



Identification & Diagnosis of Cryptogenic Stroke "What is NINDS/role"

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The National Institute of Neurological Disorders and Stroke (NINDS)

The mission of NINDS is to seek fundamental knowledge about the brain and nervous system and to use that knowledge to reduce the burden of neurological disease.

Strategies:

- Invest across the <u>full spectrum</u> of basic, translational, and clinical research
- Establish a <u>data-driven process to identify unmet scientific opportunities</u> and public health needs within and across neurological diseases
- Support research resources and technical advances that <u>catalyze new</u> <u>discoveries</u>
- <u>Communicate and collaborate</u> with the public and with others involved in biomedical research
- Train a robust and diverse neuroscience <u>research workforce</u>
- Adopt a <u>culture of evaluation and continuous improvement</u> across all NINDS programs

http://www.ninds.nih.gov/about_ninds/plans/NINDS_strategic_plan.htm





Translating Discoveries into Health





eurological Disorders

FY 2015 Budget Distribution

(Dollars in thousands)





National Institute of Neurological Disorders and Stroke



Process for seeking Funding









NIH Investment in Stroke Research







2013 NINDS Stroke Research Portfolio



^{***&#}x27;Other clinical' includes phase 1/2 trials, ancillary studies, behavioral studies, etc that were not captured in other categories

NIH Supports Research in Stroke Prevention, Treatment and Recovery



NINDS Stroke Portfolio's

- **Ischemic stroke portfolio**: over 200 investigator-initiated grants investigate the mechanisms underlying the disease progression and recovery, as well as potential therapeutic targets and experimental treatments. The ischemic stroke basic portfolio comprises 4 major areas of investigation:
 - Mechanisms associated with neuronal death, apoptosis and mitochondria, or neurovascular injury;
 - Neuroinflammatory and immune mechanisms in stroke;
 - Mechanisms and/or potential therapies involving neuroprotection or vascular protection;
 - Mechanisms and/or potential therapies related to neurogenesis, angiogenesis, neuroplasticity and repair.
- Hemorrhagic stroke portfolio: Spans from aneurysmal subarachnoid hemorrhage to intracerebral hemorrhage.
 - Grants in this area investigate study vascular dynamic changes and alterations in vessel wall constituents; pathophysiological mechanisms initiated by the presence of blood or blood components; neuroprotective or neurorestorative mechanisms to facilitate recovery; and development of prospective tools to predict treatment response.
- **Stroke clinical research**: NINDS funds approximately 150 investigator-initiated clinical research grants on prospective and retrospective epidemiology studies, prospective registries, and clinical trials.
- Stroke disparities: this portfolio is divided into two broad research categories:
 - Research to understand the extent of the disparities and factors contributing to stroke disparities (stroke disparities epidemiology and genetics)
 - Research that identifies, develops or implements strategies/interventions to address stroke disparities.





Cryptogenic Stroke Portfolio's

- Small clinical portfolio of fewer that 10 active grants
- FY14 spending approximately \$1.5M
- Topics currently being investigated:
 - Diagnosis and screening
 - Atrial fibrillation precursors
 - Molecular biologic mechanisms and thromboregulation
 - Antithrombotic therapy in cryptogenic stroke with PFO







NINDS Stroke Research Priorities and Implementation

Special Report

Research Priority Setting A Summary of the 2012 NINDS Stroke Planning Meeting Report

Barbara G. Vickrey, MD, MPH; Thomas G. Brott, MD; on behalf of the Stroke Research Priorities Meeting Steering Committee and the National Advisory Neurological Disorders and Stroke Council;

Walter J. Koroshetz, MD; on behalf of the National Institute of Neurological Disorders and Stroke

Prevention

- 1) Prevention of Vascular Cognitive Impairment (VCI)
- 2) Imaging Biomarkers in Stroke Prevention: From Bench to Bedside
- 3) Expediting High Priority Comparative Effectiveness Research (CER) Trials in Stroke Prevention

Treatment

- 1) Preclinical and Clinical Studies to Improve Early Reperfusion Therapy and Establish the Limitations of Late Reperfusion Therapy
- 2) Preclinical and Clinical Studies to Achieve Robust Brain Protection

Recovery

- 1) Translational Research Using Neural Interface Devices for Stroke and Other Neurologic Disorders
- 2) Program for Translational Research Targeting Early Recovery after Stroke in Humans







Coming together is a beginning. Keeping together is progress. Working together is success.

~Henry Ford



www.NIHStrokeNet.org





NIH StrokeNet

- NINDS created StrokeNet in 2013 to better support our clinical stroke program
- National Network that includes stroke prevention, acute treatment, and recovery.
- Multi-site Exploratory to confirmatory Phase III Trials, biomarker validation
- Centralized infrastructure for contracts, cIRBs, managing and sharing data, and running trials.
- Big 25 regional centers with over 284 satellite hospitals thus far.





StrokeNet: Decreasing the Burden of Stroke

Increase trial efficiency

Decreases time to finish studies

- Balanced, prioritized set of trials in prevention, treatment and recovery.
- Improved research man/woman power in stroke research. Provides stable funding for research effort, fellowship training
- Improved data sharing.

Single data center with uniform governance for data access

• <u>Stable infrastructure</u>

Enables improved team research among different subspecialties.

 Improved ability to work in public-private partnerships with nonprofits, industry and international partners.



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NIH StrokeNet





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StrokeNet hospitals have access to 50% of the US population



StrokeNet Hospitals with 20, 40 and 65 mile buffers over intersecting blockgroups



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On-going StrokeNet Trials



The Carotid Revascularization and Medical Management for Asymptomatic Carotid Stenosis Study

Health and Hope for Patients at Risk for Stroke









Diffusion and Perfusion Weighted Imaging Evaluation for Understanding Stroke Evolution TRIAL



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StrokeNet Scientific Working Groups

<acute stroke=""></acute>	Membership: Chair: Dr. Pooja Khatri, Co-chair Dr. Jeffrey Saver, TBN (DMC representitive), Dr. William Barsan (NETT ex officio), Dr.Lee Schwamm, Dr. Edward Jauch, Dr. Brett Meyer, Dr. Phillp Scott, Dr. Jay Mocco, Dr. Cathy Sila, Dr. Wade Smith, Dr. Azam Ahmed, Dr. Michel Torbey and Kiva Schindler RN	Working Group Function- The primary function is to critique, refine, and determine feasibility of trial proposals submitted to StrokeNet or developed by StrokeNet investigators.
<primary and<br="">Secondary Prevention></primary>	Membership: Chair. Dr.Thomas Brott, Co-chair Dr. Ralph Sacco, TBN (DMC representative), Bernadette Boden-Albala DrPH, Dr. Amy Towfighi, Dr. Scott Kasner, Dr. Kamakshi Lakshminarayan, Dr. David Tirschwell, Dr. Shyam Prabhakaran, Dr. Enrique Leira, Dr. Marc Chimowitz, Dr. Natalia Rost and Glenn Schubert, MPH	Working Group Function- The primary function is to critique, refine, and determine feasibility of trial proposals submitted to StrokeNet or developed by StrokeNet investigators.
<recovery and<br="">Rehabilitation></recovery>	Membership: Chair: Dr Steve Cramer, Co-Chair: Steven Wolf PhD, TBN (DMC representative),Ron Lazar, PhD, Dr. Alex Dromerick, Dr. Larry Wechsler, Dr. Sean Savitz, Lorie Gage Richards PhD, Dr. Maarten Lansberg, Dr. Andrew Grande, Dr. Elliot Roth, Dr. Harold Adams and Suyi Niu	Working Group Function- The primary function is to critique, refine, and determine feasibility of trial proposals submitted to StrokeNet or developed by StrokeNet investigators.





Top 3 Gaps in Stroke Prevention

1. Optimizing medical management for secondary stroke prevention including research on **innovative systems to maximize delivery of care and strategies to bolster self-management skills**, self- efficacy, medication adherence, and lifestyle change.

2. Developing more effective early and long-term interventions for stroke subtype-specific secondary prevention among high risk patients with intracranial atherosclerosis, cardioembolic stroke, small vessel disease (ischemic strokes and intracerebral hemorrhage), and cryptogenic infarcts including personalized pharmacogenetic approaches for antithrombotic medication selection.

3. Improving primary prevention strategies including interventions for subclinical leukoarisosis progression/silent stroke, vascular cognitive impairment, **asymptomatic aneurysms**, and peri-operative stroke.



National Institute of Neurological Disorders and Stroke



Questions? Thank you!

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