U.S. Department of Veterans Affairs

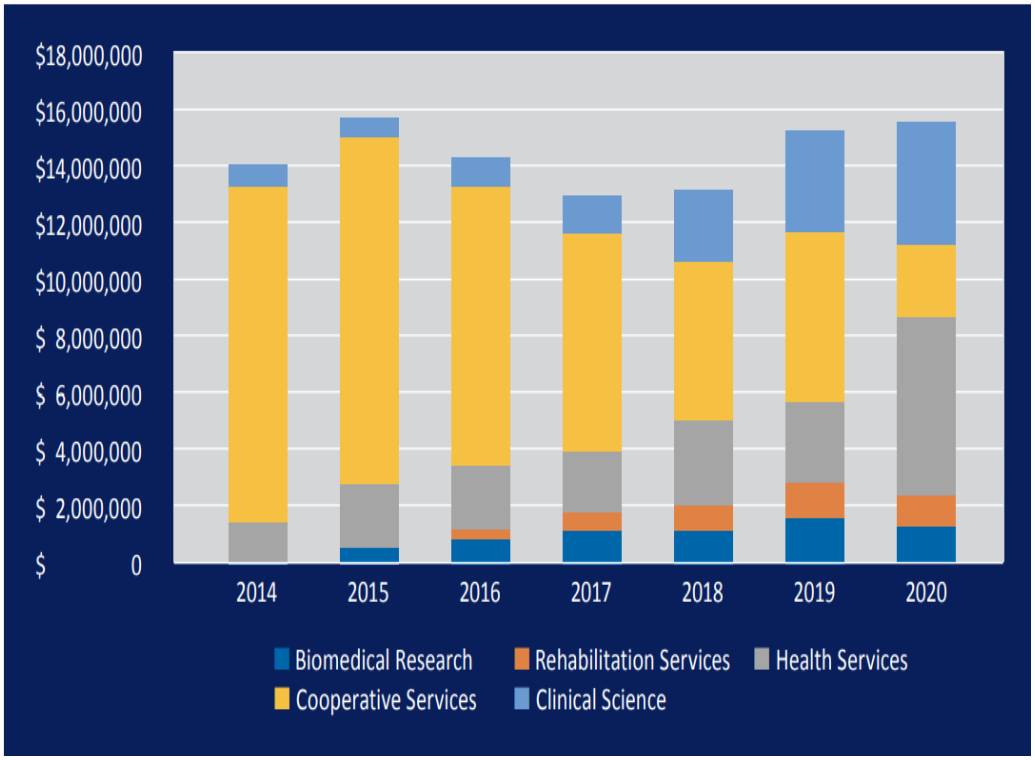
Making suicide prevention research data more usable: Plans for the Suicide Prevention Trials Database (SPTD)

February 24, 2022

Stephanie Veazie, MPH
Lauren Denneson, PhD
Maya O'Neil, PhD
Jessica Hamblen, PhD
Joe Constans, PhD

Suicide Prevention Research

- The table at right summarizes the suicide prevention research funding by the ORD from 2014 to 2020.
- In 2020, ORD invested **$15.8 million** in suicide prevention research, reflecting a **12% increase from 2014**
- Funding for **Clinical Science** projects **increased** by **605%**, funding for **Cooperative Studies decreased** by **75%**
- As of 2020, **Health Services projects** comprised a **significant portion** of the portfolio, accounting for **39% of ORD suicide prevention** research dollars



The VA has an opportunity to leverage its network influence

- ORD is in a unique position to **promote collaboration** across the field
- **Top-ranked researchers** have **published research** affiliated with the VA
- **High-level of interconnectedness** across the field of suicide prevention
- To increase to create an enterprise resource for suicide prevention investigators…..
  - Suicide Prevention Research Clinical Resource Center (S-CRC)
    - RFA released January, 2022
  - Suicide Prevention Trials Database (SPTD)

BACKGROUND

- Suicide is the 10th leading cause of death in US.
- Veterans are 1.5x as likely to die by suicide as nonveterans.
- Many prevention approaches have been studied, including-
  - Behavioral (e.g., CBT, DBT, problem-solving therapies)
  - Pharmacological (e.g., ketamine, lithium, clozapine)
  - Means restriction (e.g., firearm safety, bridge barriers)
  - Crisis hotlines
  - Gatekeeper training
  - Media campaigns
- Efforts to synthesize the extensive literature include SRs, CPGs, clinical trial registries- but most focus on a single intervention or group of interventions.

LIMITATIONS OF PRIOR REVIEWS

Limitations of prior reviews

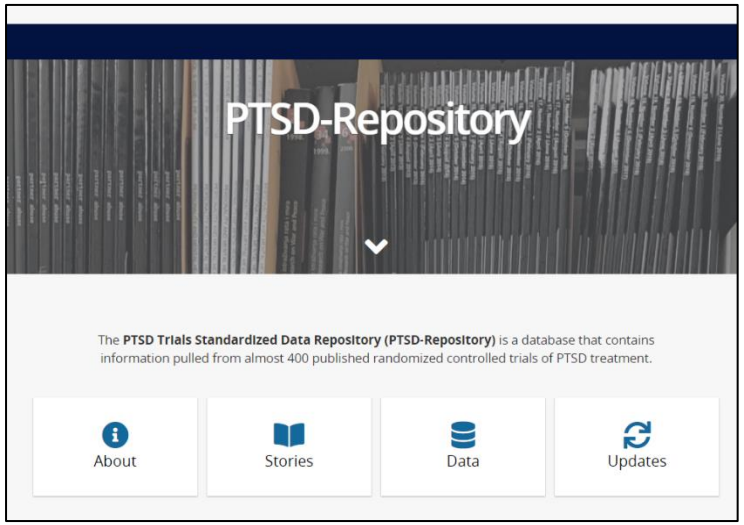
- No rapid updates
- Narrow in scope
- Limited # of data elements extracted
- Inaccessible/not user friendly

SPTD

- Regular updates
- Broad inclusion
- > 300 data elements extracted
- Publicly available/user friendly

DEVELOPMENT OF CLINICAL TRIAL DATABASES

- Distinct from clinical trial *registries*.
- Several clinical trial databases have been developed in recent years-
  - Treatments for Depression (Cuijpers et al., 2008)
  - Longitudinal outcomes of TBI (Caban et al., 2016)
  - Treatments for PTSD (O'Neil et al., 2020)
- PTSD-Repository serves as the exemplar for SPTD.



Cuijpers P, van Straten A., Warmerdam L. *et al.* BMC Psychiatry **8,** 36 (2008). Doi: 10.1186/1471-244X-8-36
Caban JJ, Bonnema A, Bueno ER, *et al.* Military Medicine, Volume 181, Issue suppl_5, May 2016, Pages 11–22, Doi: 10.7205/MILMED-D-15-00138
O'Neil ME, Harik JM, McDonagh MS, *et al*. 2020. Journal of Traumatic Stress. Aug;33(4):410-419. Doi: 10.1002/jts.22520

PTSD-REPOSITORY

https://www.ptsd.va.gov/ptsdrepository/

View data stories

Good option for Veterans and the public to get a brief description & visualization of a particular finding

Filter the data

Good option for clinicians, researchers, or the public who want to create specific visualizations

Download the data

Good option for researchers who want to use the data to conduct a review or meta-analysis

HOW ARE CLINICAL TRIAL DATABASES USED?

WHAT QUESTIONS COULD THE SPTD HELP ANSWER?

- What is the efficacy of brief interventions following a suicide attempt?
- Who has been studied in RCTs of suicide prevention (e.g., gender, race/ethnicity, age, MH conditions)?
- What are the most frequently used tools for measuring suicide-related outcomes in RCTs of suicide prevention?
- Do positive effects of suicide prevention interventions last long-term (i.e., 1-2 years)?

SPTD PROJECT OVERVIEW

Phase 1: Development (2021-2022)

Develop initial database scope; search for & extract data from 100-150 studies; stand up database online

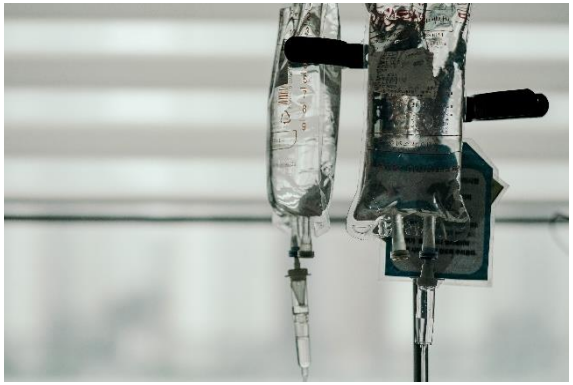
Phase 2: Expansion (2023)

Expand database scope; add data from ~100 additional studies; assess risk of bias of included studies

Phase 3: Maintenance (2024-2025)

Disseminate key findings; develop long-term maintenance plan

PHASE 1 GUIDING QUESTION



What are the characteristics (Population, Interventions, Comparators, Outcomes, Timing, Settings, and Study Design) of randomized controlled trials (RCTs) examining individual, relationship, system, community, and population-level suicide prevention interventions?

Photo #1:Photo by René Ranisch on Unsplash
Photo #2: Photo by insung yoon on Unsplash
Photo #3: Photo by Katerina Jerabkova on Unsplash

PHASE 1 SCOPE

Category	Inclusion Criteria	Exclusion Criteria
Population	Adults (≥18 years old)	Children and adolescents (<18 years old)
Interventions	Interventions from studies whose primary aim is preventing suicidal ideation, suicide, or suicidal self-directed violence	Interventions from studies whose primary aim is not is preventing suicidal ideation, suicide or suicidal self-directed violence
Comparators	No limitations applied (e.g., another intervention; usual care; no intervention)	None
Outcomes	Primary: Studies must report on suicide or suicidal self-directed violence (e.g., fatal or non-fatal suicide attempts) to be included Secondary: Suicide ideation and harms (e.g., any reported unintended consequences such as medication side effects) are additional outcomes of interest	Studies that do not report the primary outcome will be excluded
Timing	Any study duration and length of follow-up	None
Study Design	Randomized controlled trials where the individual is the unit of randomization	Studies that do not have a randomized controlled trial design; cluster-randomized trials
Publication language & dates	English language articles 1980 to present	Non-English language articles Unpublished data Publication date prior to 1980

PHASE 1 METHODS

- Technical Expert Panel

John Blosnich, PhD MPH
Kate Comtois, PhD MPH
Marianne Goodman, MD
Mark Ilgen, PhD
Kairi Kolves, PhD
Stephen O'Connor, PhD
Natalie Riblet, MD MPH
Derek Smolenski, PhD MPH
Lindsey Zimmerman, PhD

- Experts reviewed Phase 1 draft protocol and data extraction template, advised on:
  - A priori inclusion criteria
  - Variable selection/definition
  - Key studies to include

PHASE 1 METHODS

We searched for RCTs in medical literature databases and reference lists of relevant SRs.

1980-2019

- 2 SRs by Mann & colleagues (end date of search: Dec 2019)
- 11 additional recent & relevant SRs
- 2019 VA/DOD CPG on suicide prevention

2020-2021

- Ovid MEDLINE
- Cochrane CENTRAL
- PsycINFO
- CINAHL
- SCOPUS

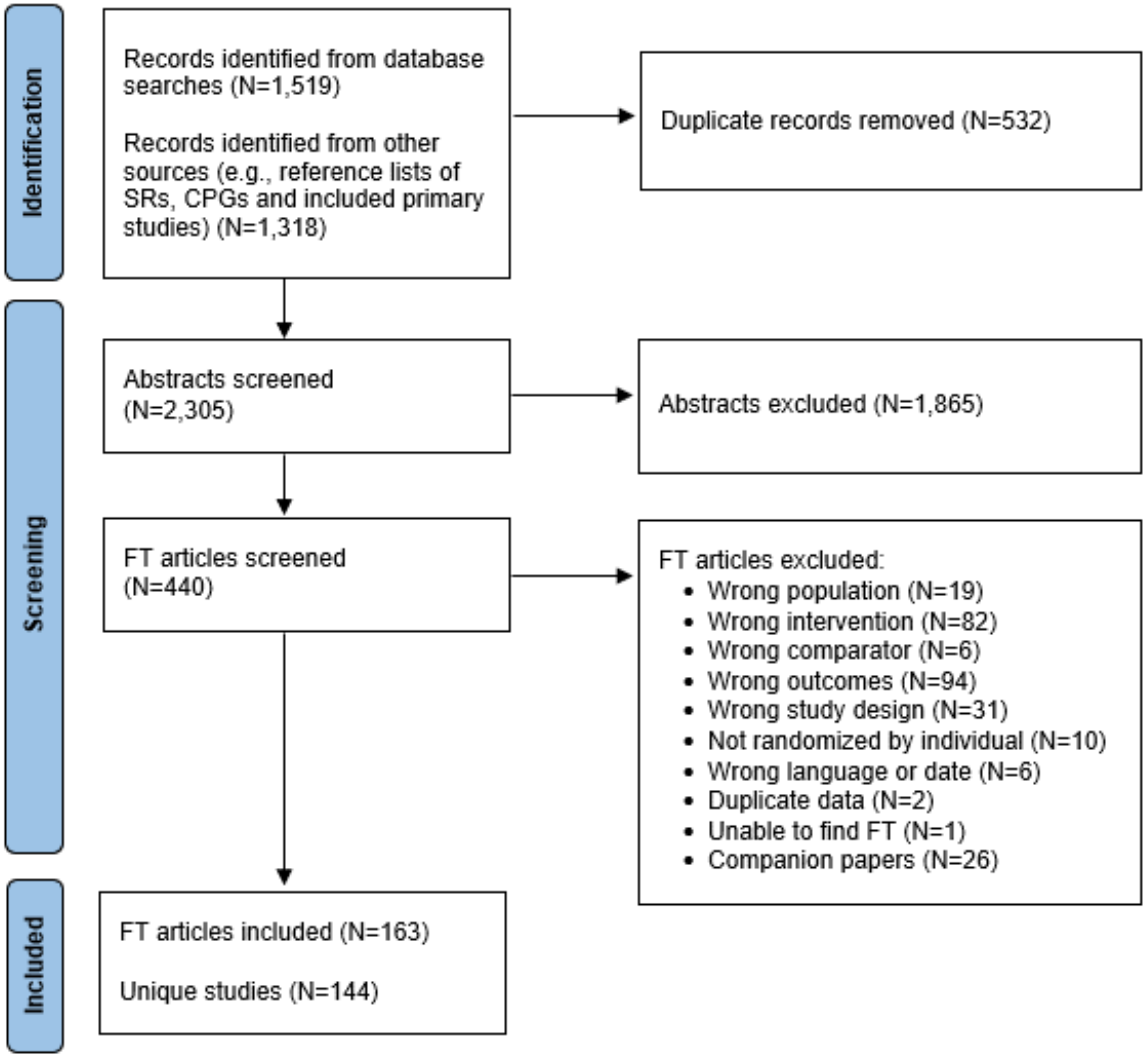
Mann JJ, Apter A, Bertolote J, et al. *Jama.* 2005;294(16):2064-2074. DOI: 10.1001/jama.294.16.2064
Mann JJ, Michel CA, Auerbach RP. *Am J Psychiatry.* 2021;178(7):611-624. DOI: 10.1176/appi.ajp.2020.20060864

PHASE 1 METHODS

Study identification and data abstraction:

- ✓Duplicate studies removed
- ✓Abstracts and full-text articles reviewed for inclusion
- ✓When studies meet inclusion criteria, data are abstracted
- ✓Dual review by a senior SPTD team member for accuracy and completeness

PHASE 1 STUDY SELECTION



LIST OF PHASE 1 INCLUDED STUDIES AVAILABLE

https://www.hsrd.research.va.gov/centers/core/sprint/sptd.cfm

- List of 163 articles (representing 144 unique studies) included in Phase 1 available on SPTD website.

- Email us (Stephanie.Veazie@va.gov) if you are aware of any studies that meet our inclusion criteria that aren't currently included.

PHASE 1 DATA EXTRACTION

We will extract data for over 300 variables, including:

CATEGORY	VARIABLES
Study Characteristics	• Country • Study site type (e.g., VA, DOD, civilian) • Setting description • Study design • Study class (e.g., individual, relationship, system and/or community/population-level)
Suicide risk definition	• Suicide risk inclusion/exclusion criteria category (e.g., indicated, selected, universal, other) • Suicide risk inclusion/exclusion criteria description (e.g., severity of suicidal ideation, prior attempt status)

PHASE 1 DATA EXTRACTION

CATEGORY	VARIABLES
Participant Characteristics	• N of included participants • % active duty/Veteran/community • % reintegrating Veterans • % homeless • Age, gender, race, ethnicity • % with PTSD, trauma, depression, TBI, SUD, psychotic disorder, borderline personality disorder, bipolar disorder, or anxiety disorder
Intervention Characteristics	• N randomized to each intervention • Name, category, description • Dose, dose schedule

INTERVENTION CATEGORIES

Category	Examples
Behavioral	CBT, DBT, Problem-solving therapies
Pharmacological	Ketamine, Lithium, Clozapine, SSRI
Non-pharm biological	ECT, Neuromodulation
Care mgmt, follow-up or monitoring	Periodic caring communication, Home visits, Safety planning
Complementary & integrative health	Mindfulness, meditation, yoga
Technology-based	Mobile or web applications
Risk assessment & screening	Predictive analytics, Suicide risk screening

Category	Examples
Strengthening access to care	Reducing provider shortages, Coverage of MH conditions
Reducing access to lethal means	Firearm safety, Bridge barriers
Crisis hotlines	Veterans Crisis Line
Gatekeeper training	Army ACE, SAVE
Peer support programs	Buddy intervention support group
Media campaigns & safe reporting	Recommendations for reporting
Addressing SDOH	Strengthen household financial security, Housing stabilization
Postvention	StandBy Support After Suicide
Other	Social-emotional learning, Parenting skills

PHASE 1 DATA EXTRACTION

CATEGORY	VARIABLES
Suicide ideation & behavior outcomes	• Type and method of assessment • Method for handling missing data • Statistical analysis type (e.g., ITT) • Variables adjusted for in primary analysis • Within & between-group differences, effect size, risk-related change
MH outcomes	• Whether the study measured outcomes related to depression, anxiety, PTSD, SUD, sleep, anger, QoL, functionality, loneliness, social isolation
Harms	• Serious adverse events • Withdrawal due to adverse event

ANTICIPATED CHALLENGES WITH PHASE 1 ARTICLE SELECTION & DATA EXTRACTION

- Many studies report on suicide attempts and/or completed suicides as serious adverse events but are not focused on suicide prevention.
- It is challenging to categorize multi-component suicide prevention interventions.
- Low base rates of suicide attempts & completed suicides in studies = if data are available, between-group differences sometimes not analyzed.
- Variety in how suicide data are reported (e.g., continuous, dichotomous, count, time to event).

DRAFT DATA DICTIONARY AVAILABLE

https://www.hsrd.research.va.gov/centers/core/sprint/sptd.cfm

Draft data dictionary (e.g., detailed list of the 300+ data elements we will be extracting from each study, including a definition for each element) available on SPTD website.

UPCOMING DATES

- **Dec 2022-** Extracted data from Phase 1 studies will be made available on SPTD website.

- **March 2023-** Report of Phase 1 findings (e.g., PICOTS of included studies) will be posted on SPTD website.

THANK YOU

Funder:

Clinical Science Research & Development (Award # SDR-SPTD-20S).

Project & Operations Partners

Suicide Prevention Research Impact Network (SPRINT)

VA Office of Mental Health & Suicide Prevention

SPTD Leadership & Staff:

Joren Adams, BS

Will Baker-Robinson, MA

Kathleen Carlson, PhD

Sara Hannon, MS

Danielle Krushnic, MPH

Kate McDonald, BS

Mesa Willis, MPH

PRESENTER CONTACT INFORMATION

Stephanie Veazie, MPH
Stephanie.Veazie@va.gov

Lauren Denneson, PhD
Lauren.Denneson@va.gov

Maya O'Neil, PhD
Maya.Oneil@va.gov

Jessica Hamblen, PhD
Jessica.Hamblen@va.gov

Joe Constans, PhD
Joseph.Constans@va.gov

QUESTIONS?