The ACD Report on Long-Term Intramural Research Program Planning: NIH Response and Implementation Plan

Presented to the ACD - June 12, 2015

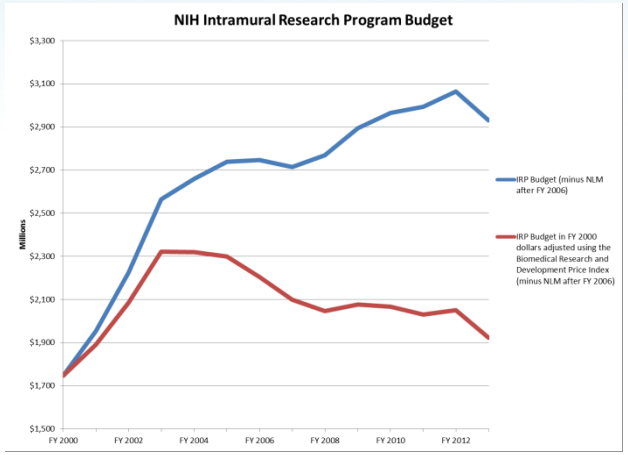
Michael Gottesman, M.D.
Deputy Director for Intramural Research

NIH Intramural Research Program
Our Research Changes Lives

one program
many people
infinite possibilities

Issues Facing Entire Biomedical Research Enterprise (Intramural and Extramural)

- Declines in inflation-adjusted funding
- Inadequate diversity of the biomedical workforce as the U.S. population becomes more diverse
- Need for opportunities and appropriate training for talented students to enter productive career paths



- Changes in the methodologies and costs of conducting research
- A growing need for more effective translation of laboratory science into clinical applications

Summary of Issues from 25 ACD Recommendations

- Strengthening the Clinical Center and clinical research at the NIH
- Promoting diversity
- Recruiting and appointing NIH scientists
- Supporting new research opportunities
- Enhancing intramural-extramural collaborations and team science
- Optimizing use of shared resources at NIH
- Improving the scientific review process

NIH Response and Implementation Plan

NIH Clinical Center:

- **Provide mechanisms to build alliances with the extramural clinical research community**
- **Enhance the role of the IRP in training the next generation of physician-scientists**
- **Promote existing programs and new methods for improving the recruitment of clinical investigators**
- **The CC will genotype all CC patients and conduct comprehensive phenotyping of this valuable cohort of subjects who are seen repeatedly at the CC**
- **The CC will become a referral center for phenotyping human subjects with unusual genotypes**

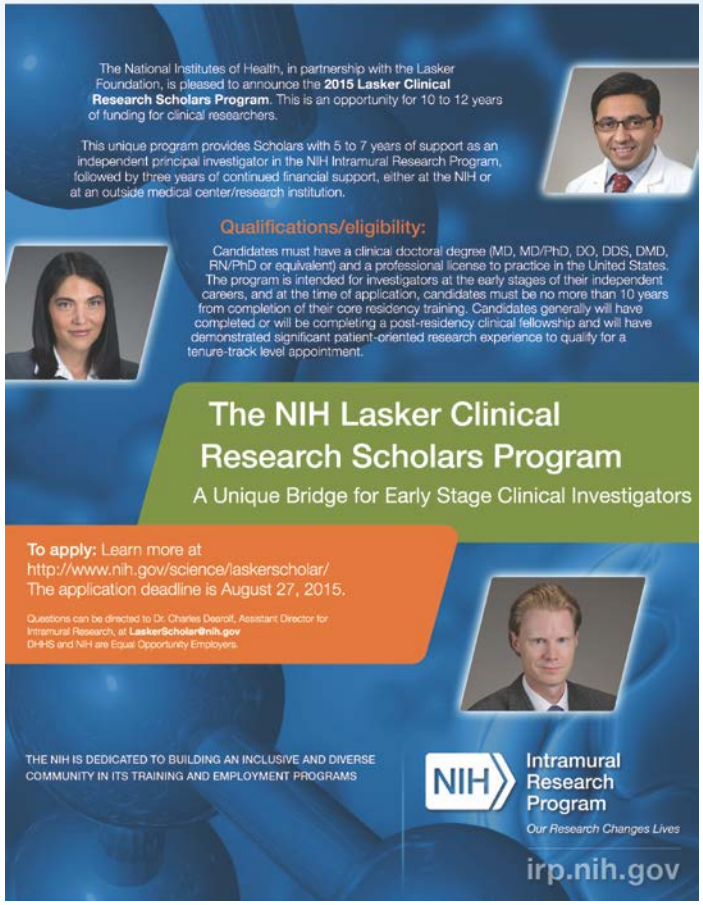
NIH Response and Implementation Plan

Diversity of the IRP Workforce:

NIH will adopt and expand recommendations that will influence workforce diversity at every career level

- **Trans-NIH search processes for new scientific staff will cast a wider net for talented scientists using more central recruitment**
- **New pathways for career development will be established to allow investigators to graduate to independence**
- **A centralized program for recruitment, mentoring, and career development of post-doctoral fellows will be initiated**
- **We will start a new high school enrichment program and enhanced graduate and medical training programs, adding to an extensive set of programs at the NIH for disadvantaged students**

NIH Response and Implementation Plan



Recruitment Processes and Career Development:

- **Expand the use of Stadtman and Lasker trans-NIH search processes**
- **Increase the number of positions for Assistant Clinical Investigators**
- **Enhance advertising and outreach for all available positions, including Staff Scientists**

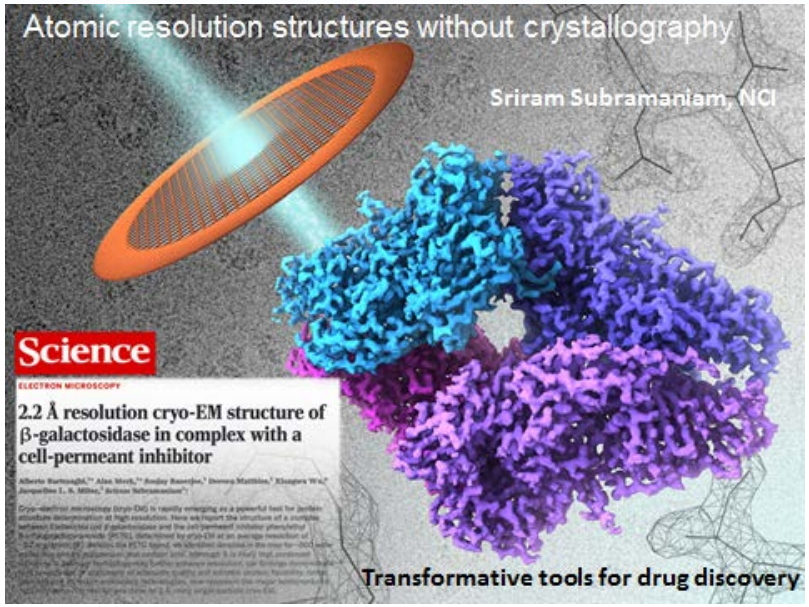
NIH Response and Implementation Plan

Program Planning and Investment Funds:

- Create a central pool of funds and separate funds in each IC to stimulate new initiatives
- Eventually aim for 1% of the intramural budget (gradually reaching this level over several years) to facilitate collaborative research opportunities and start-up funds for important recruitments, but not sustained support
- NIH will ask scientific experts drawn from the extramural research community and outstanding intramural investigators to identify exciting new research directions that might take advantage of the distinctive environment of the IRP

Creating and Using New Technologies at the NIH

- Development of a technology incubator at the NIH including optical microscopy, instrument development, and clinical imaging
- Emphasis on structural biology, especially development of near atomic resolution cryo-EM as a research tool
- Development of a comprehensive phenotyping core at the CC to enhance genotype-phenotype analysis of existing human subjects and serve as a referral center for unusual genotypes
- Enhancement of computational resources for big data analysis



Shared Scientific Opportunities

Areas of scientific opportunity identified earlier by the ICs in which the ICs have expertise and are prepared to excel and take a leadership role:

- **Inflammatory diseases**
- **Cell-based therapies**
- **Microbiome**
- **Drug resistance**
- **RNA biology and therapeutics**
- **Vaccines**
- **Neuroscience, especially compulsive behaviors**
- **Animal modeling**
- **Natural products**

How NIH Will Stimulate Trans-NIH Efforts

- Workshops will be convened to define goals and best ways forward
- The Scientific Directors have identified the areas for trans-NIH collaboration and are committed to support them
- Create a central source of funds to support trans-NIH activities
- Encourage recruitments in areas of trans-NIH interest
- Recognition by awards, career advancement
- Provide resources to facilitate trans-NIH activities:
  - Space
  - Positions such as for Staff Scientists
  - Post-doctoral fellows and other trainees

Questions?





NIH Intramural Research Program
Our Research Changes Lives

one program
many people
infinite possibilities

irp.nih.gov

Supplemental Slides Follow

Timelines to Progress in the NIH IRP

- 1988 IOM Report
- 1994 ACD Review of the IRP
- 2003 IOM Report on NIH Organization
- 2004 Blue Ribbon Panel on IM Clinical Research
- 2010 SMRB Report on the Clinical Center

Timelines to Progress in the NIH IRP

1988 IOM Report

1994 ACD Review of the IRP

2003 IOM Report on NIH Organization

2004 Blue Ribbon Panel on IM Clinical Research

2010 SMRB Report on the Clinical Center

- Foundation for the NIH (1990)
- Director's Discretionary Fund (1990)
- Tenure Program and national searches (1995)
- Title 42 Pay System (1999)

Timelines to Progress in the NIH IRP

1988 IOM Report

1994 ACD Review of the IRP

2003 IOM Report on NIH Organization

2004 Blue Ribbon Panel on IM Clinical Research

2010 SMRB Report on the Clinical Center

- More rigorous BSC reviews (1994)
- Central Tenure Committee (1994)
- Diversity Initiatives: WSAs (1994), UGSP (1996), and NIH Academy (2001)
- Training /Mentoring, including GPP (2001)
- Construction of CRC (2005)

Timelines to Progress in the NIH IRP

1988 IOM Report

1994 ACD Review of the IRP

2003 IOM Report on NIH Organization

2004 Blue Ribbon Panel on IM Clinical Research

2010 SMRB Report on the Clinical Center

- Criteria for review of intramural research mirrored extramural criteria, including innovation (2005) and conducting high-risk, high-reward projects; added environment to criteria for review to emphasize taking advantage of intramural scientific environment and developing useful collaborations

Timelines to Progress in the NIH IRP

1988 IOM Report

1994 ACD Review of the IRP

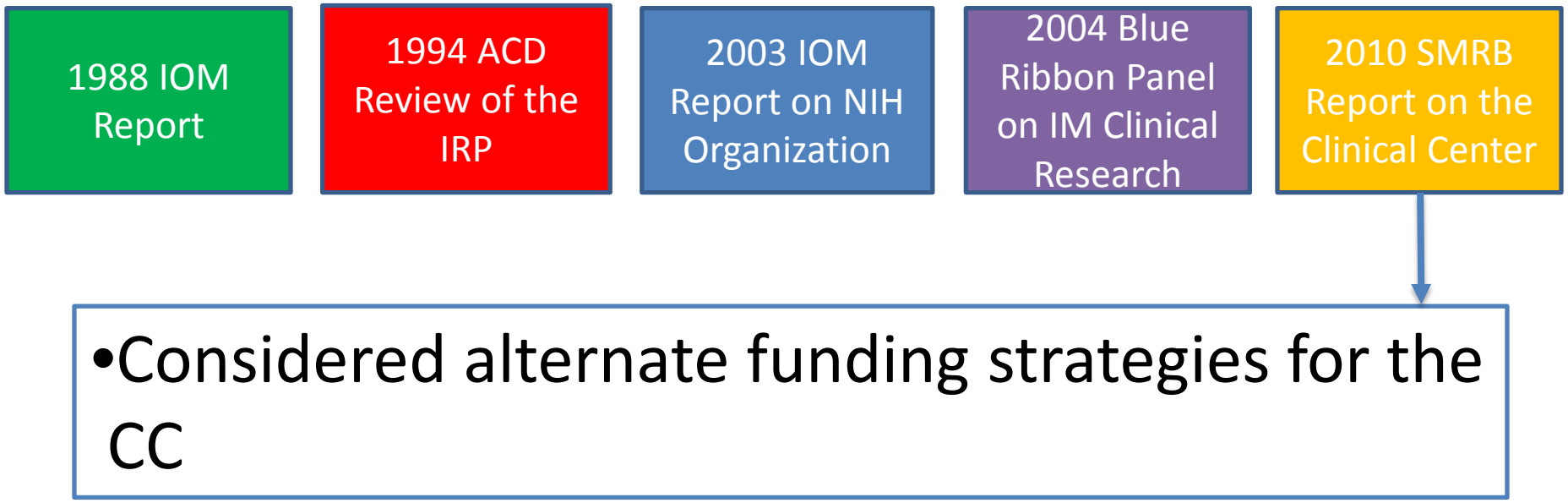
2003 IOM Report on NIH Organization

2004 Blue Ribbon Panel on IM Clinical Research

2010 SMRB Report on the Clinical Center

- Tenure Guidelines for team members (2007)
- Created ICRSC (2008)
- Appointed DDICR (2008)
- Assistant Clinical Investigators (2008)
- Lasker Clinical Scholars Program (2011)

Timelines to Progress in the NIH IRP



Timelines to Progress in the NIH IRP

1988 IOM Report

- Foundation for the NIH (1990)
- Director's Discretionary Fund (1990)
- Tenure Program and national searches (1995)
- Title 42 Pay System (1999)

1994 ACD Review of the IRP

- More rigorous BSC reviews (1994)
- Central Tenure Committee (1994)
- Diversity Initiatives: WSAs (1994), UGSP (1996), and NIH Academy (2001)
- Training /Mentoring, including GPP (2001)
- Construction of CRC (2005)

2003 IOM Report on NIH Organization

- Criteria for review of intramural research mirrored extramural criteria, including innovation (2005) and conducting high-risk, high-reward projects; added environment to criteria for review to emphasize taking advantage of intramural scientific environment and developing useful collaborations

2004 Blue Ribbon Panel on IM Clinical Research

- Tenure Guidelines for team members (2007)
- Created ICRSC (2008)
- Appointed DDICR (2008)
- Assistant Clinical Investigators (2008)
- Lasker Clinical Scholars Program (2011)

2010 SMRB Report on the Clinical Center

- Considered alternate funding strategies for the CC