



# The NIH Intramural Research Program

## New Trans-NIH Initiatives

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# National Institutes of Health

The mission of the NIH is to uncover new knowledge that will lead to better health for everyone by:

- conducting research in its own laboratories (**intramural**)
- providing support for research conducted by scientists in universities, medical schools, hospitals, and other research institutions throughout the country and abroad (**extramural**)
- training research investigators
- fostering the communication of medical information

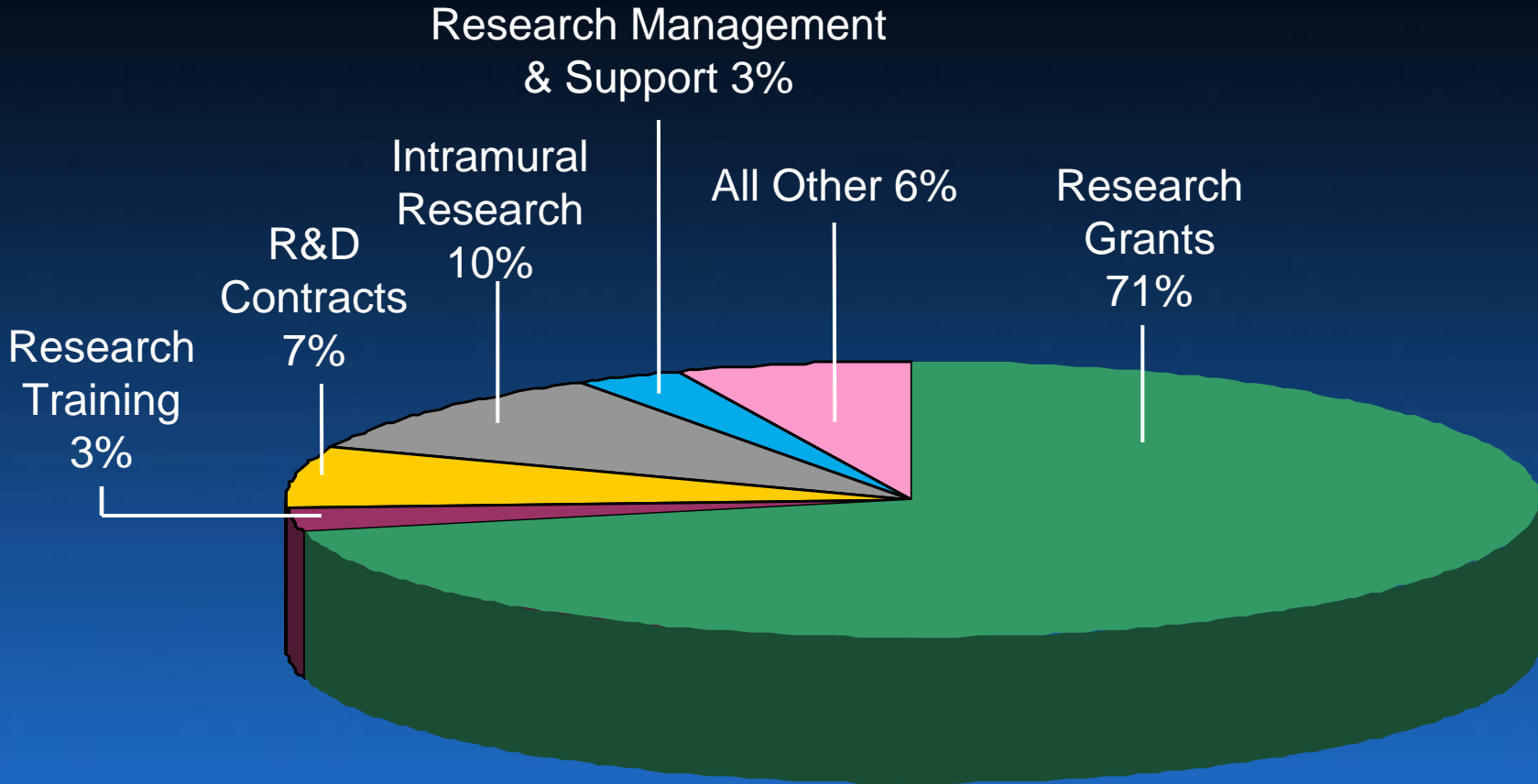


# **Intramural Mission**

**The NIH Intramural Research Program conducts distinctive, high-risk, high-impact laboratory, clinical, and population-based research in a unique and fostering environment, where it also trains a diverse population of outstanding young researchers. Each NIH Institute and Center that conducts intramural research has clear goals, objectives and a mission for its organization.**

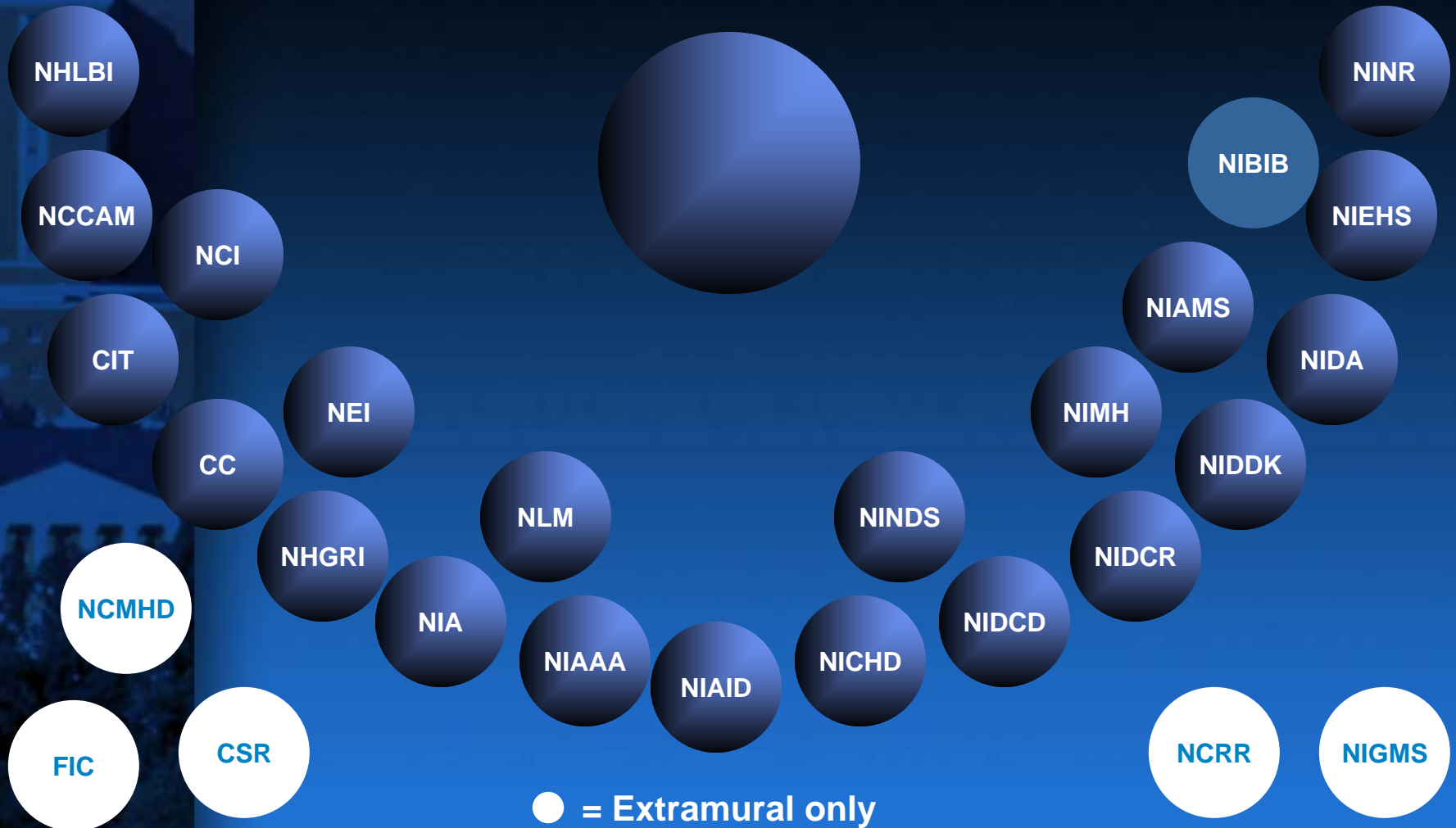
# National Institutes of Health

(FY 2007 \$28.8 billion)



Over 80% of NIH funds support extramural research

# NIH consists of 27 Institutes and Centers



# How many researchers are at NIH?



1,000 summer students

600 postbaccalaureate trainees

100 medical students

400 graduate students

3,800 postdoctoral fellows

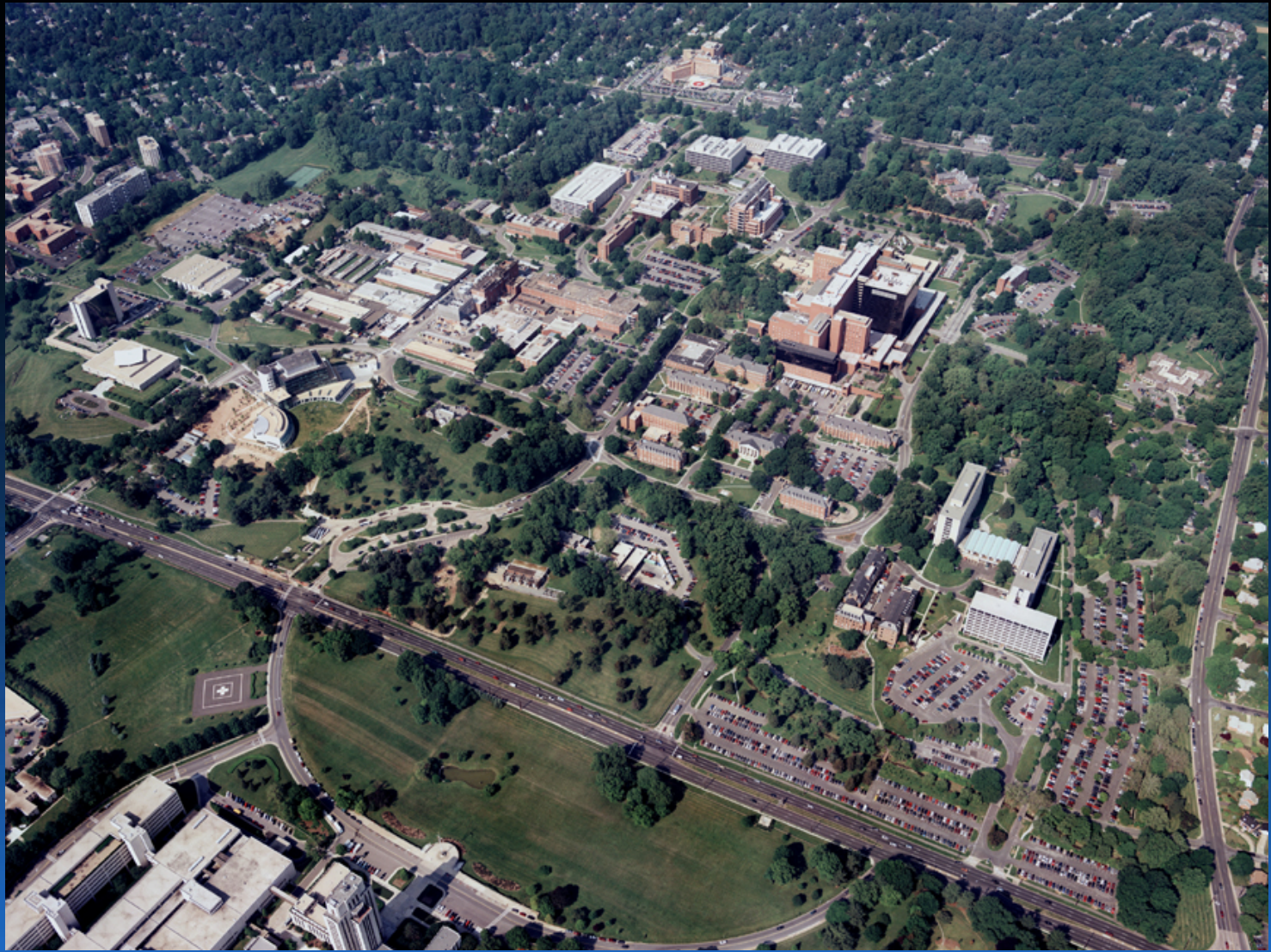
300 staff clinicians

900 staff scientists

240 tenure-track investigators

900 senior investigators

1140 intramural research laboratories & clinical branches



The NIH has 75 buildings on 322 acres in Bethesda, Maryland

A satellite-style map of the United States showing topography and vegetation. Five research centers are marked with white lines pointing to their locations. The map shows the Great Lakes region, the Appalachian Mountains, and the Gulf of Mexico.

NIAID  
Hamilton, MT

NIDDK  
Phoenix, AZ

NIA, NIDA  
Baltimore, MD

NIH  
Bethesda, MD

NIEHS  
Raleigh/Durham, NC



# Other NIH Intramural Research Sites

- NIEHS – Research Triangle Park, NC
- NIDA and NIA – Baltimore, MD
- NIAID Rocky Mountain Labs, Montana
- NIDDK Diabetes/Obesity – Phoenix, AZ
- NICHD – Detroit, MI
- NCI – Frederick, MD

# Key elements of intramural program

- Intellectual freedom: ability to do high-risk, high-impact science because of a predominantly retrospective review system and stable research support
- Stable resources and funding for new technology and high-risk long-term projects
- A critical mass of talent to collaborate with: recruitment from diverse sources, “an eye for talent”
- Leadership that recognizes the unique features of the NIH intramural program and preserves these – support for unconventional ideas

# **Some Special Features of Intramural Research**

- **The Clinical Center--the largest hospital in the world dedicated entirely to research**
- **Well-equipped, safe, modern research laboratories (6,800,000 sq. ft.)**
- **State-of-the-art equipment**
- **Extensive animal facilities**
- **Effective technology transfer program**

# **The whole is greater than the sum of its parts: encouraging trans-NIH initiatives**

**--Infrastructure: Clinical Center, animal imaging facility, human embryonic stem cell facility, etc.**

**--Research and training initiatives: undergraduate, post-bac, medical student, grad student, and post-doc programs; trans-NIH research initiatives**

# **Trans-NIH Intramural Research Initiatives**

- **We have been identifying new and creative ways to take advantage of special features of the intramural research program**
- **Over 100 intramural scientists from all ICs met in focus groups to identify areas of trans-NIH emphasis**
- **Extramural scientific leaders helped set priorities for these new initiatives**

# Goals of the Trans-NIH Initiative Program

- Take advantage of unexploited research opportunities and the unique features of the intramural research program
- Encourage trans-NIH and intramural-extramural interactions
- Tap the creativity and talent of intramural investigators

# **Trans-NIH Initiatives Chosen Following Consultation Process**

- **Center for Human Immunology, Autoimmunity, and Inflammation (CHI)**
- **Imaging Initiative (Molecules to Cells)**
- **Systems Biology Initiative (Molecular Networks)**

# **Center for Human Immunology, Autoimmunity, and Inflammation (CHI)**

- **Focus on human immunology and disease**
- **Develop a model for NIH translational research, incorporating basic and clinical components**
- **Foster interactions among a range of clinical disciplines related to human immunology**
- **Maximize use of the Clinical Center as a unique resource**



# **Imaging Initiative - Molecules to Cells**

- **Bring together trans-NIH expertise to improve resolution for molecular and cellular imaging**
- **Develop new probes/chemistry to enhance imaging resolution**
- **Provide access to cutting-edge technologies in imaging**
- **Take advantage of the new NIBIB intramural program**

# **Systems Biology Initiative - Molecular Networks**

- **Elucidate networks in cell activation and differentiation**
- **Develop complementary tools to study molecular networks**
- **Provide a focused effort in data collection and data analysis**
- **Assemble and maintain public databases**

# Additional Interdisciplinary Trans- NIH Research Areas

- Bench-to-bedside/translational research
- Physics, chemistry, and engineering in biology
  - Structural biology
  - Robotics
  - Tissue engineering
- Obesity: new center in NIDDK/CC
- Adult stem cell research and clinical development
- New Director's challenge fund: development in progress