National Center for Research Resources
NATIONAL INSTITUTES OF HEALTH

Translating research from basic discovery to improved patient care

An Overview of NCRR: Presentation to the Scientific Management Review Board

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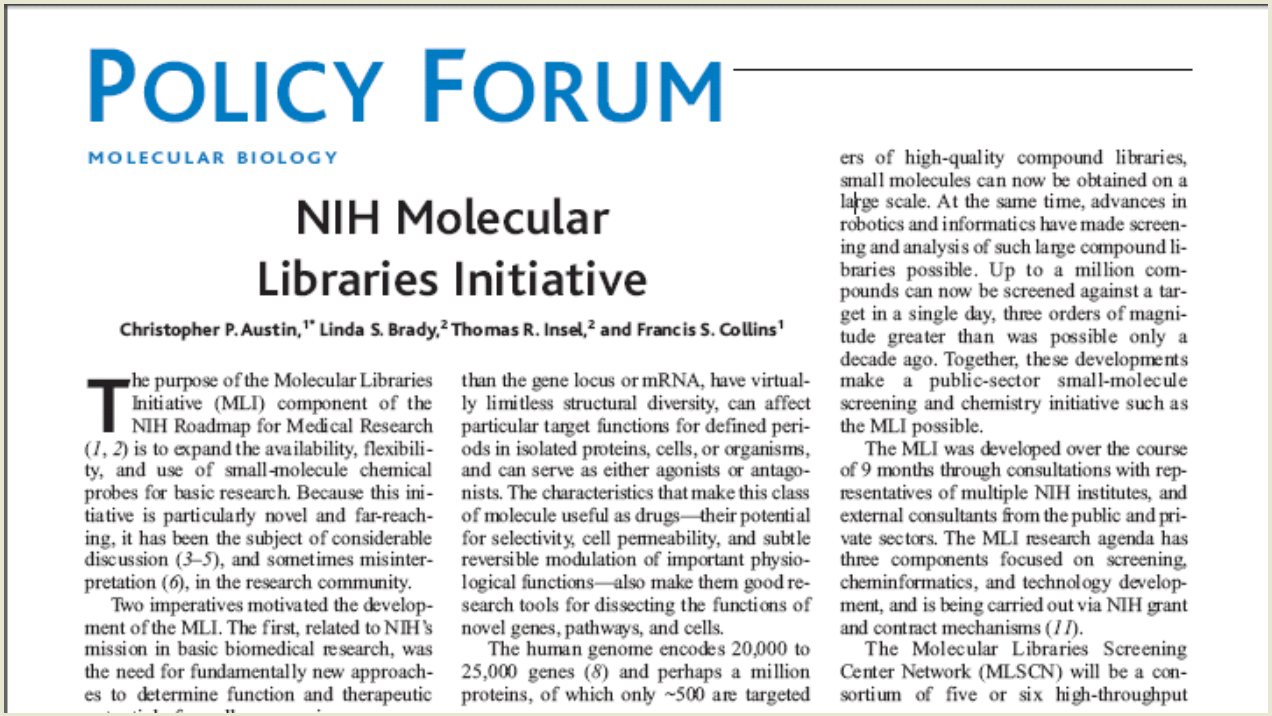
NCRR Increases the Efficiency of Translation :
View from the Investigators and Academic Health Centers

- Transformative technologies
- Unique animal models
- Access to deep multi-disciplinary expertise
- Opportunities for minority – serving institutions
- Direct, hands-on training

Vision of Translational Research in 2004

Written by Drs. Austin, Brady, Insel and Collins



POLICY FORUM

MOLECULAR BIOLOGY

NIH Molecular Libraries Initiative

Christopher P. Austin,[1*] Linda S. Brady,[2] Thomas R. Insel,[2] and Francis S. Collins[1]

The purpose of the Molecular Libraries Initiative (MLI) component of the NIH Roadmap for Medical Research (*1*, *2*) is to expand the availability, flexibility, and use of small-molecule chemical probes for basic research. Because this initiative is particularly novel and far-reaching, it has been the subject of considerable discussion (*3*–*5*), and sometimes misinterpretation (*6*), in the research community.

Two imperatives motivated the development of the MLI. The first, related to NIH's mission in basic biomedical research, was the need for fundamentally new approaches to determine function and therapeutic

than the gene locus or mRNA, have virtually limitless structural diversity, can affect particular target functions for defined periods in isolated proteins, cells, or organisms, and can serve as either agonists or antagonists. The characteristics that make this class of molecule useful as drugs—their potential for selectivity, cell permeability, and subtle reversible modulation of important physiological functions—also make them good research tools for dissecting the functions of novel genes, pathways, and cells.

The human genome encodes 20,000 to 25,000 genes (*8*) and perhaps a million proteins, of which only ~500 are targeted

ers of high-quality compound libraries, small molecules can now be obtained on a large scale. At the same time, advances in robotics and informatics have made screening and analysis of such large compound libraries possible. Up to a million compounds can now be screened against a target in a single day, three orders of magnitude greater than was possible only a decade ago. Together, these developments make a public-sector small-molecule screening and chemistry initiative such as the MLI possible.

The MLI was developed over the course of 9 months through consultations with representatives of multiple NIH institutes, and external consultants from the public and private sectors. The MLI research agenda has three components focused on screening, cheminformatics, and technology development, and is being carried out via NIH grant and contract mechanisms (*11*).

The Molecular Libraries Screening Center Network (MLSCN) will be a consortium of five or six high-throughput

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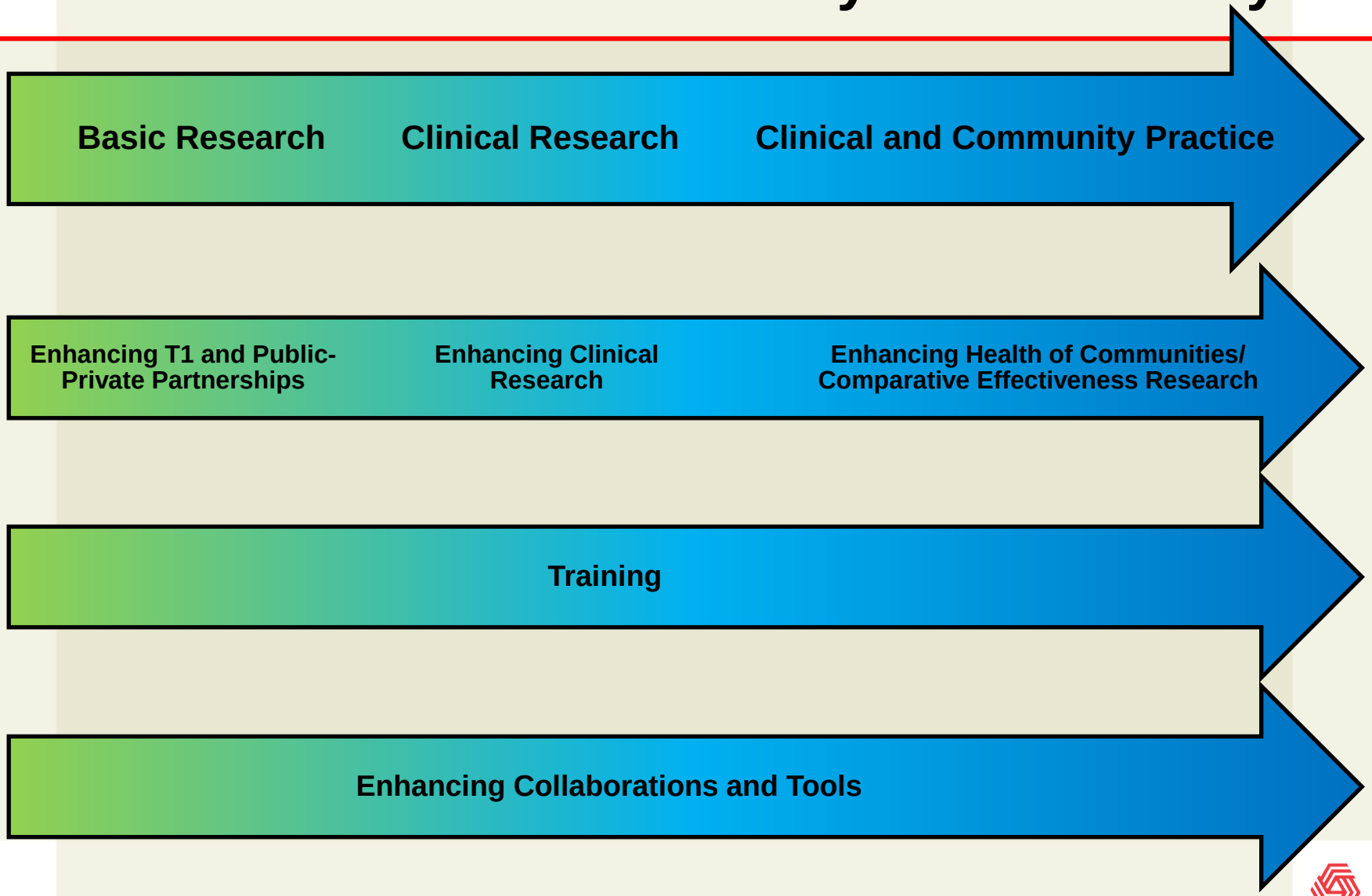
CTSA Consortium: Promoting Efficient Translation from Laboratory to Community



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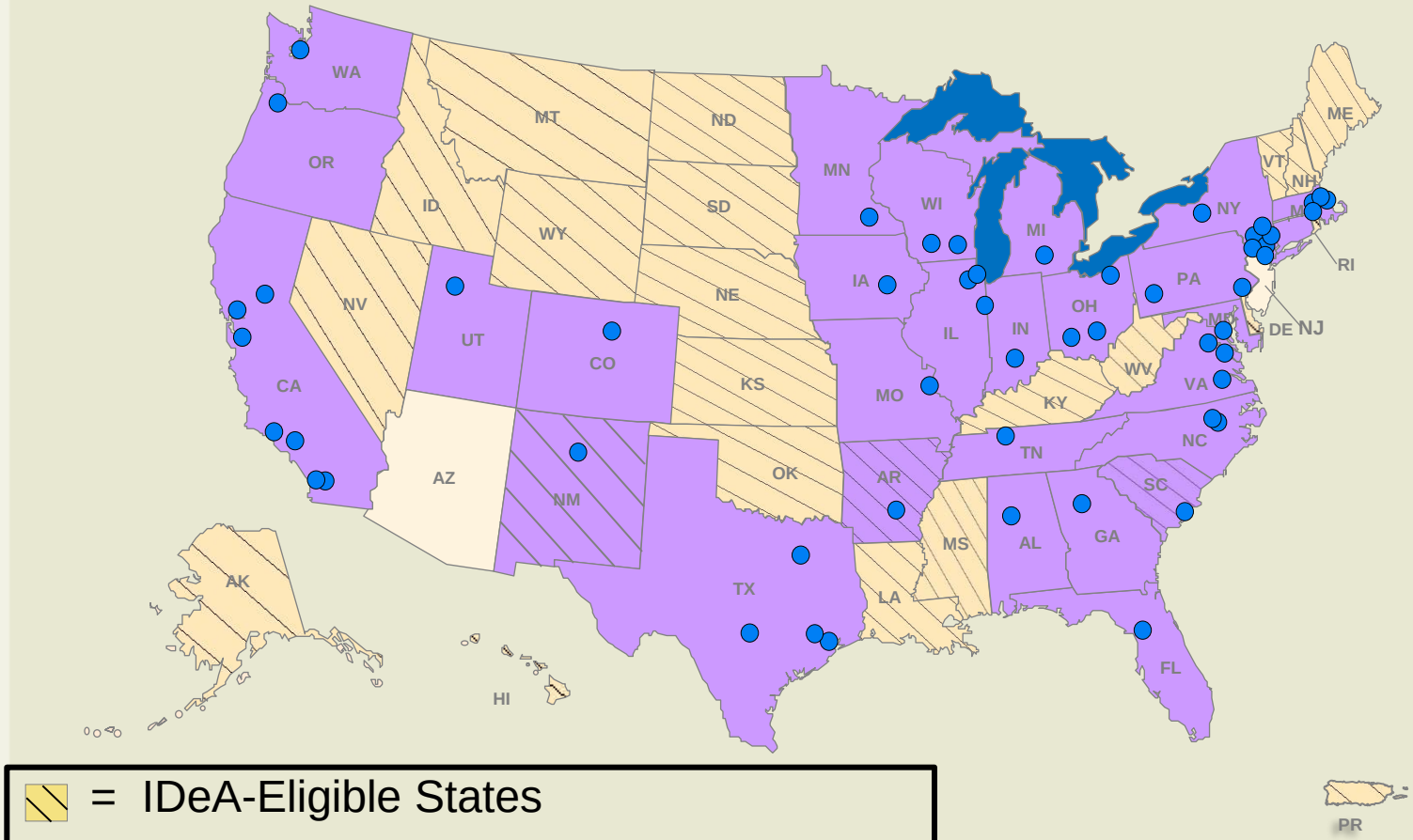
2010-Building a National CTSA Consortium

55 CTSA sites in 28 states and the District of Columbia



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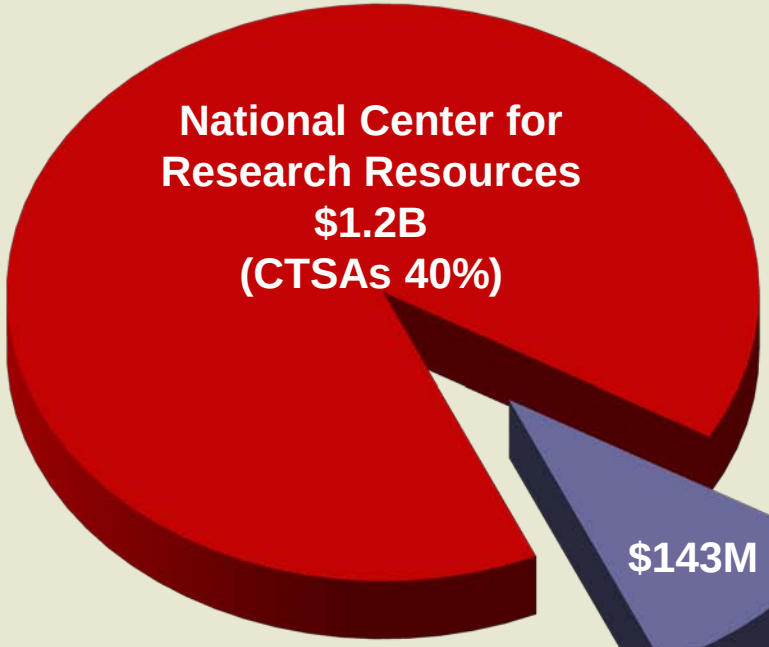
Budgets of Molecular Libraries, RAID, and TRND Relative to Budget of NCRR (2010)



Proposed New Programs	
Molecular Libraries	$113M
Therapeutics for Rare and Neglected Diseases (TRND)	$25M
Rapid Access to Interventional Development (RAID)	$5M

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NCRR Recommendations

- Develop a financial and impact report that SMRB is charged by Congress to provide
- Engage in dialogue with stakeholders
- Consider :
  - Incorporating Molecular Libraries, RAID and TRND into NCRR after careful review of budget and accomplishments by expert advisory panel
  - Recruiting a new director for the newly-configured center that **CONTINUES** to address the full spectrum of translational medicine