

Perseveration as a Risk Factor for Suicide

Carolyn Rodriguez, MD, PhD
Stanford University





Suicide is the
10th
leading cause of
death in the US

In 2018, there were
an estimated
1.4M
suicide attempts

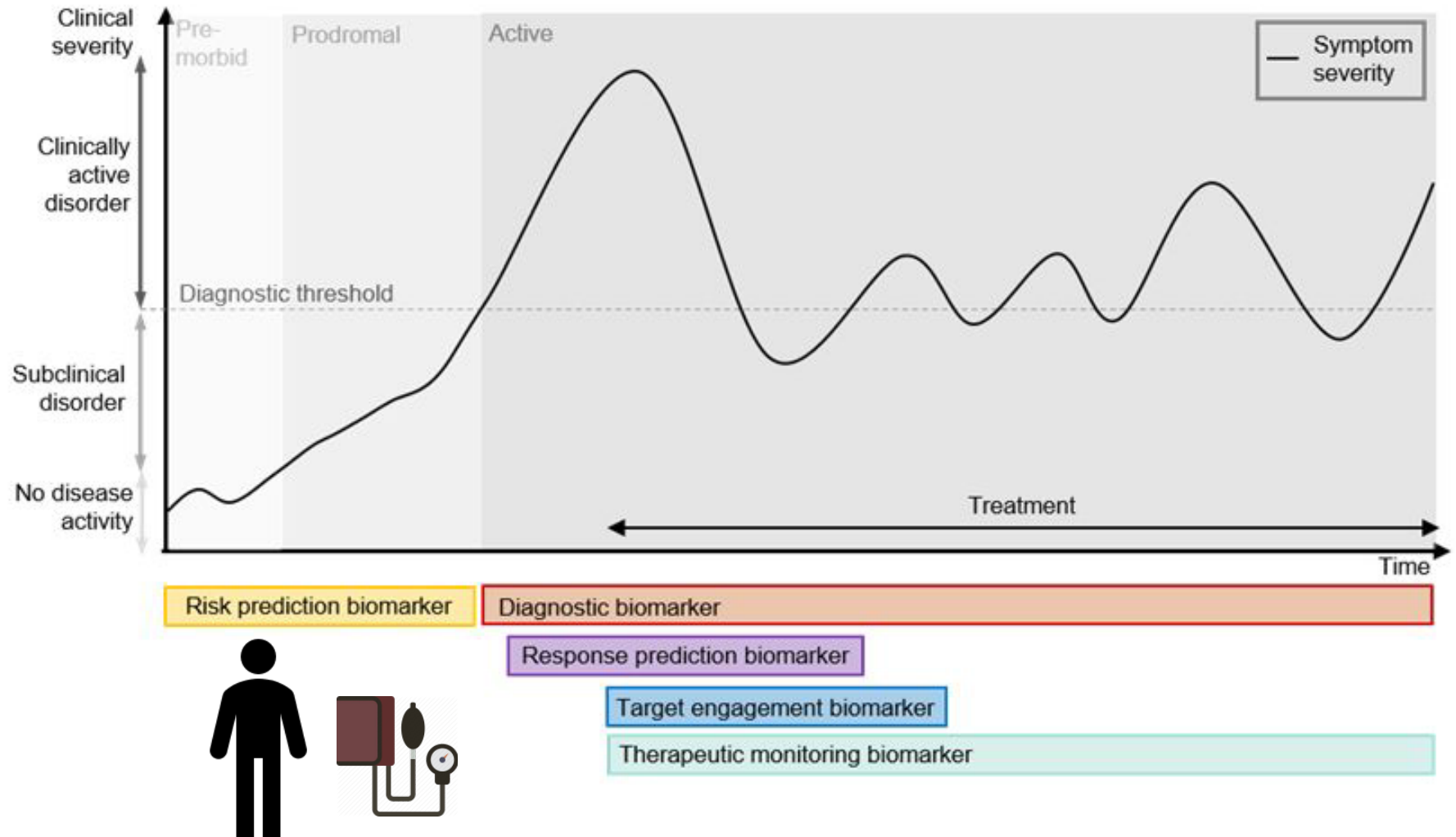
Of those who
attempted suicide
20%
will make another
attempt within 1 year

National Suicide Prevention Week is Sept. 4-10th



The Research Prioritization Task Force of the National Action Alliance for Suicide Prevention highlights as a top priority identifying *risk factors* that predict who is likely to make a suicide attempt.

Novel Approaches Are Needed



Kraguljac, et al., *American Journal of Psychiatry*, 2021

Perseverative thoughts can include 3 major forms

Ruminations – recurrent, self-reflective and uncontrollable focus on depressed mood and its causes and consequences

Obsessions – intrusive thoughts, images, or urges that increase anxiety

Suicidal ideation – thoughts about [or preoccupation with] suicide

A Modifiable Risk Factor

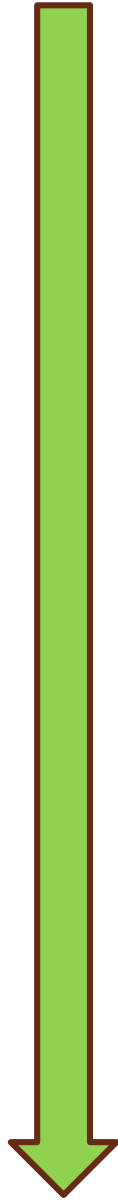
Ruminations have emerged as a promising risk factor for suicidal desire and/or attempts in 10 out of 11 studies reviewed.

Suicidal ideation and obsessions can be reduced by ketamine and are a promising target.

Increased suicidal ideation in months before a suicide attempt is a risk factor for suicide attempts

Morrison and O'Connor 2008; DiazGranados et al., 2010; Price et al., 2009; B et al. 2014; Rodriguez et al., 2013; Ballard et al., 2016.

Thoughts



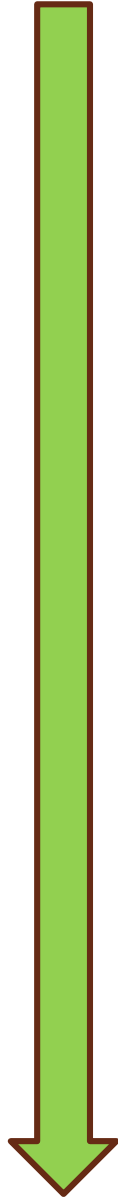
Actions



Thoughts



Actions



Thoughts

Cognitive Control

Flexible switching
Regulate thought content



Digit Span

Short-term working memory capacity



Verbal Interference

Capacity to inhibit one piece of well-learned information in order to focus on another or new aspect



Switching of Attention

Information processing efficiency, under time demands



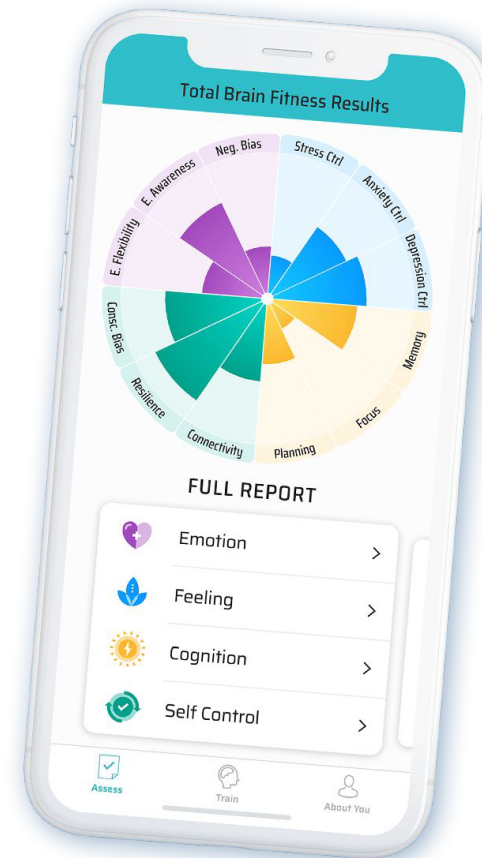
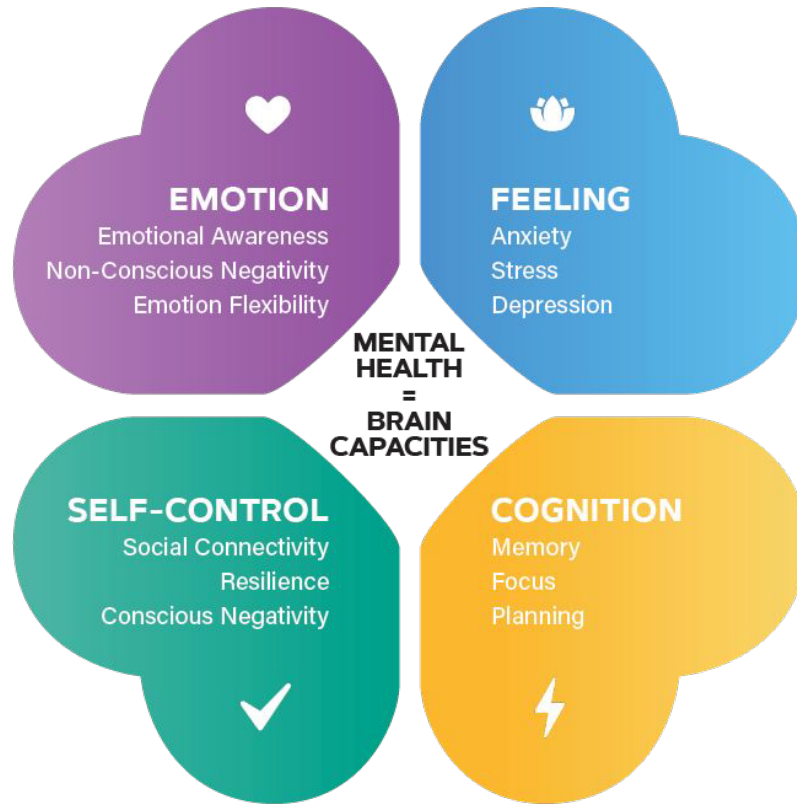
Go/No-Go

Balance between automatic responding and response suppression (impulsivity, inhibition)

Actions



Thoughts



Actions



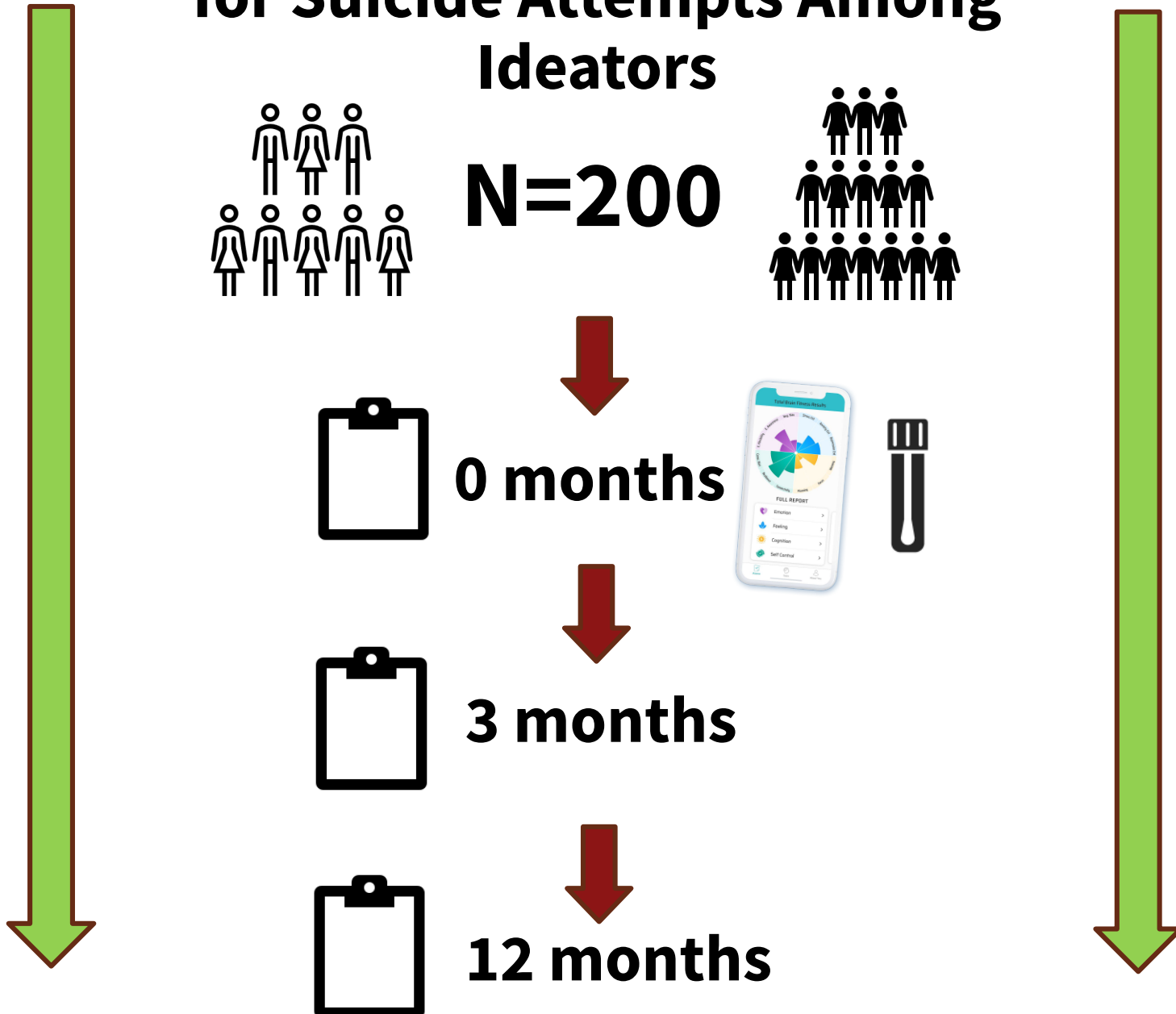
We hypothesize that:

1. The **severity of perseverative thinking** is a modifiable risk factor for suicide attempts across the diagnoses.
2. **Cognitive control**, which enables humans to flexibly switch between thought and action and to regulate perseverative thought content, may also be a modifiable risk factor for underlying vulnerability for suicidal behavior.

We will examine:

The possibility of predicting suicide attempts at the individual level with a useful level of accuracy (e.g., at least 70-80% accuracy) to predict risk of a suicide attempt by 3 and 12 months after baseline evaluation using machine learning techniques.

Identify Objective Risk Factors for Suicide Attempts Among Ideators





Contamination & Washing



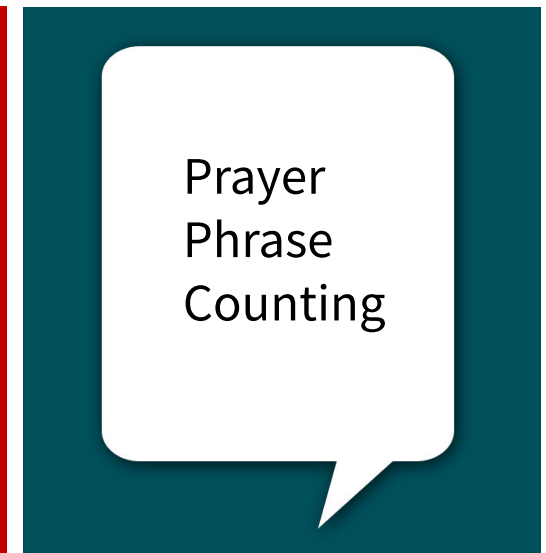
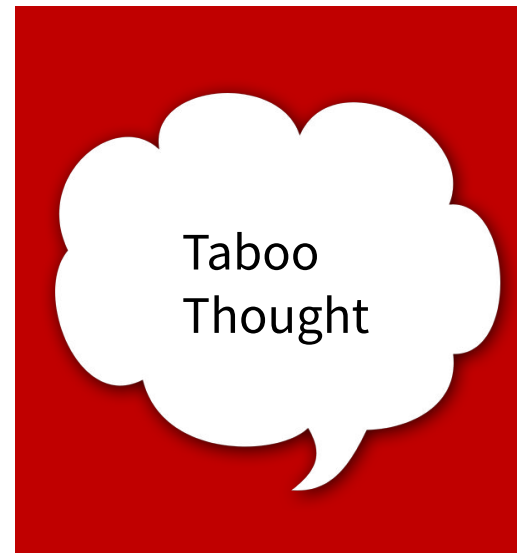
Harm & Checking



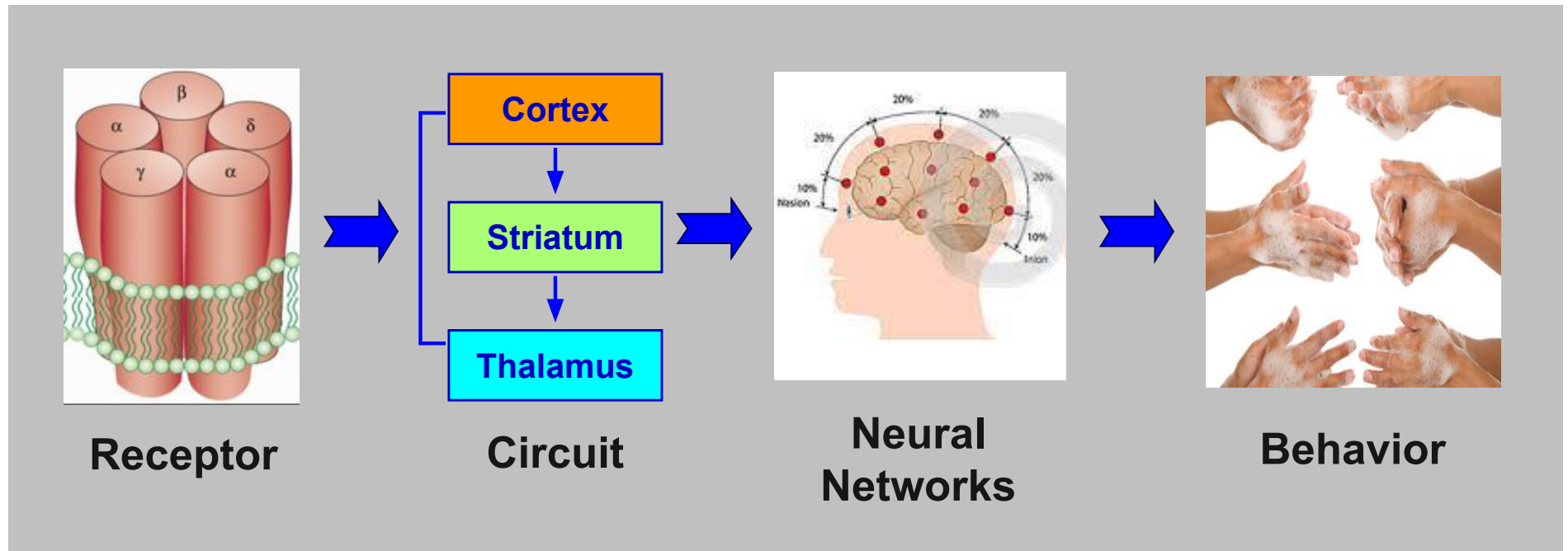
Symmetry & Ordering



Taboo Thoughts & Mental Rituals



Multimodal/Multilevel Approach



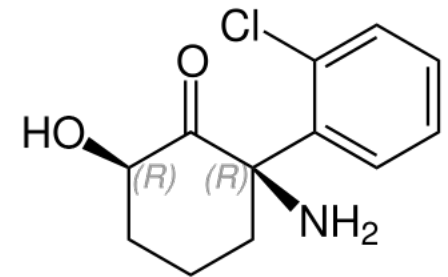
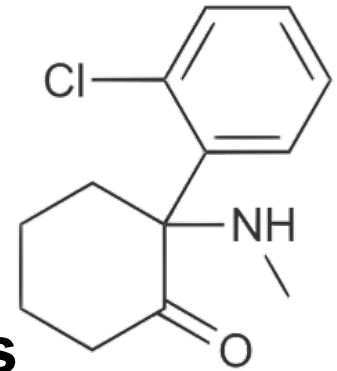
1. Rapidly Relieve Symptoms
2. Understand Mechanism
3. Improve Precision

Molecular: Translational Therapeutics



Compulsive Behaviors

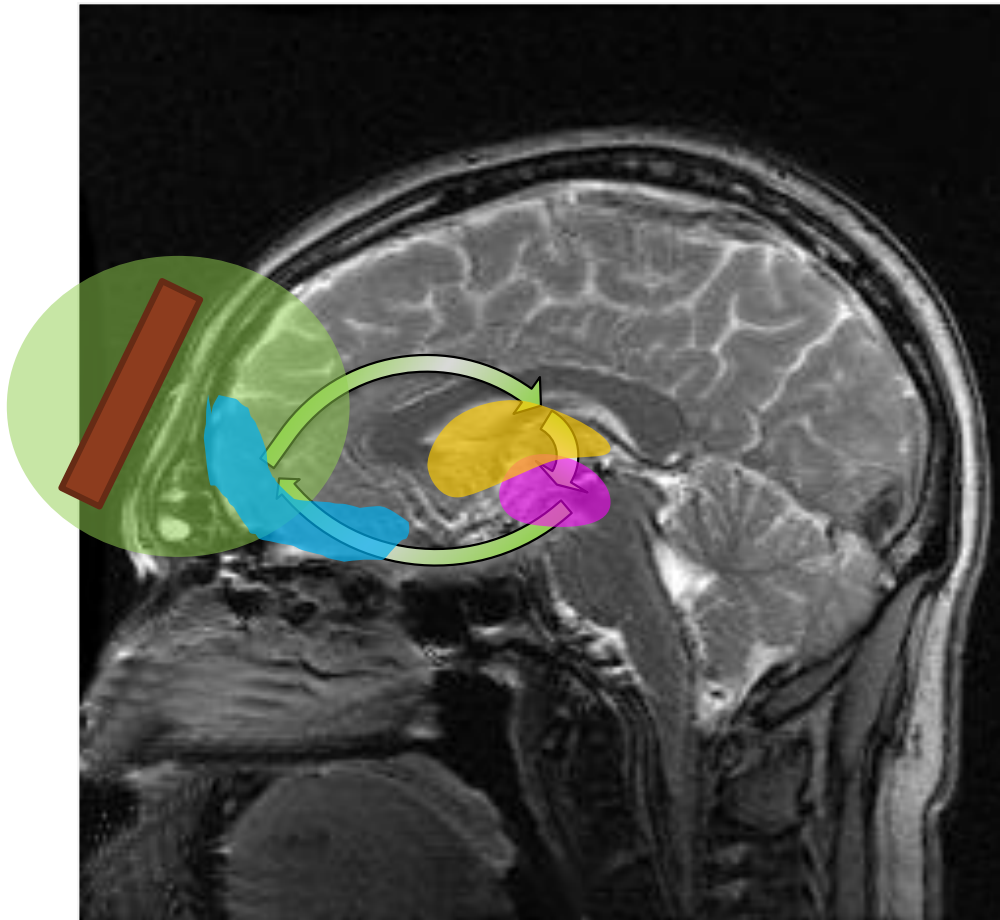
Novel Compounds



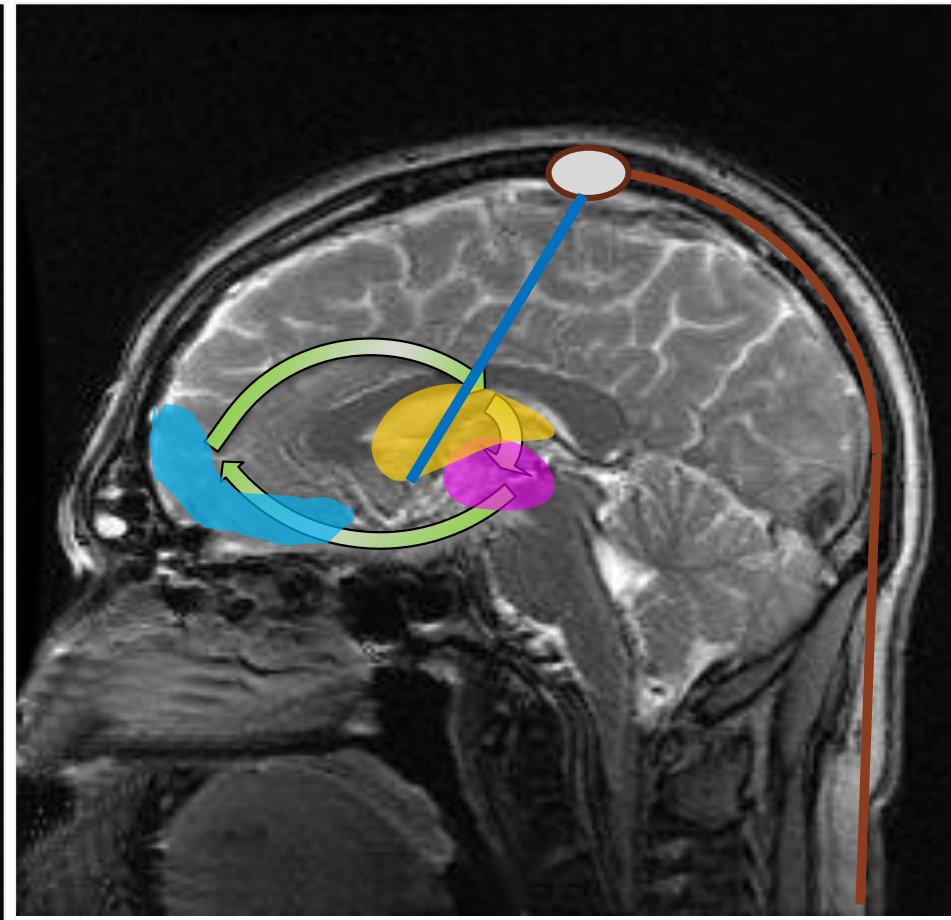
Compulsive Behaviors



Circuit: Neuroimaging and Neuromodulation



Cortical Stimulation



Deep Stimulation

Rodriguez Lab



Contact Us About:

Research Studies (Study Participants)

Suicide Risk Factor Study

itsastudy@stanford.edu

650-497-2577

ocdresearch@stanford.edu

clutterhelp@stanford.edu

Research Collaborations

Translate discoveries into treatments

Follow us:  @RodriguezLabSU and @CRodriguezMDPhD

NATIONAL SUICIDE PREVENTION WEEK

September 4 – 10, 2022

afsp.org/nspw



American
Foundation
for Suicide
Prevention



Funding and Disclosures (past 3 years)

Funding

- NIH (NIMH, NIDA, NIA)
- Foundations: Harold Amos Medical Faculty Development Award, Robert Wood Johnson Foundation, NARSAD, IOCDF, AFSP
- Rodan Family Fund for Mental Health Research
- The Fields Rayant Family Fund for Mental Health Research
- Pritzker Consortium
- Private Donors
- Veterans Affairs

Industry

- Biohaven Pharmaceuticals (Consultant)
- Biohaven Pharmaceuticals (Research Grant)
- Osmind (Consultant)

Deputy Editor

- American Journal of Psychiatry (Stipend)

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