chalmers, J. Brennan, G. M. Vilke, K. Nordstrom and M. P. Wilson 2018 Suicide screening scales may not adequately predict disposition of suicidal patients from the emergency department
- ^U. Lindh Å, M. Waern, K. Beckman, E. S. Renberg, M. Dahlin and B. Runeson 2018 Short term risk of non-fatal and fatal suicidal behaviours: the predictive validity of the Columbia-Suicide Severity Rating Scale in a Swedish adult psychiatric population with a recent episode of self-harm
- ^A. U. Lindh, M. Dahlin, K. Beckman, L. Stromsten, J. Jokinen, S. Wiktorsson, E. S. Renberg, M. Waern and B. Runeson 2019 A Comparison of Suicide Risk Scales in Predicting Repeat Suicide Attempt And Suicide: A Clinical Cohort Study
- ^B. B. Matarazzo, G. K. Brown, B. Stanley, J. E. Forster, M. Billera, G. W. Currier, M. Ghahramanlou-Holloway and L. A. Brenner 2019 Predictive Validity of the Columbia-Suicide Severity Rating Scale among a Cohort of At-risk Veterans
- ^C. A. King, J. Grupp-Phelan, D. Brent, J. M. Dean, M. Webb, J. A. Bridge, A. Spirito, L. S. Chernick, E. M. Mahabee-Gittens, R. D. Mistry, M. Rea, A. Keller, A. Rogers, R. Shenoi, M. Cwik, D. R. Busby and T. C. Casper 2019 Predicting 3-month risk for adolescent suicide attempts among pediatric emergency department patients
- ^D. Nunez, V. Arias, P. Mendez-Bustos and A. Fresno 2019 Is a brief self-report version of the Columbia severity scale useful for screening suicidal ideation in Chilean adolescents?

- ^L. N. Grendas, S. M. Rojas, S. Puppo, P. Vidjen, A. Portela, L. Chiapella, D. E. Rodante and F. M. Daray 2019 Interaction between prospective risk factors in the prediction of suicide risk
- ^I. Katz, C. N. Barry, S. A. Cooper, W. J. Kasprow and R. A. Hoff2020 Use of the Columbia-Suicide Severity Rating Scale (C-SSRS) in a large sample of Veterans receiving mental health services in the Veterans Health Administration
- ^J. Berona, A. G. Horwitz, E. K. Czyz and C. A. King 2020 Predicting suicidal behavior among lesbian, gay, bisexual, and transgender youth receiving psychiatric emergency services
- ^K. Glazer, K. Rootes-Murdy, M. Van Wert, F. Mondimore and P. Zandi 2020 The utility of PHQ-9 and CGI-S in measurement-based care for predicting suicidal ideation and behaviors
- ^L. A. Brown, E. D. Boudreaux, S. A. Arias, I. W. Miller, A. M. May, C. A. Camargo, Jr., C. J. Bryan and M. F. Armey 2020 C-SSRS performance in emergency department patients at high risk for suicide
- ^S. Simpson, C. Goans, R. Loh, K. Ryall, M. C. Allana Middleton and A. Dalton 2020 Suicidal ideation is insensitive to suicide risk after ED discharge: performance characteristics of the Columbia-Suicide Severity Rating Scale Screener
- ^J. Bjureberg, M. Dahlin, A. Carlborg, H. Edberg, A. Haglund and B. Runeson 2021 Columbia-Suicide Severity Rating Scale Screen Version: initial screening for suicide risk in a psychiatric emergency department
- ^P. M. Gutierrez, T. Joiner, J. Hanson, K. Avery, A. Fender, T. Harrison, K. Kerns, P. McGowan, I. H. Stanley, C. Silva and M. L. Rogers 2021 Clinical utility of suicide behavior and ideation measures: Implications for military suicide risk assessment

4. SUICIDE PREVENTION POLICY TOOL (LIABILITY PROTECTION, REGULATORY DECISION MAKING)

Because the C-SSRS is deemed the most evidence supported, utilization of the C-SSRS provides a certain measure of liability protection and has been adopted as a required standard of care across many public health settings (police, universities, Medicaid in GA and many other states)

In Healthcare

"If a practitioner asked the questions... It would provide some legal protection"
- Bruce Hillowe, mental health attorney specializing in malpractice litigation (*Crain's NY*, 11/8/2011)

"I believe it sets the standard…we take a proactive position in patient safety" - Patient Safety Risk Manager

In Higher Education

After a suicide at the Massachusetts Institute of Technology, a MA State Supreme Court ruling about the case stated that universities are legally required to take "reasonable measures" to keep students safe when they express intent to act on suicidal thoughts (citing C-SSRS Question 4 or 5) or if there has been a suicide attempt at school or soon before matriculation that they have knowledge of (C-SSRS Question 6).

In Law Enforcement

Connecticut has implemented policy for police officers across the state to use the C-SSRS screener to assess for suicide risk to reduce officer liability.

In Drug Development; C-SSRS Required by FDA Leads to Removal of a Black Box, "Most Profound Change in Regulation in 16 Years" -*NYTimes*

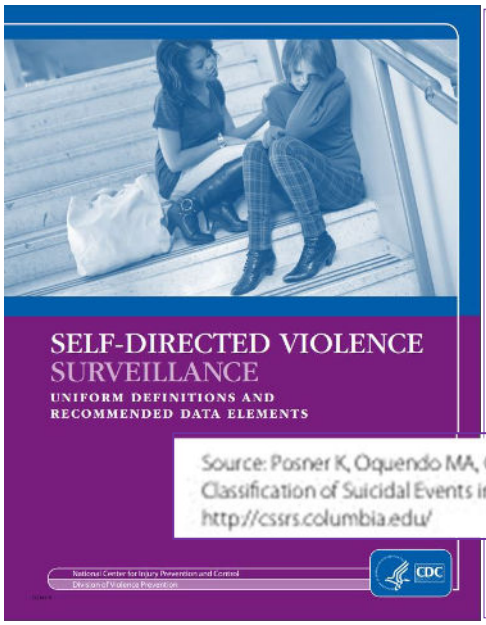
In 2016, FDA voted to remove the black box warning based on an 8,000-patient study of smokers using the C-SSRS that found no increased risk of psychiatric problems, including suicide risk among Chantix users who had no previous history of mental illness. (Anthenelli et al 2016 Neuropsychiatric safety and efficacy of varenicline, bupropion, and nicotine patch in smokers with and without psychiatric disorders (EAGLES): a double-blind, randomised, placebo-controlled clinical trial. The Lancet, 387(10037), 2507-2520).

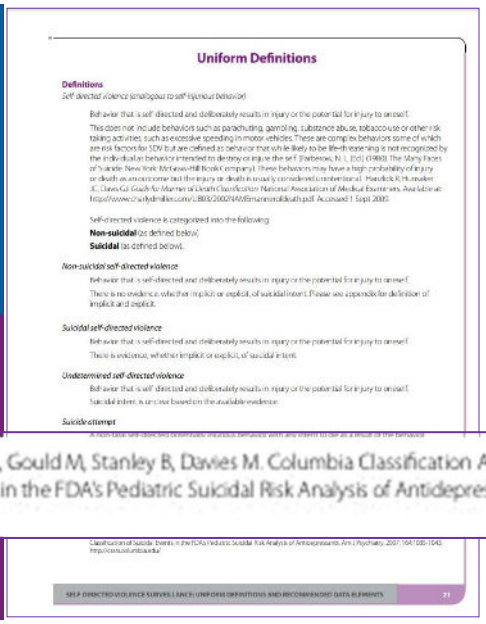
5. INCREASING KNOWLEDGE & STANDARDS OF CARE WITH A COMMON METHOD OF DETECTION

Global Common Data Element

Adopted by CDC: The Need for Consistent Definitions & Data Elements

"The C-SSRS is changing the paradigm in suicide risk assessment in the US and worldwide" - Alex Crosby, CDC





CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

Source: Posner K, Oquendo MA, Gould M, Stanley B, Davies M. Columbia Classification Algorithm of Suicide Assessment (C-CASA): Classification of Suicidal Events in the FDA's Pediatric Suicidal Risk Analysis of Antidepressants. Am J Psychiatry. 2007; 164:1035-1043. http://cssrs.columbia.edu/

From the HHS National Strategy for Suicide Prevention full report:

Suicide attempt	A nonfatal, self-directed, potentially injurious behavior with any intent to die as a result of the behavior. A suicide attempt may or may not result in injury.

SOURCE: Crosby A, Ortega L, Melanson C. *Self-directed violence surveillance: Uniform definitions and recommended data elements*, Version 1.0. Atlanta, GA: Centers for Disease Control and Prevention, National Center for Injury Prevention and Control; 2011. Available at www.cdc.gov/ViolencePrevention/pub/selfdirected_violence.html.

From ICE Health Service Corps Suicide Prevention and Intervention policy document:

8-9. Suicide attempt – Any non-fatal, self-directed, potentially injurious behavior with any intent to die because of the behavior. A suicide attempt may or may not result in injury (see U.S. Department of Health and Human Services (HHS) Office of the Surgeon General Report).

From Congress to Regulatory Bodies – Medical and Beyond

The Joint Commission Says This Needs To Be A Vital Sign And Every Part Of An Organization Needs To Ask The Same Questions

From an article in their publication *The Source*: [Hospitals and health care systems] "have either developed something themselves or they're using a piecemeal approach, with different tools in different departments: What may appear to be a person at risk in one area may not appear to be at risk in another. When the ED is asking their set of questions, and then the social worker asks another set, then the psychiatrist asks another, you're reducing the signal strength. You're not homing in on the needle in the haystack."
"The research shows that this tool will help organizations focus on folks who are at highest risk. By adopting the C-SSRS, organizations ensure that one tool is being used by all caregivers, who can then use the same terminology when communicating with other caregivers…Using the same language helps all caregivers understand what the patient needs."

Measurement imprecision is particularly problematic in dealing with events with low incidence. Common language ensures comparisons and pooling of data across studies, increases scientific impact, helps accrue knowledge.

FDA Guidance to the Industry (2012): C-SSRS is used to monitor safety of medications under development

"It should be noted that the use of different instruments is likely to increase measurement variability…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." – FDA Guidance

6. IDENTIFICATION OF TREATMENT RESPONSE LEADS TO IMPROVED TREATMENT OUTCOMES

Measurement-based care is increasingly implemented across many public health settings. The overall goals are to lower suicide-related outcomes and to improve treatment outcomes, shared decision-making and care transitions.

- C-SSRS has demonstrated high sensitivity to treatment-related change, identifying which patients have responded to care and which have not

<u>In Veterans</u>

Katz, I. R., Resnick, S. G., Kasprow, W. J., Boden, M. T., Cherkasova, E., Fielstein, E. M., ... & Hoff, R. A. (2020). Using patient-reported outcome measures for program evaluation: Design and findings on intention-to-treat outcomes from the Veterans Outcome Assessment survey. Psychiatry Research, 291, 113226.

Data leads to additional funding – U.S. Army PTSD study used C-SSRS and lead to increased funding for PTSD treatment.

<u>In Healthcare</u>

Roaten, K., Johnson, C., Genzel, R., Khan, F., & North, C. S. (2017). Development and implementation of a universal suicide risk screening program in a safety-net hospital system. The Joint Commission Journal on Quality and Patient Safety.

In Treatment Research

Ionescu et al. (2016). Rapid and sustained reductions in current suicidal ideation following repeated doses of intravenous ketamine: secondary analysis of an open-label study. The Journal of clinical psychiatry.

Prakash et al (2012). An open-label safety and pharmacokinetics study of duloxetine in pediatric patients with major depression. Journal of Child and Adolescent Psychopharmacology, 22(1), 48-55.

Croarkin et al (2018). High-frequency repetitive TMS for suicidal ideation in adolescents with depression. Journal of affective disorders, 239, 282-290.

7. REDUCING STIGMA (TRAINING EVALUATIONS SHOWING INCREASED CONFIDENCE IN SRA)

Stigma and discrimination in relation to mental illnesses often have worse consequences than the conditions themselves. (Thornicroft 2013 BMJ; Drew et al, 2011, Lancet).

C-SSRS provides a direct and unique common language to de-stigmatize asking about suicide, helping those who ask and those who are asked. The C-SSRS training evaluations document significant change in attitudes towards suicide prevention and increased confidence in suicide risk assessment – a necessary step in changing behavior, associated with improving patient morbidity and mortality.

- Fesi, J. D., Morrison, S. U. (April 2018). Guardians at the Gate: Evaluating Suicide Risk Assessment Training in the United States Marine Corps. 2018 American Association of Suicidology 51st Annual Conference, Washington D.C.
- Berry (2018) Improving Confidence in Suicide Risk Assessment in Psychiatric Urgent Care. Department of Nursing. U Arizona.
- Mirick, R. G., Bridger, J., McCauley, J., & Berkowitz, L. (2016). Continuing Education on Suicide Assessment and Crisis Intervention for Social Workers and Other Mental Health Professionals: A Follow-Up Study. Journal of Teaching in Social Work, 36(4), 363-379.
- Mirick, R., McCauley, J., Bridger, J., & Berkowitz, L. (2015). Continuing education on suicide assessment and crisis intervention: what can we learn about the needs of mental health professionals in community practice? Community mental health journal, 1-10.

Science To Service

The Columbia Lighthouse Project/Center for Suicide Risk Assessment

The Columbia Suicide Severity Rating Scale (C-SSRS)

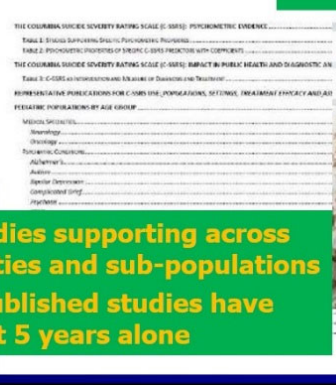
Supporting Evidence

Last Revised
2.2.2017

Protects against liability: Internal and External

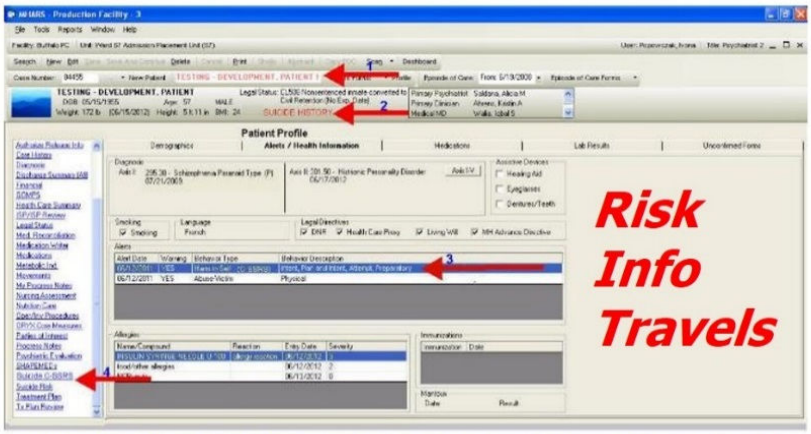
"If a practitioner asked the questions... It would provide some legal protection"

– Mental Health Attorney, Crain's NY



- **Approx. 100 studies supporting across cultures, properties and sub-populations**
- **Close to 1000 published studies have used C-SSRS last 5 years alone**

New York State Electronic Medical Record



1. This is the current functionality in MHARS that will show the patient's name in red with an exclamation point, if there is a warning for this patient. Applies to all warnings, not just suicide risk.
2. This is our new suggestion to show the agreed upon text if the patient has a current alert based off the C-SSRS. There will be a hover that will state, "Go to Suicide: C-SSRS under MHARS Links on the left hand side."
3. The description will show all the behaviors that have been selected for this patient throughout their lifetime. If they have a Warning, 'YES' will be displayed in the Warning column.
4. To get more details, the user would select the C-SSRS icon on the left hand side. This would bring them to the C-SSRS main page. See other mockup for further details.

- 4/5 <u>past month</u> OR behavior <u>past 3 months</u> = highest level "SUICIDE WARNING"
- 4/5 OR behavior <u>ever</u> = "SUICIDE HISTORY" – suicidal risk elevated

THE COLUMBIA LIGHTHOUSE PROJECT
IDENTIFY RISK. PREVENT SUICIDE.

First-Ever Universal Screening uses the C-SSRS at Parkland Memorial Hospital and Finds only 1.8% of 100,000 Patients

Parkland

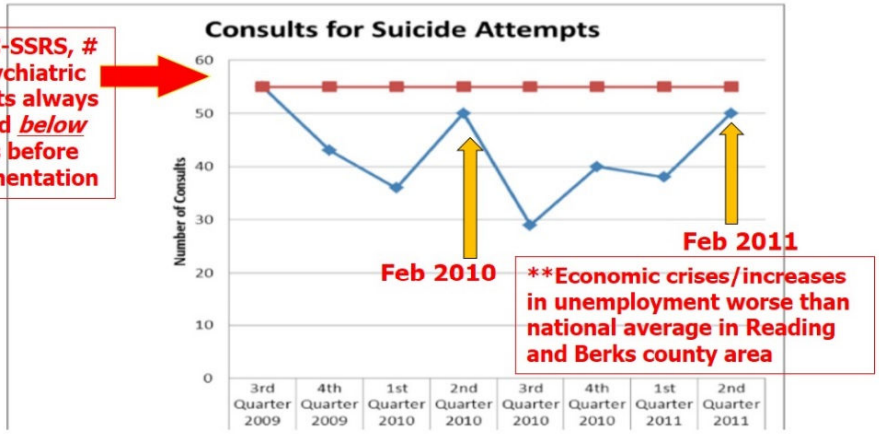
- Screening all patient encounters: "We believe that it's important to screen everyone because some of this risk may go undetected in a patient who presents for treatment of non-psychiatric symptoms." (Dr. Kimberly Roaten, Department of Psychiatry)
- Specialized algorithm in electronic health record that triggers appropriate clinical intervention based on patient answers to C-SSRS questions
- Dedicated Resources including 12 psychiatric social workers and a behavioral health team

"When suicidal behaviors are detected early, lives can be saved.... even within the first few days of implementing the screening program, we were able to intervene with patients at high risk."
Dr. Celeste Johnson, Director of Nursing

THE COLUMBIA LIGHTHOUSE PROJECT
IDENTIFY RISK. PREVENT SUICIDE.

Doing its Job: Picking up People When They Need to be Picked up – Reductions in ED Consults

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



"[The C-SSRS] 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 us the ***unexpected benefit*** of identification of mental illness in the general hospital population which ***allows us to better serve our patients and our community***."

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CENTERSTONE

Clinical Pathway for Suicide Prevention

Intake	Therapy Appointment	Case Management	Medical Provider
Lifetime/Recent Screening Questions	Since Last Visit Screening Questions	Since Last Visit Screening Questions	Since Last Visit Screening Questions

Positive Screen above results in full C-SSRS and placement in Clinical Pathway
4 or 5—past month
6—past 3 months

- Populate in EHR in purple
- Weekly Therapy
- Crisis Management Plan with Means Restriction Education

No-show results in placement on **Suicide Pathway Referral Follow-up Report** where specialists continuously reach out to client to assess with C-SSRS and re-engage which **never shuts down**

Alert and Monitoring System

The Electronic Health Record (EHR) is designed to offer assistance to providers assessing service recipients for high suicide risk. Based on information collected in the applicable Columbia SSRS tool, a service recipient can be identified as being at high risk for suicide. Those who will be considered at high risk for suicide will have a positive endorsement of **either** of the following (research found these to be highly predictive of completed suicides):

A positive endorsement, relative to the past 30 days, in the "Suicidal Thoughts" section of item # 4 (Have you had these thoughts and had some intention of acting on them?) or item # 5 (Have you started to work out or worked out the details of how to kill yourself? Do you intend to carry out this plan?).

A positive endorsement, relative to the past 90 days, in the "Suicide Behavior" section of item # 6 (Have you ever done anything, started to do anything, or prepared to do anything to end your life?).

C-SSRS helps Utah achieve **first DECREASE in SUICIDE**

Reversed an alarming increasing trend

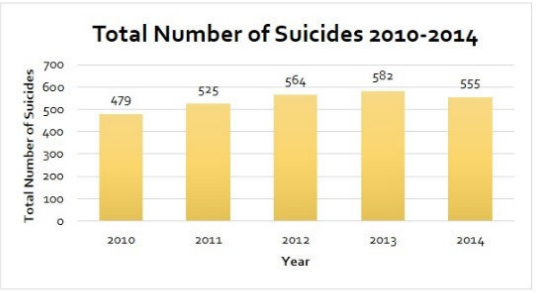
In their legislative suicide prevention report they state "we are committed to becoming a **Zero Suicide System of Care**"

"Screening and assessment using the C-SSRS had been an important piece to this comprehensive multi system approach. We are on year 2 of a state-wide Medicaid improvement project that **highlights the use of the C-SSRS and subsequent interventions**... Another step in our "all-in" adoption of shared tools and language"

- Utah Division of Substance Abuse and Mental Health

utah department of human services
SUBSTANCE ABUSE AND MENTAL HEALTH

State Suicide Prevention Programs
FY 2015 Report



The Columbia LIGHTHOUSE PROJECT
IDENTIFY RISK. PREVENT SUICIDE.

Dr. Kelly Posner Gerstenhaber

Dr. Kelly Posner Gerstenhaber is a Professor of Psychiatry at Columbia University. The former President of the American Psychiatric Association noted her work "could be seen as really a ***watershed moment, like the introduction of antibiotics*****"** stating that her work could be key to reducing the suicide rate, which had remained unchanged while other leading causes of death have been reduced significantly. **The U.S. Department of Defense and called her work "*nothing short of a miracle,*"** is central to their National Strategy, and stated "**her effective model of improving the world will help propel us closer to a world without suicide.**" The CDC noted that her work is **"*changing the paradigm in suicide risk assessment in the US and worldwide*."**

In 2018 Dr. Posner was awarded The Secretary of Defense Medal for Exceptional Public Service for her work saving lives across the nation.

Dr. Posner Gerstenhaber's work has been discussed in a **keynote speech at the White House, has been presented to Congress, and she gave the lead presentation in a U.S. Senate forum on school safety in her partnership with the Parkland community.** Jim Shelton, Former Deputy Secretary of the U.S. Department of Education, says her work **has the potential to keep the 64 million children in our schools safe** physically and mentally by helping prevent school violence. According to an Israeli government official, this work "***is not only saving millions of lives, it is literally changing the way we live our lives*."**

The C-SSRS has become a major part of the community solution to suicide as a significant the public health problem. Her work helped the state of Utah achieve its first decrease in suicides in years, reversing an alarming trend. A former Nevada Senator grappled with her state's suicide rate and looked to progress made in Utah for hope, saying, **"*Utah recently reversed an upward trend in suicides and experts are citing the implementation of the Columbia Suicide Severity Rating Scale,*"** and many more states have followed since. Kevin Hines, a suicide attempt survivor, explains: "Most people considering suicide want someone to save them. What we need is a culture in which no one is afraid to ask. What we needed were the questions people could use to help save us. ***That's why the pioneering change Dr. Posner Gerstenhaber is leading is so essential to our humanity***." Dr. Posner's tool and voice have ***empowered whole communities*** to be a part of the solution to the tragedy of suicide. When schoolteachers, parents, grandparents, spouses and friends are all asking these questions, we are able to ***break down walls of stigma*** and find those often suffering in silence, preventing this unnecessary loss of life.

Dr. Posner was commissioned by the FDA to develop improved methods of suicide risk identification. As a result, the transformative methods have been recommended or mandated across numerous areas of medicine. In a front-page article, *the* ***New York Times called this work "one of the most profound changes of the past 16 years"***. The FDA has characterized this work as "***setting a standard in the field***." Dr. Posner has published over 50 articles, with her 2007 seminal paper also selected for inclusion in a compendium of the most important research in the history of the study of suicide.

Through her advocacy, Dr. Posner has changed local, national and international policy, and through her tireless grassroots training efforts, she has empowered countless individuals around the world. Her science-to-service impact can be felt across fields and across cultures, from schools in South Africa to the US Department of Veterans Affairs to the National Health Strategy for Suicide Prevention in Kosovo. Many states, countries and branches of the military have moved towards ***system-wide implementation*** of Dr. Posner's methods. Her work helped the U.S. Marines achieve a **22% suicide reduction** in the first year, and in 2018 after putting the Columbia Protocol in all hands, the Air Force was the only military branch to see a reduction in suicide and the lowest rate in the Reserves since 2012. Dr. Posner has brought her suicide prevention training to US soldiers fighting **on the front lines in Afghanistan** and has also worked with servicemen and women around the country, encouraging them to have the courage to help a buddy in crisis. Dr. Posner continues to work with the FDA, CDC, WHO, EU, IDF, NIH, the **U.S. Department of Education, Department of Defense, Department of Homeland Security, and other agencies** on suicide identification and violence prevention across the globe.

Dr. Posner was named one of **New York Magazine's "Most Influential" people** and was recognized as **the most Distinguished Alumna of her graduate school at Yeshiva University in the past 50 years.** She gave the invited presentation on tackling depression and suicide at the first European Union high level conference on mental health. She was honored with the "Angel Award" of New York's "100 Socially Responsible" by City & State, the New York State Suicide Prevention Award, and the Anne Vanderbilt Award for Achievement *Partnership with Children*. She received The Spero Award for Excellence and Profound Commitment to Community Psychiatry, and was awarded with the New York State Suicide Prevention Award. She serves on the Board of the **American Foundation for Suicide Prevention**. She is an **international expert and spokesperson** on suicide prevention and the treatment of depression, with appearances on NBC, CBS, ABC, CNN, and numerous global media forums.