



NIH Scientific Management Review Board



Deliberating Organizational Change and Effectiveness Working Group Update

March 10, 2010

William Brody, MD, PhD

President

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La Jolla, California

Membership

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Charge

- **To Articulate:**
 - **The factors and circumstances that might prompt the agency to contemplate organizational change**
 - **A set of principles to guide the consideration of organizational change and its implementation**
- **Always a work-in-progress**
 - **The work of this group will inform, and be informed by, the real-life organizational issues contemplated by the SMRB and the experience of the NIH**
 - **DOCE report will be a living document**

Briefings to Date

- **NIH Director's Vision for NIH and the SMRB, including an overview of his 5 opportunities for biomedical research at NIH and reflections upon the group's charge**
- **Perspectives from distinguished scientific and public health leaders on criteria for initiating and implementing organizational change to advancing science and meeting public health needs. Participants included...**

Briefings to Date *(cont...)*

- **National Academy of Sciences Committee: *Enhancing the Vitality of the NIH: Organizational Change to Meet New Challenges***
 - **Kenneth I. Shine, M.D.**, *Executive Vice Chancellor for Health Affairs at University of Texas System*
 - **Myrl Weinberg, C.A.E.**, *President of the National Health Council*
 - **Mary Woolley**, *President of Research!America*
 - **Lydia Villa-Komaroff, Ph.D.**, *Chief Scientific Officer at Cytonome/ST*
 - **Gilbert S. Omenn, M.D., Ph.D.**, *Professor of Internal Medicine, Human Genetics, and Public Health and Director of the Center for Computational Medicine and Biology at the University of Michigan*

Briefings to Date *(cont...)*

- **Perspectives from organizational change experts or those with experience leading organizational change in a research organization:**
 - **Hal Rainey, Ph.D.**, *Alumni Foundation Distinguished Professor at the School of Public and International Affairs at the University of Georgia*
 - **Judith Swain, M.D.**, *Executive Director at the Singapore Institute for Clinical Studies within the Agency for Science, Technology, and Research*
 - **Charles Sanders, M.D.**, *Former Chairman and CEO of Glaxo Inc.*
 - **Carla Schatz, Ph.D.**, *Director of Stanford University's Bio-X Program and Professor of Biology and Neurobiology*

Perspectives from Panelists

- ***Echoed familiar but nonetheless important themes:***
 - **Increasingly interdisciplinary nature of science**
 - Need to engage fields beyond the life sciences, including engineering and the physical, informational, and computational sciences and engineering
 - Need for new approaches for training next-generation scientists
 - **Need for increased collaborations**
 - Within NIH, across agencies, between intra-/extramural, and internationally
 - **Need for balance between fundamental basic science and translational research**
 - Importance of basic science as fueling the pipeline of discovery
 - Importance of translational research in increasing the impact of NIH on health
 - Need for more effective communication with public
 - Viewed through the lens of the NIH Director's opportunities in biomedical research

REPORT FRAMEWORK

Context for Discussions

NIH Organization: Formative Forces



Current NIH Organization

Functional

ASTHMA PHENOTYPES TASK FORCE • BARRIERS TO CLINICAL RESEARCH • THE BIOENGINEERING CONSORTIUM • DOWN SYNDROME WORKING GROUP • FOUR INSTITUTE GENE THERAPY CONSORTIUM • THE GENES, ENVIRONMENT AND HEALTH INITIATIVE • THE INTER-INSTITUTE IMAGING GROUP • LUPUS FEDERAL WORKING GROUP • MUSCULAR DYSTROPHY COORDINATING COMMITTEE • NEURODEGENERATION WORKGROUP • NIH AUTISM COORDINATING COMMITTEE • NIH BIOMEDICAL INFORMATION SCIENCE AND TECHNOLOGY INITIATIVE CONSORTIUM • NIH BLUEPRINT FOR NEUROSCIENCE RESEARCH • NIH END-OF-LIFE SPECIAL INTEREST GROUP • NIH INTERNATIONAL TUBERCULOSIS CONTROL CLINICAL RESEARCH • NIH GENETIC THERAPY AND CELL THERAPY CONSORTIUM • NIH PUBLIC TRUST INITIATIVE • NIH RESVERATROL CLINICAL RESEARCH • NIH SCIENTIFIC INTEREST GROUPS • NIH STEM CELL TASK FORCE • PARKINSON'S DISEASE COORDINATING COMMITTEE • PHARMACOGENETICS RESEARCH NETWORK • SYNCHROTRON PROGRAM OFFICERS GROUP • SYSTEMS BIOLOGY SCIENTIFIC INTEREST GROUP • TRANSLATIONAL RESEARCH INTEREST GROUP • TRANS-NIH AMERICAN INDIAN AND ALASKA NATIVE HEALTH COMMUNICATIONS AND INFORMATION WORK GROUP • TRANS-NIH BIOETHICS COMMITTEE • TRANS NIH BRAIN TUMOR COMMITTEE • TRANS-NIH COMMUNICATIONS GROUP ON GENETICS AND COMMON DISEASE • TRANS-NIH COORDINATING COMMITTEE FOR LYMPHATIC RESEARCH • TRANS-NIH DIABETES COMPLICATIONS WORKING GROUP • TRANS-NIH NANOTECHNOLOGY TASK FORCE • TRANS-NIH SARCOIDOSIS COMMITTEE • TRANS-NIH SICKLE CELL GROUP • TRANS-NIH SLEEP RESEARCH COORDINATING COMMITTEE • TRANS-NIH WORKING GROUP ON GLOBAL HEALTH AND CLIMATE CHANGE • TRANS-NIH ZENOPUS COORDINATING COMMITTEE • TRANS-NIH ZEBRAFISH COORDINATING COMMITTEE

39 Committees, Working Groups, Task Forces

Structural



NCI	NEI	NHLBI	NHGRI	NIA	NIAID	NIAMSD	NIBIB	NICHD
NIDCD	NIDCR	NIDDK	NIDA	NIHES	NIGMS	NIMH	NINDS	NINR
NIAAA	NLM	CIT	CSR	FIC	NCCAM	NCMHD	NCRR	CC

27 Institutes and Centers

Current NIH Organization *(cont.)*

NIH's existing structure is the result of a set of complex evolving social and political negotiations among a variety of constituencies including the Congress, the administration, the scientific community, the health advocacy community, and others interested in research, research training, and public policy related to health.

From any particular point of view or for any particular set of interests, the current situation is not only imperfect, but is certainly not one that either the Congress or the scientific community would designate *ab initio*. Rather it has evolved as a very useful and largely productive outcome of a series of political and social negotiations that took place over time. The outcome is typical of the design of important social organizations in a pluralistic democracy.

Any major modifications at this point in time should focus directly on enhancing NIH's capacity to pursue major time-limited strategic objectives that cut across all the institutes and to acquire a special ability to pursue more high-risk, high-return projects. ... [A]t this moment the widespread consolidation of institutes and centers is not the next best organizational step for NIH to undertake, as any benefits to be gained would be offset by the costs involved.

Current NIH Organization: Strategies for Functional Integration



- Increasingly, the interdisciplinary nature of science has prompted NIH to develop strategies for the functional integration of its expertise and resources in ways that cut across relevant ICs
- NIH has created a variety of “platforms” for integrating staff and resources to tackle emerging scientific issues; These can be rapidly assembled and either sustained or disassembled as needed
 - May be focused on certain diseases, organ systems, emerging technologies, and/or data needs
 - Often initiated by several ICs working collectively or by the OD

Current NIH Organization: Examples of Integration Efforts at NIH

1. Institutes focusing on analytic approaches, resources, technologies, or techniques that span across diseases and/or organ systems. Examples include:
 - *National Center for Research Resources*
Provides clinical and translational researchers with the training and tools they need to transform basic discoveries into improved human health—a mission of uniquely trans-NIH interest and value
 - *National Institute for Biomedical Imaging and Bioengineering*
Leading the development and accelerating the application of biomedical technologies - a mission of uniquely trans-NIH interest and value

Current NIH Organization: Examples of Integration Efforts at NIH *(cont.)*

2. **Critical initiatives that transcend the mission of any given IC may be promoted and funded by the NIH Office of the Director. Examples include:**
 - ***NIH Common Fund***
\$568 million initiative, coordinated by OD with input from all ICs, supporting a series of cross-cutting, trans-NIH research programs

Current NIH Organization: Examples of Integration Efforts at NIH *(cont.)*

3. Initiatives (e.g., committees, working groups, task forces) promoted and funded by the NIH Institutes and Centers. Examples include:
- *NIH Blue Print for Neurosciences Research*
Cooperative effort among 16 NIH ICs and Offices; supports development of new tools, training opportunities, and other resources to assist neuroscientists in both basic and clinical research
 - *Obesity Research Task Force*
Cooperative effort among 26 NIH ICs and Offices; Established to accelerate progress in obesity research across the NIH

REPORT FRAMEWORK

Aspects of Organizational Change

Defining Organizational Change

- **Any significant modification of an organization's status quo—that is, its ways of arranging and coordinating its component parts in order to achieve its mission**
 - **May be driven by internal and/or external forces**
 - **May be *structural* (existing components merged or eliminated; new components created)**
 - **May be *functional* (new efforts to coordinate existing components)**

Organizational Change: Considerations

Threshold

- **Change is undertaken to achieve hoped-for benefits; however, change is also associated with costs (i.e., risks, disadvantages, disruption, and resource costs)**
 - **In particular, structural changes in any organization often carry such costs**
 - **Therefore, the rationale for undertaking significant structural change should include a high likelihood of significant benefit**

Organizational Change: Considerations *(cont.)*

Resources

- **It is critical to identify resources that will either be needed or freed up to invest in the reorganized entity or new initiative**

REPORT FRAMEWORK

Process for Deliberating
Organizational Change and
Effectiveness

Fundamental Premise

- **The only defensible rationale for organizational change at NIH is to improve the agency's ability to fulfill its mission**

The NIH Mission

“SCIENCE IN THE PURSUIT OF FUNDAMENTAL KNOWLEDGE ABOUT THE NATURE AND BEHAVIOR OF LIVING SYSTEMS AND THE APPLICATION OF THAT KNOWLEDGE TO EXTEND HEALTHY LIFE AND REDUCE THE BURDENS OF ILLNESS AND DISABILITY”

- **“Foster fundamental discoveries, innovative research strategies, and their applications to advance the nation’s capacity to protect and improve health**
- **Develop, maintain, and renew scientific human and physical resources to assure Nation’s capability to prevent disease**
- **Expand the knowledge base in medical and associated sciences to enhance the Nation’s economic well being and ensure high return on the public investment in research**
- **Exemplify and promote the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science”**

Process for Deliberating Organizational Change and Effectiveness

Guiding Principles

Steps and Considerations

Underpinning Attributes

Guiding Principles

Contemplated change should (and/or):

- 1. Strengthen the ability of the NIH to effectively carry out its mission in advancing science and improving public health;**
- 2. Provide an environment that will enable more effective collaboration, coordination, and interaction across all disciplines to advance the pace of scientific discovery and improve health;**
- 3. Bring together units in which there are synergies of the scientific and/or clinical foundations for discovery and translation;**
- 4. Enhance public understanding of, confidence in, and support for science;**
- 5. Increase operational efficiency and ensure a high return on public investment in biomedical research.**

Steps and Considerations

- **STEP 1:**
Assess the need for change
- **STEP 2:**
Evaluate options for change
- **STEP 3:**
Implement and navigate the change

Steps and Considerations: STEP 1

- **Assess the need for change:**
 - Immediate crisis
 - Unaddressed scientific opportunities
 - Changes in the scientific landscape
 - Evolving emergent public health needs
 - Economic and financial trends
 - Organizational impediments to effective response to external forces
 - Need for improvements in quality and/or efficiency of research

Steps and Considerations: STEP 2

- **Evaluate the options for change:**
 - **Identify viable options for change**
 - **Conduct a risk-benefit analysis of each viable option**
 - **Solicit and analyze key stakeholder perspectives on each option**
 - **Identify and analyze the broader implications of each option**

Steps and Considerations: STEP 2 *(cont.)*

SPECTRUM OF OPTIONS

- **Important to consider a spectrum of options for organizational change ranging from:**
 - **Merger of selected scientific programs**
 - **Visionary scientific plans or blueprints that cut across multiple ICs to encompass relevant areas of science**
 - **Merger of existing ICs to encompass current missions of the individual ICs**
 - **Merger of existing ICs to create a new IC with a new mission that transcends the missions of the individual IC**

Steps and Considerations: STEP 2 (cont.)

SPECTRUM OF OPTIONS



Degree of organizational change

Functional ⇨ ⇨ ⇨ ⇨ ⇨ ⇨ ⇨ ⇨ Structural

Steps and Considerations: STEP 3

- **Implement, navigate, and evaluate the change. Develop and implement plans for:**
 - **Operationalizing change including timeframes, clearly delineated tasks, and the key responsibilities and accountabilities**
 - **Addressing unforeseen consequences (short and long term)**
 - **Evaluating change at specified intervals, including identifying/analyzing relevant data and information, communication with key stakeholders, etc.**

Underpinning Attributes

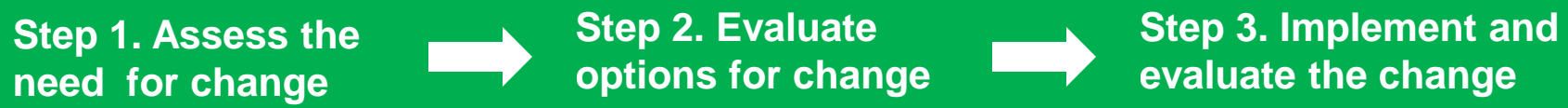
- **The ultimate success of the deliberative process dictates that the process be distinguished by the following attributes:**
 - **Transparency**
 - **Communication**
 - **Accountability**

Process for Deliberating Organizational Change and Effectiveness

GUIDING PRINCIPLES

- Strengthen ability of NIH to carry out mission
- Provide environment for collaboration, coordination, and interaction
- Bring together synergies
- Enhance public understanding, confidence, and support
- Increase operational efficiency

STEPS AND CONSIDERATIONS



UNDERPINNING ATTRIBUTES

- Transparency
- Communication
- Accountability

Next Steps

- **Circulate draft report to the full SMRB for review and feedback**
- **Discuss report at next SMRB meeting**



DISCUSSION