



Digital Neurotherapy (DNT): A New Class of CNS Therapy

Focus: Treatment and Diagnosis of Depression

Major Depressive Disorder – High Prevalence and Poor Response to Current Treatments



Depressive disorders are the most common cause of disability globally¹

>300 million global prevalence

18 million US prevalence

>\$200B economic burden in the US



Depression reduces quality and duration of life in many chronic diseases

20-39% decrease in survival time in cancer^{2,3}

3.4 X increase in CVD mortality⁴

5X increase in dementia in diabetes⁵



Treatment for depression is of limited efficacy

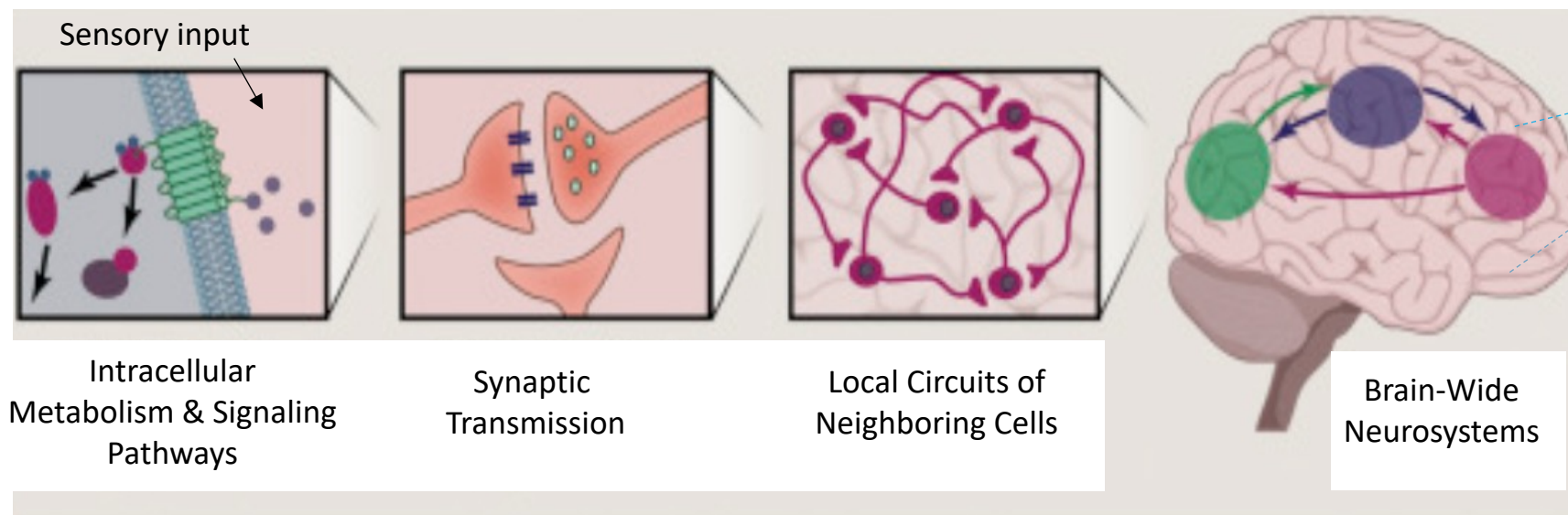
Anti-depressant drug Rx: 50% response rate⁶ >50% relapse rate⁷

Annual health care costs/cancer patient with depression \$235,337 vs. without depression \$110,650⁸

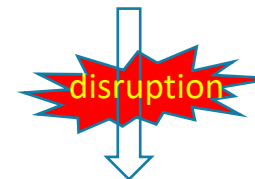
What is Digital Neurotherapy (DNT) and How Does It Work?

The brain is hierarchically organized with cognition and emotion existing only in neurosystems.

Depression is a neurosystems disorder.



Cognition & Emotion



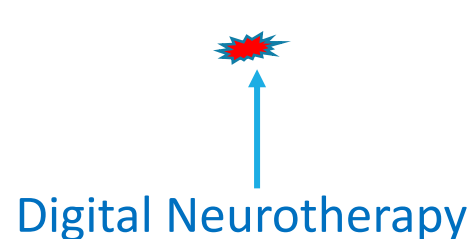
Clinical illness

Pathology



Pharmacotherapy

Treatment

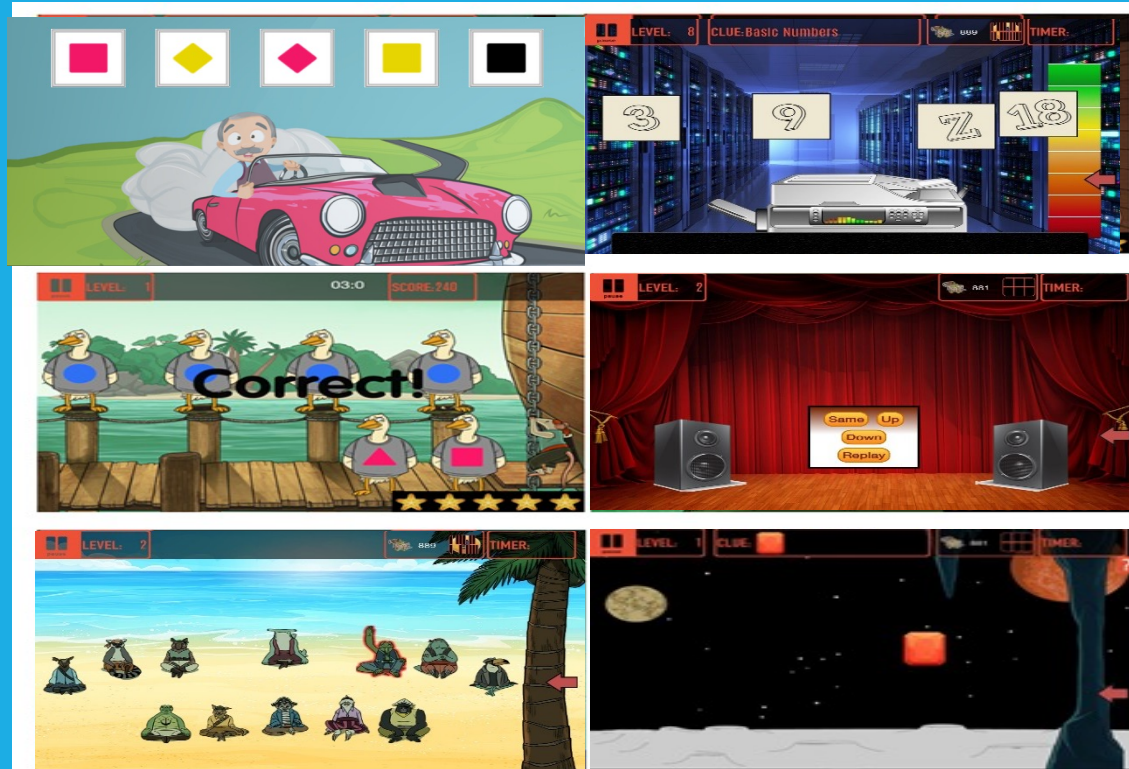


Digital Neurotherapy



REJUVENATE™ DNT Looks Like a Computer Game

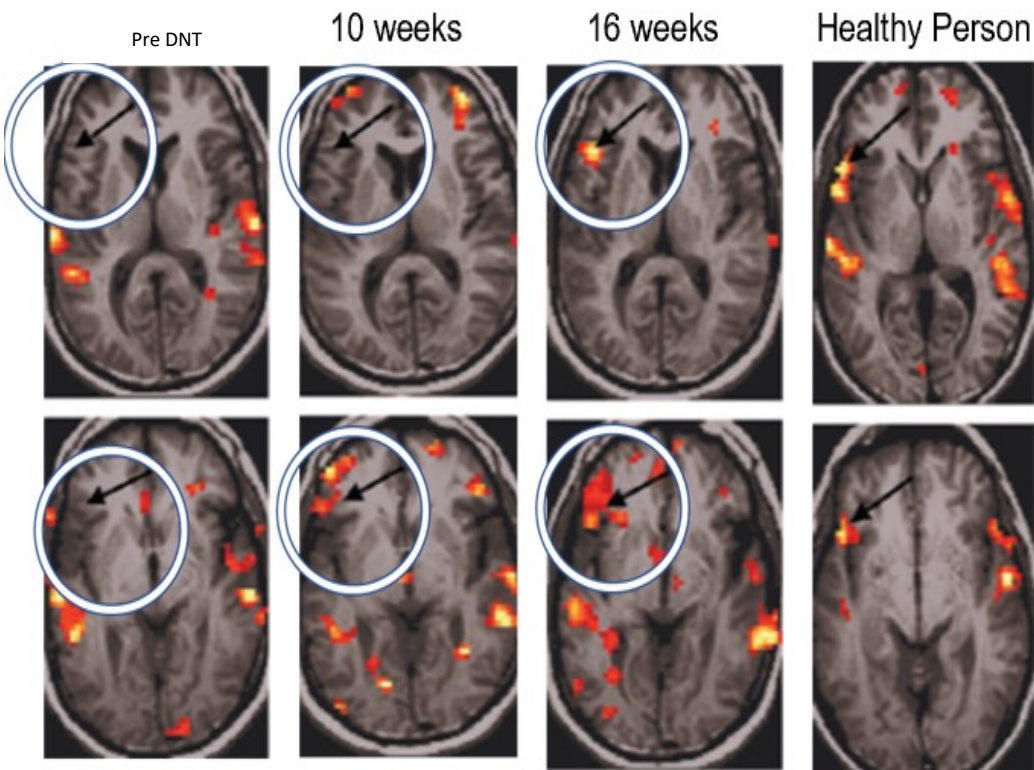
6 of 9 modules in REJUVENATE™



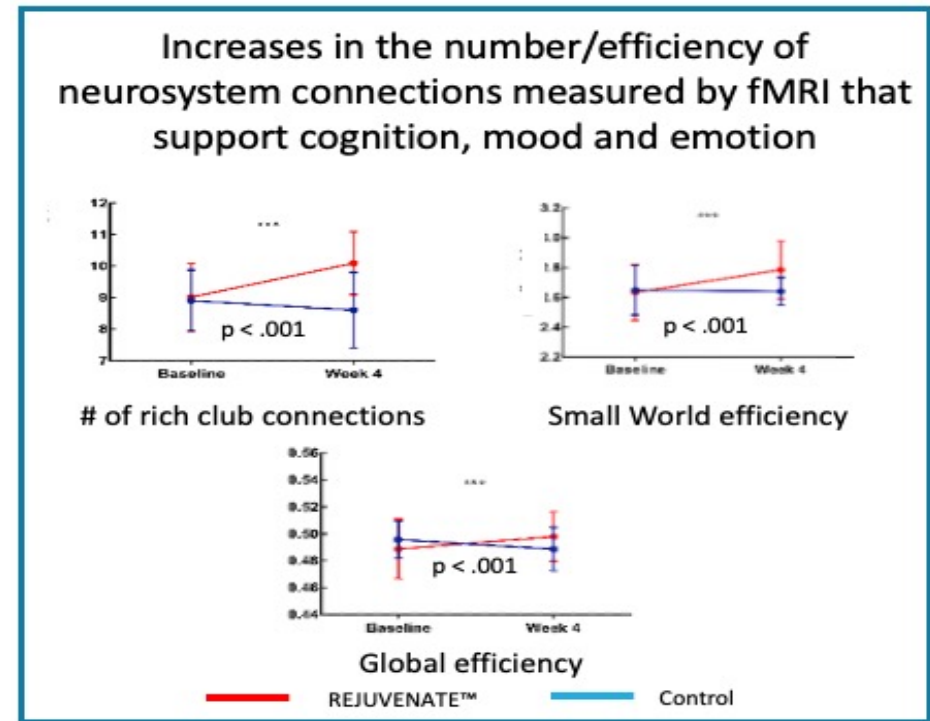
Integrated Intensive Adaptive

- Carefully crafted perceptual and cognitive tasks stimulate the brain's own repair processes to restore neurosystem function.
- NIH Director's Award for "paradigm-changing medical research"
- "Easily the most sophisticated brain training program ever conceived"

Mechanism of Action Demonstrated with fMRI

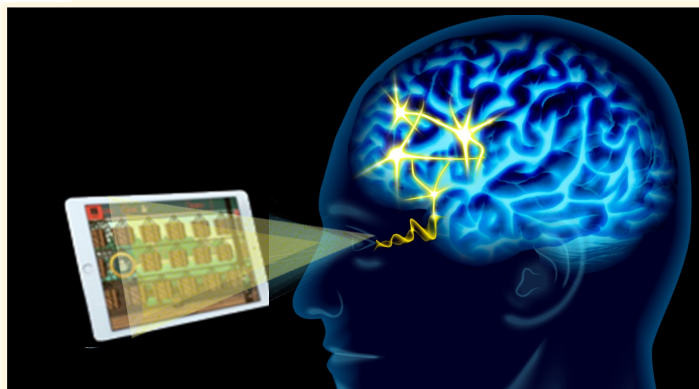


C8 Digital Neurotherapy



Brain Activation

Schizophrenia



Depression

Brain Connectivity

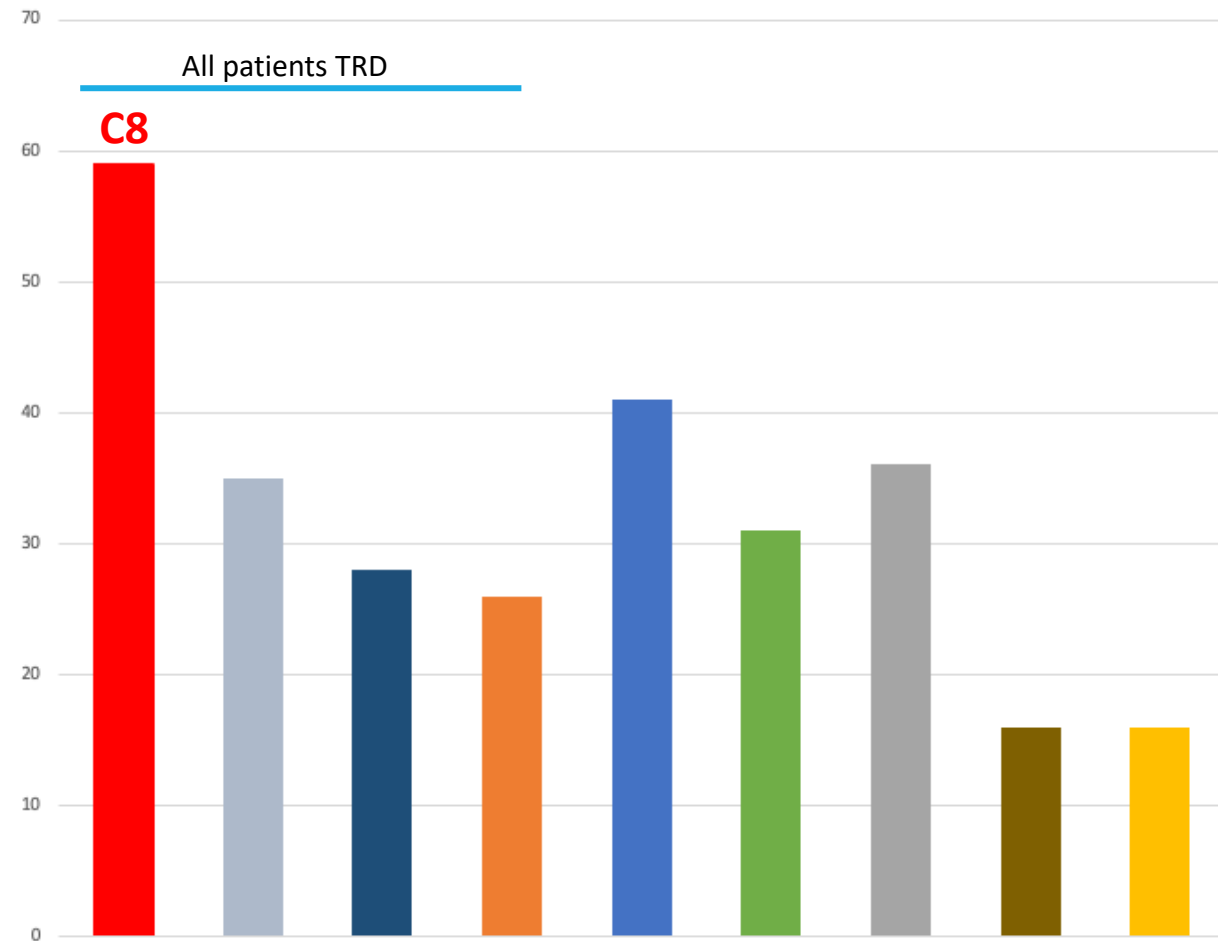
[Wexler et al Am J Psychiatry 2000](#)

The Highest Efficacy Intervention for Treatment Resistant Depression Across Multiple Therapy Classes

- Three trials with C8 augmentation. **All patients Rx-refractory**
- CBT augmentation of drug in TRD (STAR*D Trial)
- 2nd Drug augmentation of drug in TRD (STAR*D Trial)
- TMS augmentation of drug (meta-analysis)
- Composite results of drug studies submitted to the FDA
- Placebo response rate in drug studies submitted to the FDA
- Click Therapeutics EMFM training. **Any patient who had failed to respond to drug was excluded**
- Akili Interactive AKL-T03
- Active digital controls from C8, Click and Akili trials

C8 is the only therapy that *also* significantly improves *multiple areas of cognition*

Percent of Subjects Showing at Least 50% Reduction in Depressed Mood after Intervention



Superior Clinical Outcomes from Superior Intervention Design and Patented Algorithms

More Breadth

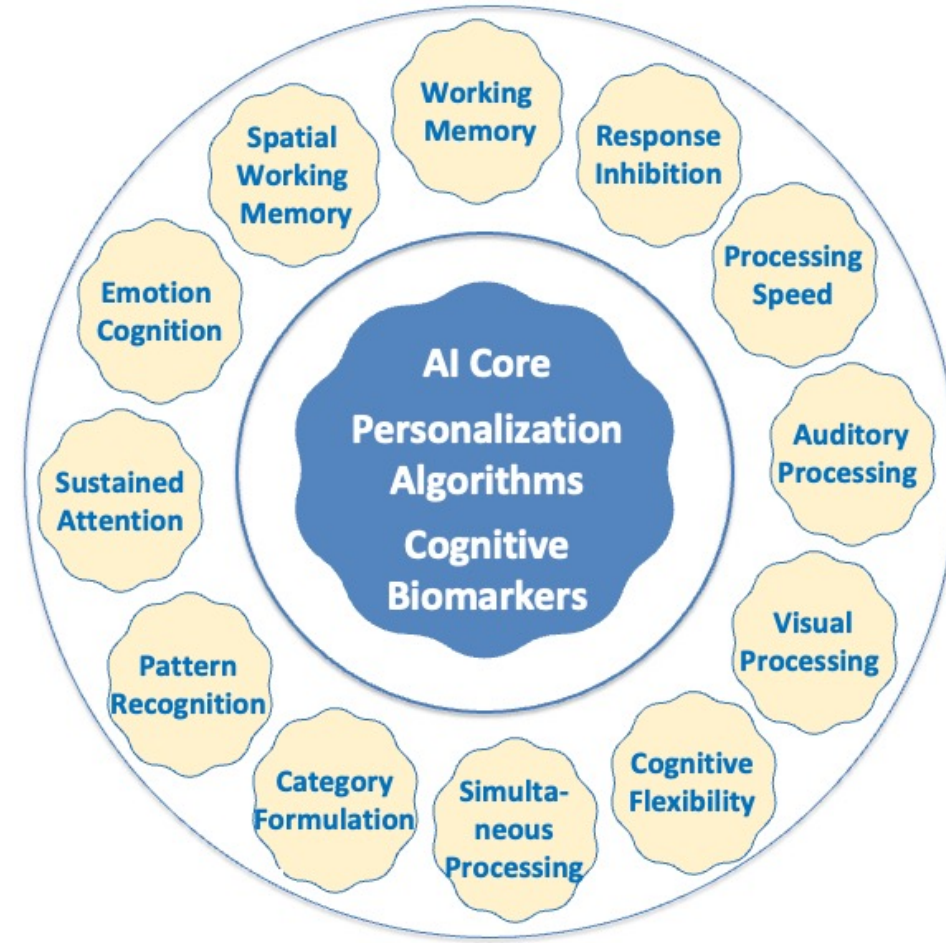
Nine Treatment Modules Target Neurocognitive Systems

More Precision

- Incremental Variations of Perceptual and Cognitive Processing Demands
- >60 Levels within Each Module

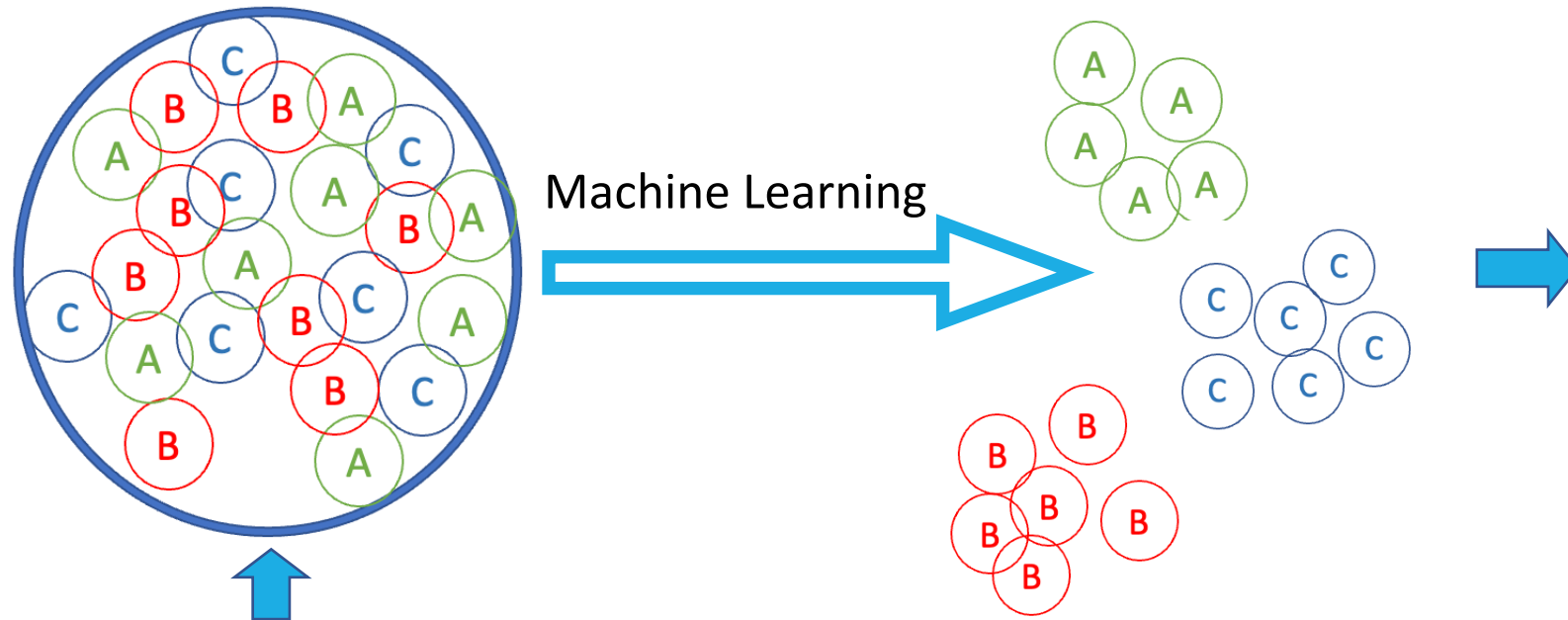
More Content

One Year of Therapy Content vs. One Month of Competitor Programs



Digital Micro-Cognition Biomarkers to Precision Diagnosis

Depression includes patients with different types of neuropathology requiring different treatments



Clinical Treatment

Development and prescription of treatment for individual patients appropriate for their illness

Micro-Cognition Biomarkers

1000's of responses from each patient on training and probe trials that differ incrementally in perceptual and cognitive processing demands

Subgroups of patients with the same neuropathology

Development of a DNT from Neuroscience to Revenue



C8 Stays Lean

- We only do what we do best
- Design and create new DNTs and biomarkers for specific disorders and populations

Out Licensee

- Pharmas, Insurers, Provider Organizations, Digital Health and Wellness Companies
- Regulatory, distribution, marketing, sales and customer support functions

We seek

- Out license partners
- \$15 million in venture funding

Highly Experienced Science and Business Leadership



Tim Kish, CEO,
VP/CFO Biogen,
VP/CFO Illumina



Bruce E. Wexler, MD
Professor
Yale School of Medicine

Take-Aways

- **NIH Director’s Award for “paradigm-changing medical research”**
 - “Easily the most sophisticated brain training program ever conceived”
- **Comprehensive and versatile platform technology**
 - Modular plug-and-play architecture enables rapid product differentiation for different disorders
 - Patented algorithms shape treatment to the deficits of each patient in real time
- **Two high-value propositions**
 - Differentiated digital therapies for multiple specific disorders and populations
 - Novel biomarkers to refine diagnosis and individualize treatment
- **Industry-leading treatment for depression in market now**
 - Higher response and remission rates than drugs, CBT, TMS or other digital therapies
 - Mechanism of action confirmed by both fMRI and the reversal of cognitive deficits
- **Business plan**
 - Stay lean
 - Do only what we do best
 - Out license from a library of DNTs for specific indications and populations