Neuro Task Force Update & Next Steps

Neuro Task Force
January 23, 2024

CIRM
CALIFORNIA'S STEM CELL AGENCY

Presentation Overview

1. Background – Prop 14 Neuro
2. Neuro Task Force Progress
3. NTF Next Steps
    - Design brief

Prop 14 Neuro mandate

Prop 14 – $1.5B Neuro focus

TEXT OF PROPOSED BOND — **PROPOSITION 14 CONTINUED**

(b) Dedicating $1.5 billion for the support of research and the development of treatments for diseases and conditions of the brain and central nervous system, such as Alzheimer's disease, Parkinson's disease, stroke, dementia, epilepsy, depression, brain cancer, schizophrenia, autism, and other diseases and conditions of the brain.

(c) The institute shall allocate at least one billion five hundred million dollars ($1,500,000,000) of the proceeds of the bonds authorized pursuant to Section 125291.110 to make grants for research, therapy development, and therapy delivery involving diseases and conditions of the brain and central nervous system, including, but not limited to, Alzheimer's disease, Parkinson's disease, stroke, dementia, epilepsy, schizophrenia, depression, traumatic brain injury, brain cancer, and autism, and for grant oversight and general administration costs associated with these grants and loans, subject to the limits in subparagraph (C) of paragraph (1) and subparagraph (A) of paragraph (2) of subdivision (a).

Neuro Task Force created to support mandate

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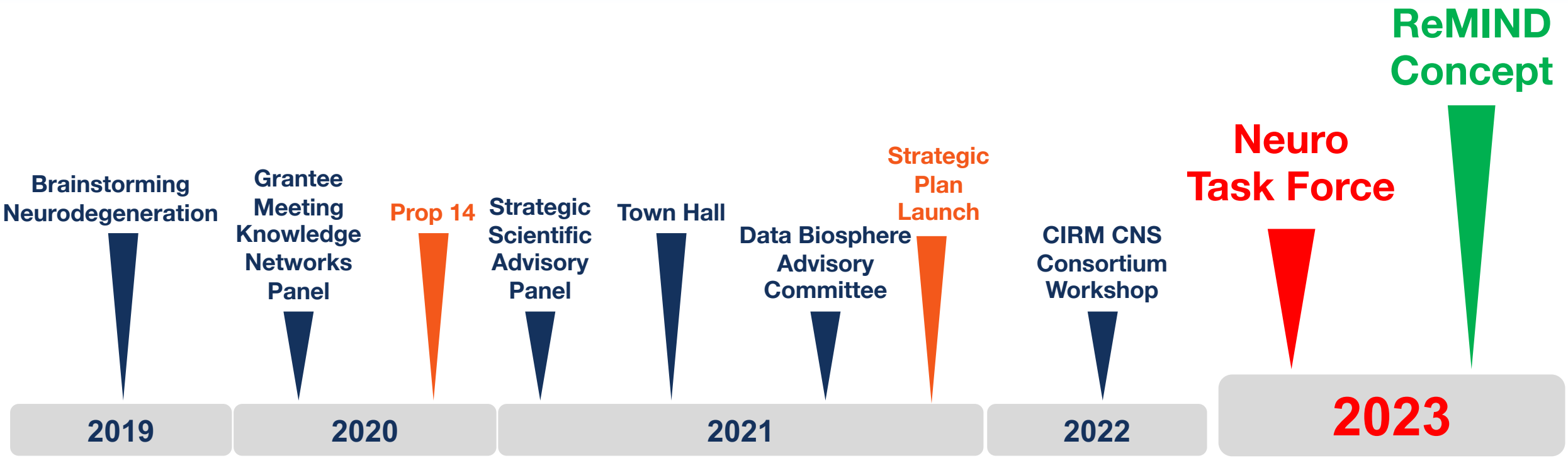
Previous meetings informing Neuro Strategy



Neuro: Includes *neurodevelopmental, neurodegenerative, neuromuscular, trauma/brain injury, and neuropsychiatric diseases*

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Neuro Task Force – Main outcomes to date

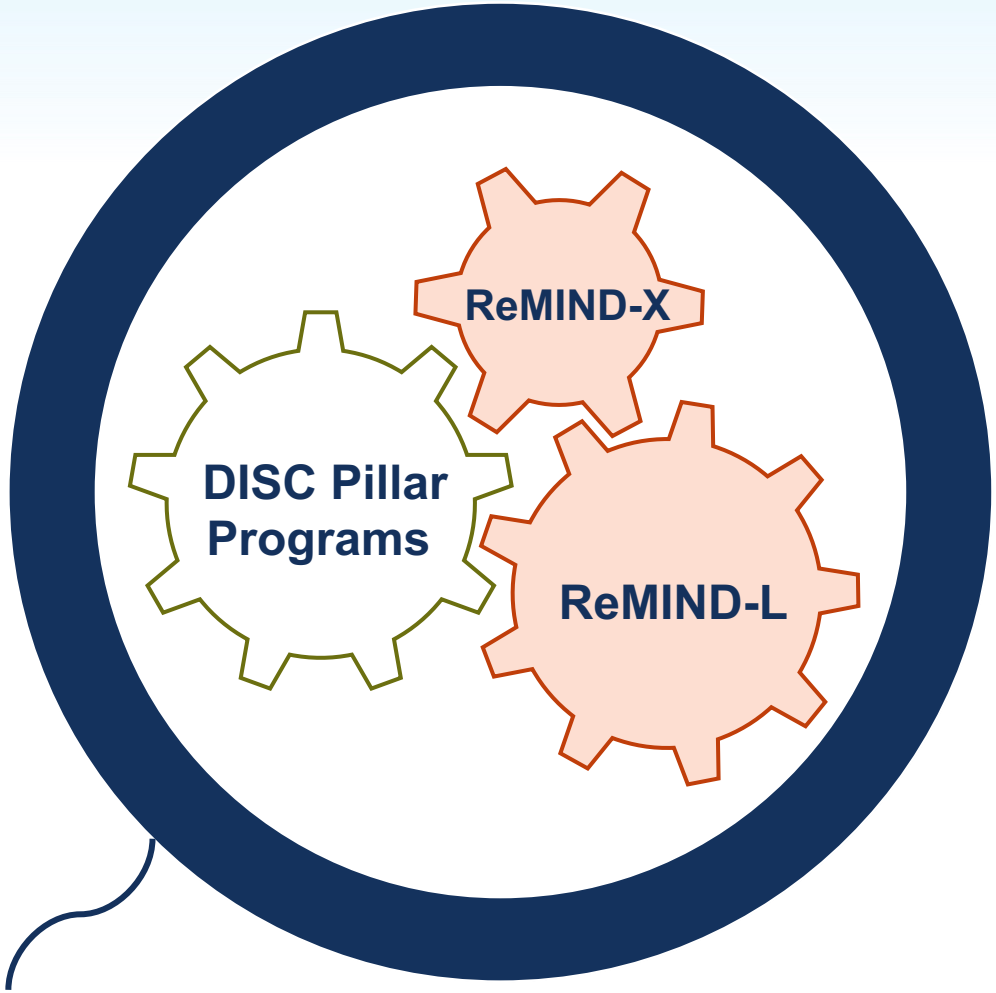
- Recommended increasing investment in Neuropsychiatric disorders
- The Task Force approved a pilot program (ReMIND) that uses a subset of funds to develop multidisciplinary teams to tackle disease mechanisms in neuropsychiatric disorders

ReMIND Program | Objectives

Research using Multidisciplinary, Innovative approaches in Neuro Diseases

- ✓ **Accelerate** foundational scientific understanding of disease mechanisms, and development of transformative tools and technologies
- ✓ **Catalyze** multi-disciplinary innovation, attract new talent and seed new partnerships
- ✓ **Drive** open and collaborative science through data, resource & knowledge sharing

ReMIND Program | Open Collaborative Science



Data Coordinating and Management Center
Discovery Advisory Panels
ReMIND Program Conferences

CIRM Infrastructure & Education programs

External consortia, Resource networks & Data platforms

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Next Steps

Ensure that Neuro spending continues to meet the 27% minimum directive in Proposition 14

Identify additional potential high impact opportunities other than neuropsychiatric diseases – Neurodegenerative diseases (next step)

Goals of Upcoming Sessions

The NTF will embark on a series of presentation and discussions to:

Identify key knowledge gaps and bottlenecks in the study and treatment of neurodegenerative diseases (ND) from genes to circuits within each focus area

Identify how advances in stem cell and genetic research can be leveraged to catalyze research that will lead to transformational, rather than incremental, change in the study of ND

Design Brief | Overview

Each session will cover a different ND topic and address the following elements of the design brief:

- Design Question
- Intent
- Key Knowledge Gaps
- Guiding Questions
- Potential Sessions / Participant List

Design Brief | Design Question

How might advancements in **stem cell** & **genetic research** be leveraged to **catalyze discovery stage research** that will lead to transformational, rather than incremental, change in the **neurodegenerative disease** (ND) field over the **next decade**?

Design Brief | Intent

1. Identify the bottlenecks/knowledge gaps that would uniquely benefit from multidisciplinary solutions and knowledge sharing
2. Cross-Disease Analysis – discuss how insights from stem cell and genetic research in one ND disease can be applied to others
3. Discuss how insights and innovative tools and techniques can be applied across diseases
4. Identify areas that are already funded by others and do not require CIRM support
5. Discuss a potential role for CIRM in addressing the above points – Is there something for CIRM to do something unique?

Design Brief | Key Knowledge Gaps

Prioritize 3 key knowledge gaps that need to be addressed within your field (i.e., disease area within ND)	Outline how a potential ReMIND program could address those gaps
1	
2	
3	

Design Brief | Guiding Questions

General questions for all sessions:

1. What are the three critical knowledge gaps in the current understanding and treatment of [specific ND disease]?	1. 2. 3.
2. What are the most important bottlenecks in the development process for your therapeutic programs and what kinds of innovations could be most impactful?	•
3. How will your presentation today contribute to closing these gaps?	•
4. Which new technologies that were developed in other fields can now be adapted to answer questions in ND?	•
5. Which new conceptual framework would you propose to be tested?	•
6. How can collaboration between academia, industry, and clinical practice be improved to address these knowledge gaps more effectively?	•
7. Are there particular types of public data or biological resource infrastructure that would benefit from added investment in CA?	•

Questions/Discussion

Design Brief | Potential Sessions/Participant List

Potential Sessions	Potential Participants
Neurodegeneration Across Diseases	• Biomarkers: Henrik Zetterberg • Disease mechanisms (Cellular/Molecular): Mark Cookson, Clive Svendsen • Genetics: Andy Singleton, Beth Stevens • Ignacio Muñoz-Sanjuan (CHDI/now CajalNeuro)
Update on ALS	• Merit Cudowicz, Jeff Rothstein, Don Cleveland, Gene Yeo
Update on Parkinson's Disease	• Early changes in disease: Lorenz Studer • Late changes in disease and cell therapy: Patrick Brundin • Others: Andy Singleton (Genetics), Mark Cookson (Cell Biology), Randy Schekman/Ekemini Riley (ASAP -leveraging others-)
Update on Alzheimer's Disease	• Biomarkers/clinical trials: Randy Bateman, Reisa Sperling, Eric Reiman • T-cell-microglia axis in aging, AD/PD: Tony Wyss Coray, Jonathan Kipnis, David Gate • Genetics: Alison Goate, John Hardy
Huntington's Disease	• Leslie Thompson • Ignacio Muñoz-Sanjuan (CHDI/now CajalNeuro) • Robert Pacifici (CHDI)
Other Neurodegenerative Diseases and Possible Therapies	• Stephanie Cherqui (Cystenosis) • Rosa Rademakers (FTD and related disorders and epilepsy)

Next Steps (out of January 23rd meeting)

Backups

ReMIND: RFA program structure

	ReMIND-L		ReMIND-X
Types of study	Large collaborative projects		Exploratory projects
Preliminary Data	Required		Not required
Award structure	4 years		2 years
Direct costs per award	Base component		$0.5M/ year $1.0M total
	Up to $2.0M/ year $8.0M total		
Expected number of awards	**6**		**12**

ReMIND: Proposed Eligibility

	ReMIND-L	ReMIND-X
Types of study	Large Collaborative projects	Exploratory, high-risk projects
CA eligibility	**California non-profit or for-profit research institutions**	
Principal Investigator	Will manage the project and serve as the primary administrative contact for CIRM and any award partners	
Min % effort	Principal Investigator – 15% Co-Investigators (4 or more) – 10%	Principal Investigator – 5% Co-Investigators (1 or more) – 5%
Team size	5 (minimum) 1 x Principal and Co-Investigators	2 (minimum) 1 x Principal and Co-Investigators
Team member	• At least one member of the collaboration should have relevant clinical expertise • At least one member should have relevant computational biology expertise	• Strongly encourage applications from investigators who can bring new technologies, resources, or frameworks to the study of neuropsychiatric disorders and in-vitro modeling of the human CNS