

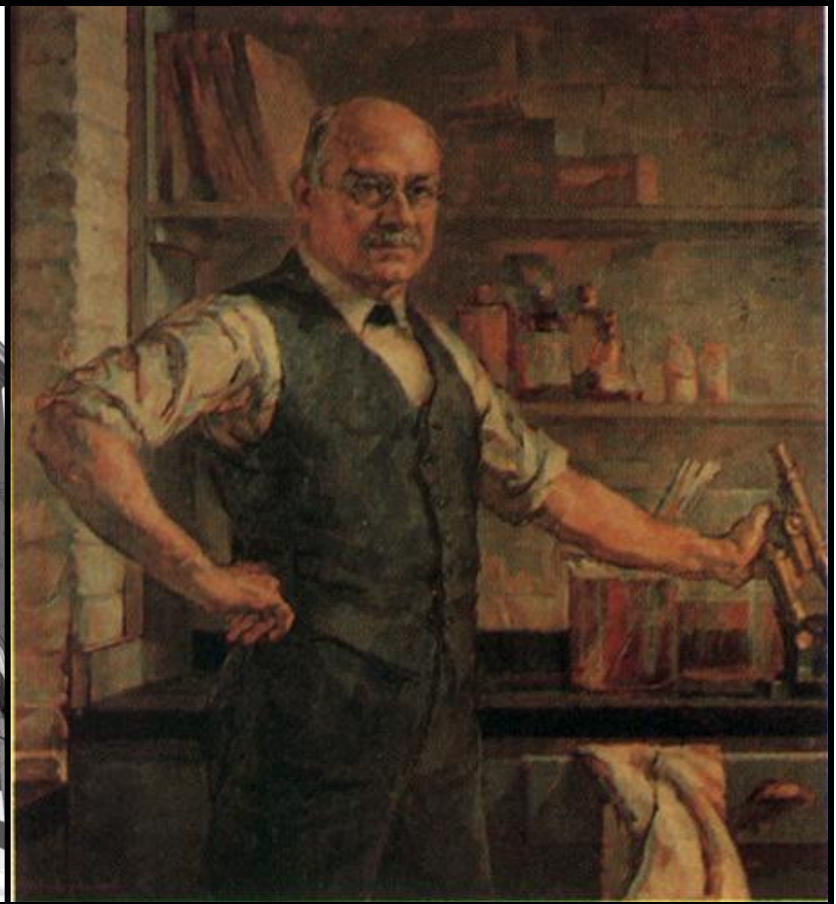


The NIH Intramural Research Program: Taking Its Place for the Future

**Presentation to the Scientific Management Review Board
April 28, 2009**

Michael Gottesman, M.D.
Deputy Director for Intramural Research

The NIH Intramural Research Program: Past and Calls for Change



Historical Perspectives

- **Derived from a one-room lab in 1887 to its present configuration on 5 major campuses**
- **Has conducted research that transformed biomedicine and trained investigators who lead academic health centers; trusted source of medical information and facilitator of collaborative interactions**
- **Has provided a research environment distinct from most others**
- **Called a “social invention for human betterment” (Lewis Thomas--1984)**
- **Described as a “rallying point of the Nation’s overall biomedical research effort” (IOM--1988)**

The NIH Intramural Research Program: Present





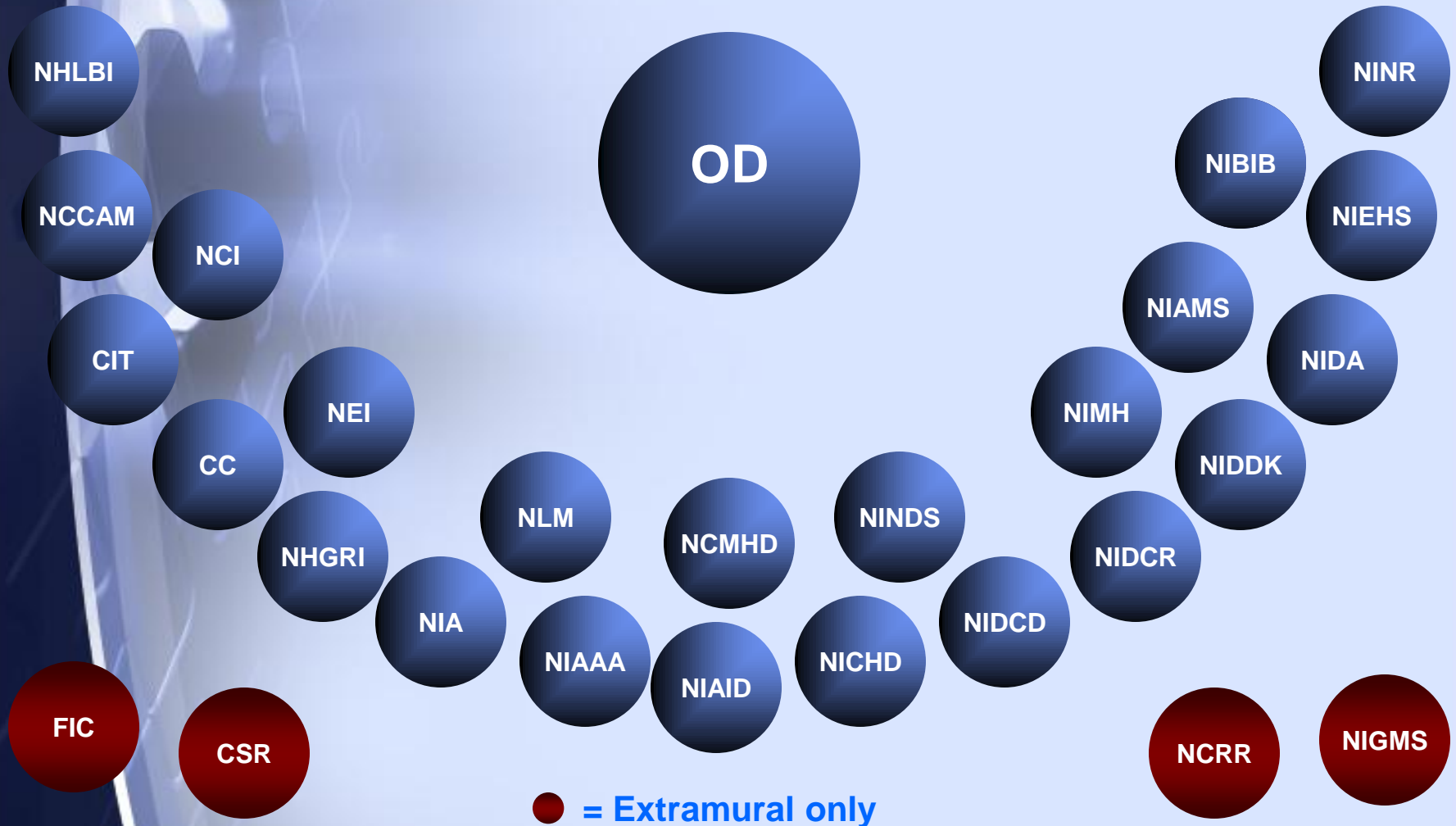
Key Underpinnings of the NIH Intramural Research Program

- **Mission and vision** of the intramural research program to provide a distinct environment to support the overall NIH mission
- **Intellectual freedom**: ability to do high-risk, high-impact science mainly because of a largely retrospective review system
- **Long-term resources and funding** for new technology and high-risk long-term projects
- **A critical mass of talent** engaged in collaborations and partnerships
- **Supportive leadership** that recognizes the unique environment of the NIH intramural program

Structure and Oversight of the NIH Intramural Research Program

- **23 of the 27 ICs participate in the intramural research program**
- **Office of Intramural Research and Deputy Director for Intramural Research oversees hiring of PIs, external review process for science, tech transfer, intramural training programs, human subjects research, and animal care and use to assure uniformity and quality of the overall intramural research program**
- **IC Directors allocate resources from IC budgets to intramural within envelope established by the NIH Director; Scientific Directors of each intramural program manage within allocation to set scientific priorities and support shared resources**

NIH consists of 27 Institutes and Centers of which most have intramural programs



A satellite-style map of the United States showing topography and vegetation. Four 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

Scientists and Trainees at NIH

- **1,000 summer students (high school, college, graduate and medical)**
- **600 post-baccalaureate trainees**
- **100 medical/dental students**
- **500 graduate students**
- **3,800 post-doctoral fellows**
- **300 Staff Clinicians**
- **900 Staff Scientists**
- **240 Tenure-track Investigators**
- **900 Senior Investigators**



Distinguishing Features of Intramural Research

- **SDs assign funds for high-impact, long-term, innovative research--Board of Scientific Counselors review process emphasizes this**
- **Emphasis on rigorous retrospective peer review**
- **Ability to build and support stable infrastructure (i.e., facilities and equipment)**
- **Research risk mitigated by optimizing research support**
- **New directions and research areas are common, easy to do and encouraged**

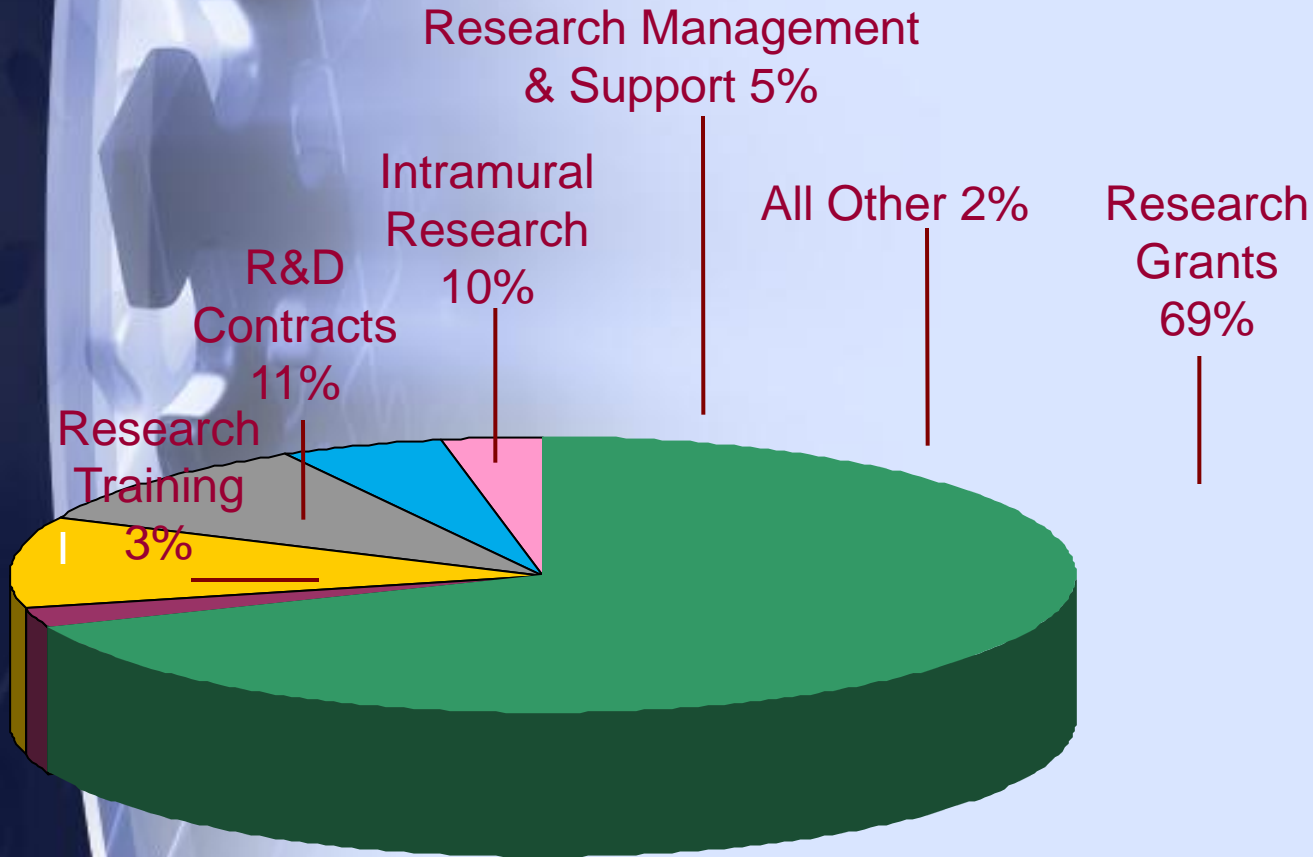


Distinguishing Features of Intramural Research

- **Bedside to Bench to Bedside in the Clinical Center--close proximity of lab and clinical investigators**
- **Scientific leaders interact directly with PIs**
- **Researchers focus on research and mentoring, not on grant proposals**
- **Emphasis on post-doctoral rather than graduate training**
- **Financial conflicts of interest minimized by government ethics rules**

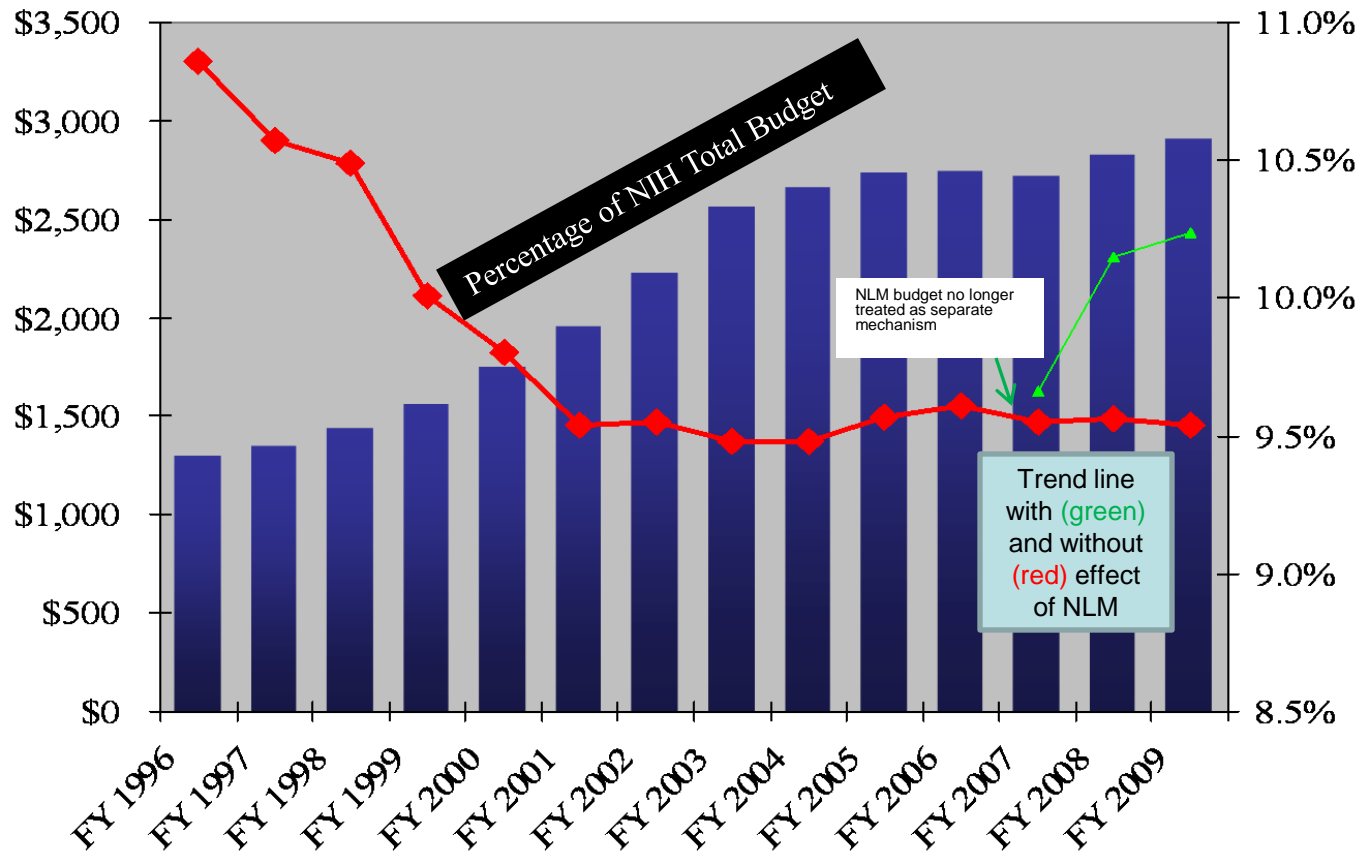
National Institutes of Health

FY 2009 Enacted \$30.6 billion

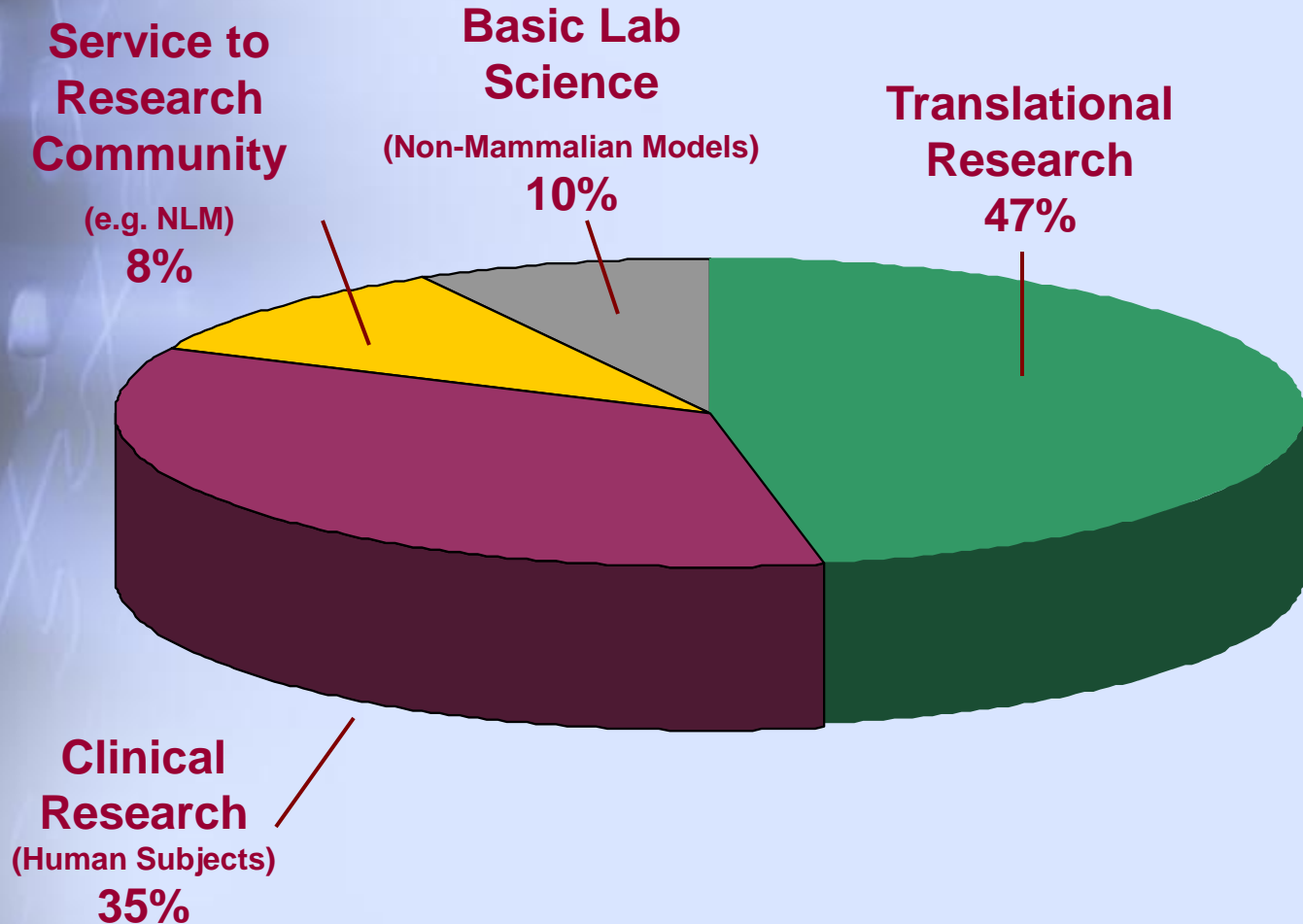


Over 80% of NIH funds support extramural research

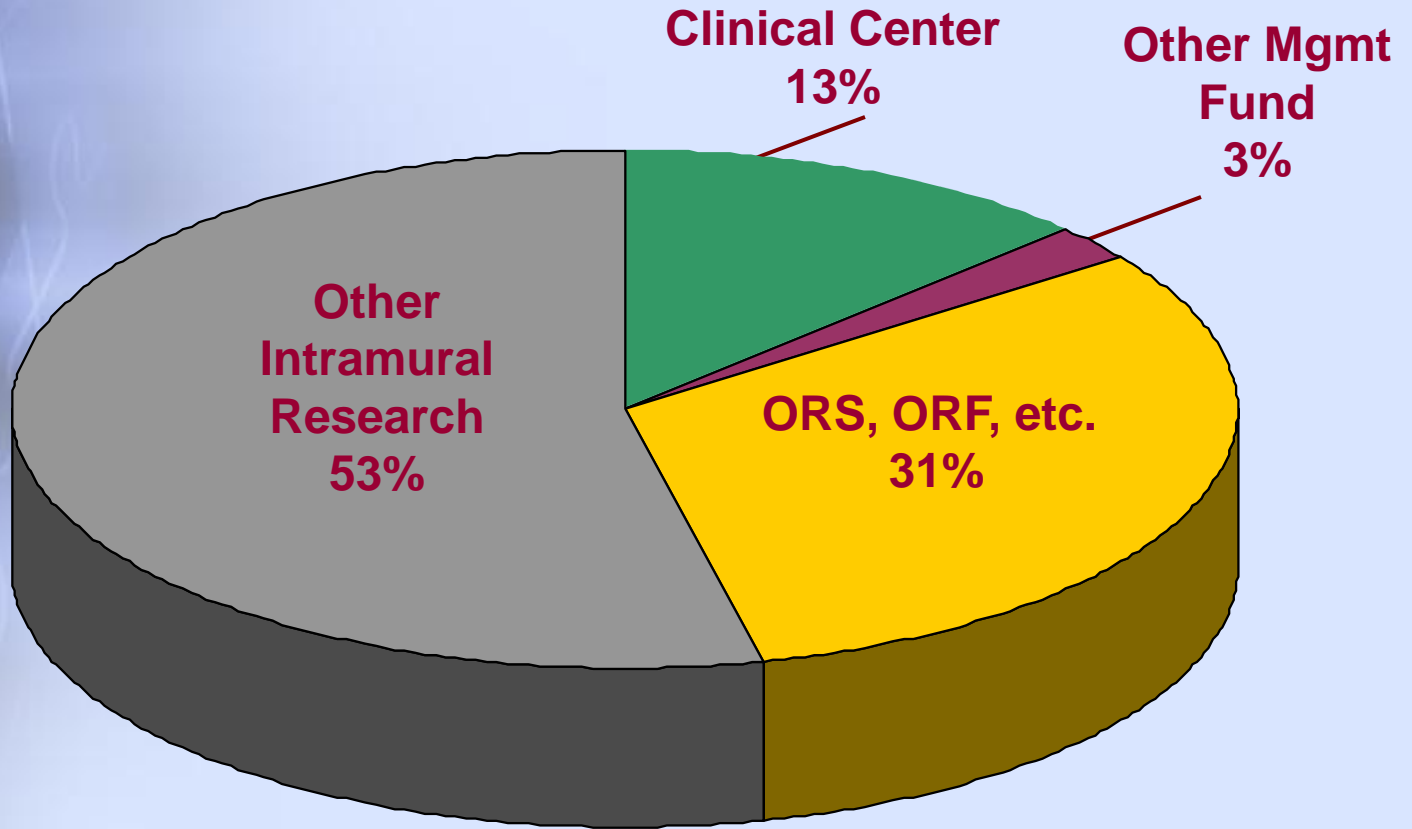
Intramural vs. Total NIH Funding over Time (FY 1996-2009)



Approximate Distribution of NIH Intramural Resources by General Subject Area



Distribution of Intramural Budget by Accounting Categories—FY 2008



Managing with Flat Budgets, FY 2004-FY 2009

- **Rising administrative and personnel costs mean research operating budgets are a smaller percentage of total**
- **Ongoing dollar stretching exercises result in increased operating efficiencies**
- **Healthy turnover of PIs with approx. 300 leaving NIH in past 5 years and 180 new hires**
- **Trans-NIH initiatives to encourage shared resources and stimulate innovation**

Trans-NIH Scientific Initiatives

- **Imaging: molecules to man (lead NIBIB)**
 - **Center for Human Immunology (lead NHLBI)**
 - **Systems Biology (leads NCI, NIAID, NHLBI, NIDDK)**
 - **Stem cells (hES and iPS, adult bone marrow mesenchymal)(leads NINDS, NIDCR)**
 - **Undiagnosed diseases program (lead NHGRI)**
-
- **Epigenomics**
 - **Biomarkers**
 - **Intramural AIDS targeted anti-viral program**
 - **Biodefense**
 - **Bench-to-bedside proposals**



Challenges and Goals

- 1. In concert with the NIH leadership, refine the mission and vision of the Intramural Research Program**
- 2. Build a translational research continuum from laboratory, to target validation and pre-clinical pharmaceutical development, including animal models, to early phase clinical research**
- 3. Maintain the preeminence of the NIH Clinical Center and increase productive intramural-extramural interactions in translational and clinical research areas**
- 4. Establish and encourage new trans-NIH initiatives to leverage talent and resources across the NIH Institutes and Centers**
- 5. Change demographics and enhance the diversity of scientists and trainees at the NIH**



Questions for the SMRB about the Clinical Center

- **Can we create a business model that makes the CC viable for the foreseeable future?**
- **How can we align the research requirements of the intramural research program with the new business model for the CC, and encourage intramural-extramural interactions?**