



Science of Science Management

Seeking Patterns, Pathways and Profiles for Assessing Science

October 2-3, 2008

NIH Campus

Bethesda, MD

If you don't discern, you cannot learn





Toward a Scientific Basis for Managing NIH Research

Edward B. Roberts

David Sarnoff Professor of Management of
Technology

MIT Sloan School of Management

30 year anniversary



Comroe-Dripps Recommendation #1

Though more difficult than laboratory or clinical research, research on research (the process and pace of discovery) can be done and deserves increasing attention from scientists and science administrators who need objective data to recommend or make biomedical science policy.

Volume 1, p. 2
January 31, 1977

Challenges to Traditional Evaluation & Current Uses

- High Risk Research
- Innovation
- Systems/Large Initiatives
- Impact Assessment

Accountability & Demands

- Organizational performance?
- Managerial performance?
- Impact of science results?
- Health benefits per dollar?
- Set priorities with limited resources
- Depict science results in understandable (lay) language

Insufficient Resources for Discernment

- Methodologies
- Approaches
- Measures
- Tools
- Best Practices

Emergent Field of Study

- Systemic & Systematic approach to unravel answers
- Infrastructure to support science of science management research
- Incremental findings to establish a process for determining validity

Friday Agenda

Invited Expert Presentations (5-7 minutes / 30-minute discussions)

- 8:15 – 9:30 Evaluation/Assessment Topics
- 9:30 – 10:45 Knowledge Discovery/Management Topics
- 10:45 – 11:05 Break
- 11:05 – 12:20 Systems/Modeling/Policy

CLOSED SESSION – Afternoon Cross-Talk Breakout Discussions

Cross-Talk Breakout Discussion Highlights 3:45 - 4:25

- | | |
|---|---------------------------|
| Current State of Knowledge Assessment | Dr. Lawrence Tabak, NIDCR |
| Knowledge Generation/Advancement | Dr. Nora Volkow, NIDA |
| Knowledge Utilization/Dissemination/Diffusion | Dr. Thomas Insel, NIMH |
| Public Health Impact | Dr. Paul Sieving, NEI |

Videocast <http://videocast.nih.gov>

On line <http://nihperformance.nih.gov>



Meeting Objectives

- Foster Cross-talk and Collaborations among Assessment Experts
- Create Cross-talk among Assessment Experts and Scientists
- Initiate Science of Science Management Pilot Data

Expected Outcome

Meeting

Develop four concepts that can be tested to provide pilot data for science of science management research and field advancements

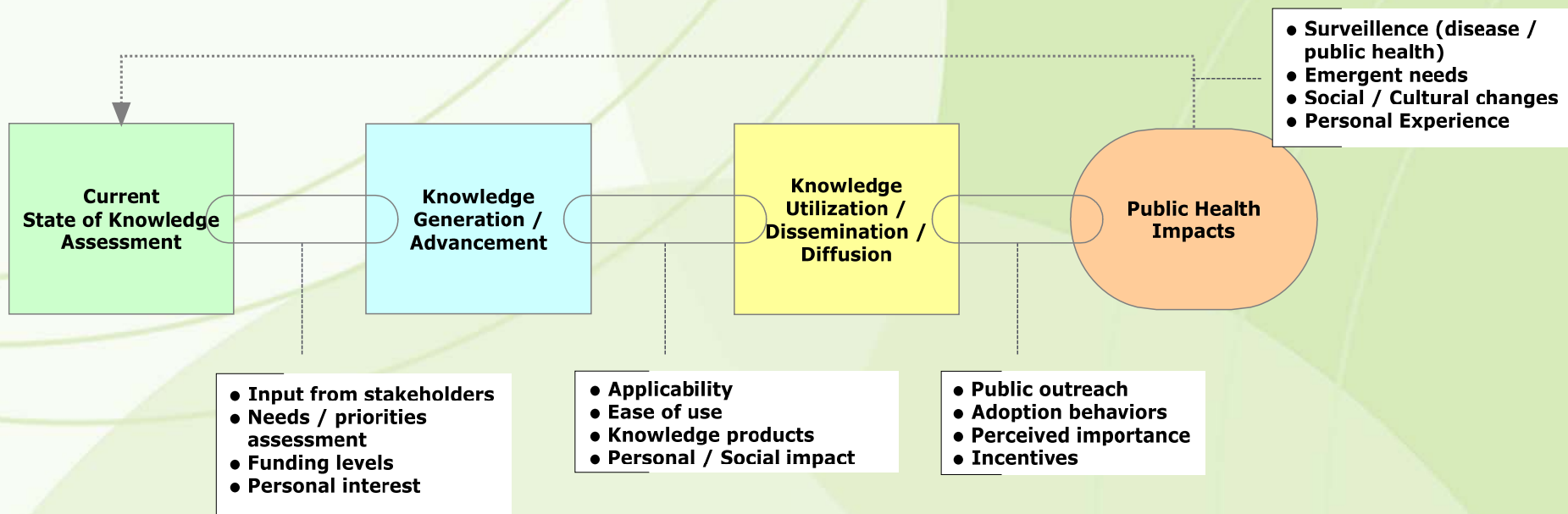
Field

Enhance insights, tools, and resources for science managers' decision-making

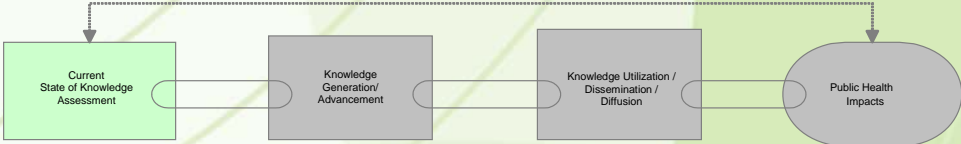
Meeting Assumptions

- Science Management should be assessed
- NIH conducts research for the benefit of public health
- Use what is known as a baseline, not as a comfort zone

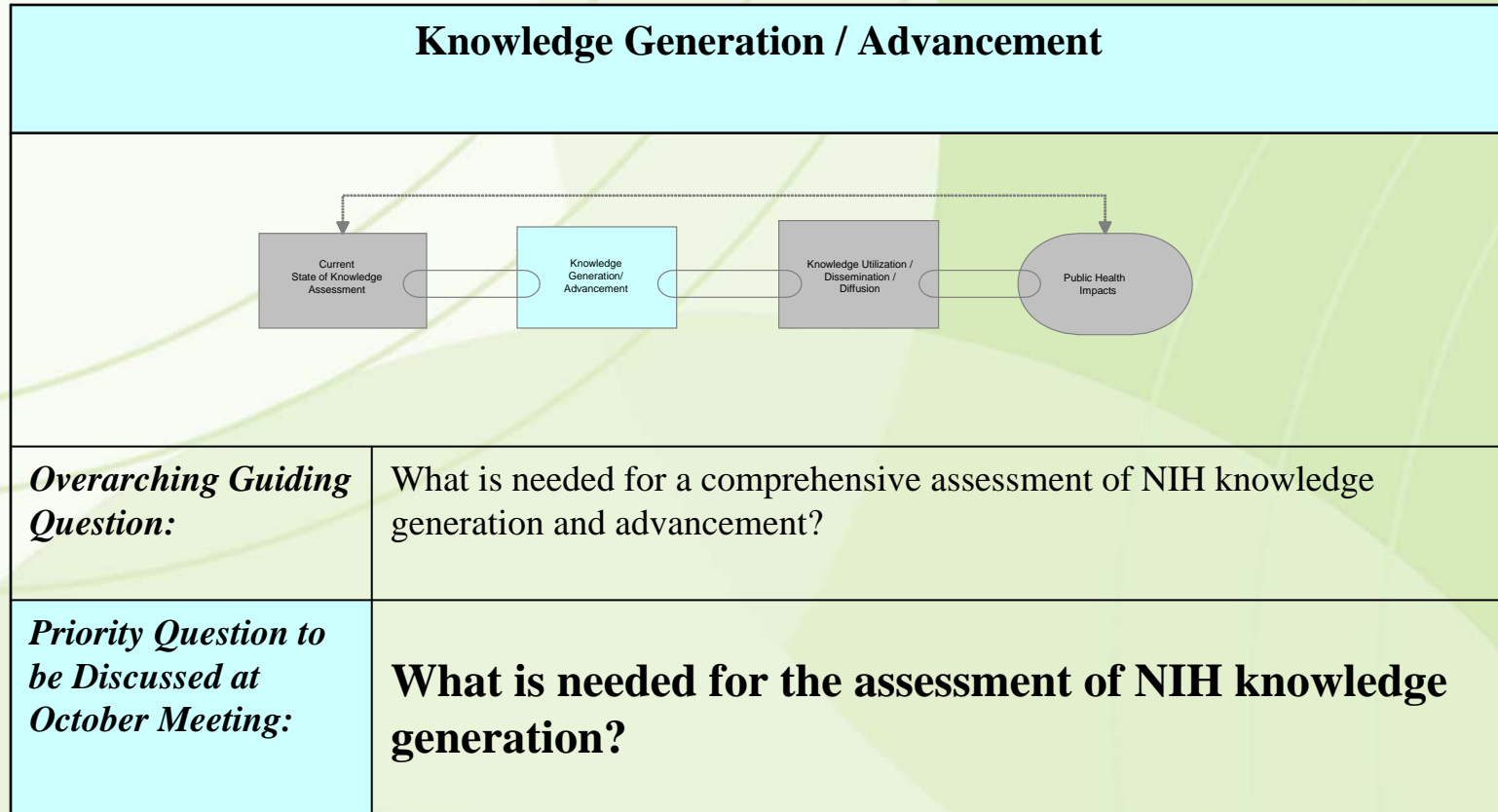
Meeting Conceptual Model of Science Research



Current State of Knowledge Assessment

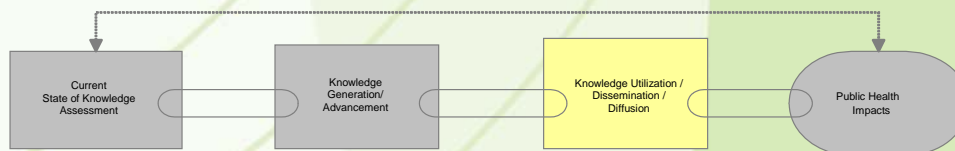
Current State of Knowledge Assessment	
 <pre> graph LR A[Current State of Knowledge Assessment] --- B[Knowledge Generation/Advancement] B --- C[Knowledge Utilization / Dissemination / Diffusion] C --- D((Public Health Impacts)) A -.-> D </pre>	
<i>Overarching Guiding Question:</i>	What components should be included in a comprehensive framework of processes, analytic tools and methods that can be used to assess and prioritize the state of knowledge in a basic, clinical, or population-based research field to encourage innovation and advancement?
<i>Priority Question to be Discussed at October Meeting:</i>	How do we assess the current state of knowledge to identify science opportunity for innovative research?

Knowledge Generation/Advancement



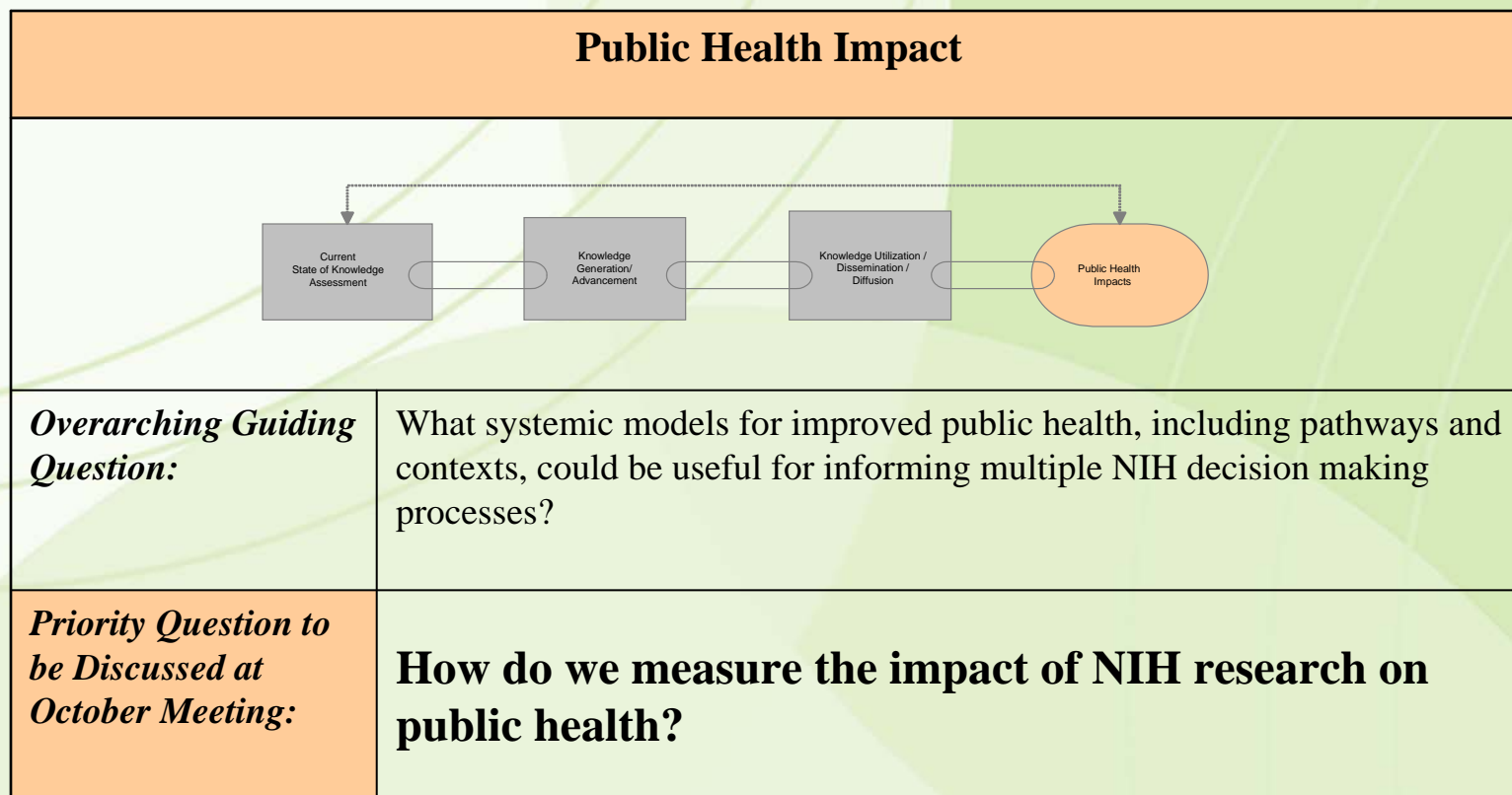
Knowledge Utilization / Dissemination/Diffusion

Knowledge Utilization / Dissemination / Diffusion



<p><i>Overarching Guiding Question:</i></p>	<p>How can social networks and collaborations among constituents/stakeholders facilitate the exchange and use of relevant knowledge to enhance learning and innovation and to facilitate the utilization of the information in practical applications and at key decision points?</p>
<p><i>Priority Question to be Discussed at October Meeting:</i></p>	<p>How can we best leverage social networks to facilitate information utilization?</p>

Public Health Impact



Meeting Structure by Areas of Expertise	Current State of Knowledge Assessment	Knowledge Generation/ Advancement	Knowledge Utilization/ Dissemination/ Diffusion	Public Health Impact
<i>IC Director Breakout Chair</i>	Lawrence Tabak, NIDCR	Nora Volkow, NIDA	Thomas Insel, NIMH	Paul Sieving, NEI
<i>Evaluation / Assessment</i>	David Wilson George Mason, Associate Professor, Dept of Public and International Affairs	Scott Stern Northwestern University, Associate Professor, Kellogg School of Management	William Trochim Cornell University, Professor, Dept of Policy Analysis and Management	Doris Rubio University of Pittsburgh, Associate Professor of Medicine, Biostatistics, and Nursing
<i>Knowledge Discovery / Management</i>	Mary Kane Concept Systems Incorporated, President	Katy Börner Indiana University, Associate Professor of Information Science and Informatics	Jason Owen-Smith University of Michigan, Assistant Professor, Sociology and Organizational Studies	Nate Osgood University of Saskatchewan, Assistant Professor, Dept of Computer Science
<i>Systems / Modeling/ Policy</i>	Adam Jaffe Brandeis University, Dean of Arts and Sciences and Fred C. Hecht Professor in Economics	Susan Cozzens Georgia Institute of Technology, Director Technology Policy and Assessment Center	Lynne Zucker University of California-Los Angeles, Professor of Sociology & Policy Studies	Daniel Sarewitz Arizona State University, Director of the Consortium for Science, Policy and Outcomes
<i>Scientists</i>	Michael Darby University of California-Los Angeles, Professor of Money and Financial Markets	Edward Roberts (keynote) Massachusetts Institute of Technology, Professor of Management of Technology / Founder and Chair MIT Entrepreneurship Center	Fiona Murray Massachusetts Institute of Technology, Associate Professor, Management of Technology, Innovation and Entrepreneurship	Harold Pincus Columbia University, Professor, Dept of Psychiatry
<i>Scientists</i>	James Wong COPR, Hitachi Global Storage Technologies, Senior Product Strategist	Gilbert Omenn University of Michigan, Professor of Internal Medicine, Human Genetics and Public Health	Michelle McMurry Aspen Institute, Director, Health, Biomedical Science and Society Initiative	Ernst Berndt Massachusetts Institute of Technology, Professor of Applied Economics
<i>Council of Councils Members</i>	Lenworth Johnson University of Missouri, Professor of Ophthalmology & Neurology	Arthur Kleinman Harvard University, Professor of Medical Anthropology	Edwin Flores Chalker Flores LLP, Founder	Phyllis Wise University of Washington, Provost and Executive Vice President
<i>P&E Officers</i>	Kathie Reed NIA, Director, Office of Planning, Analysis, and Evaluation	Kevin Callahan NIAID, Director, Office of Strategic Planning and Financial Management	Della Hann NIMH, Director, Office of Science Policy and Program Planning	Lori Mulligan NCRR, Director, Office of Science Policy
<i>NIH Scientists</i>	Alan Koretsky NINDS, Senior Investigator, Laboratory of Functional and Molecular Imaging	Susan Gottesman NCI, Senior Investigator, Biochemical Genetics	David Lipman NLM, Director, NCBI; Senior Investigator	Ronald Germain NIAID, Senior Investigator, Lab Immunology
<i>NIH Scientists</i>	Robert Star NIDDK, Director, Division of Kidney, Urologic and Hematologic Diseases	Mark Guyer NHGRI, Director, Division of Extramural Research	Anita Linde NIAMS, Director, Office of Science Policy and Planning	Clifford Lane NIAID, Senior Investigator, Division of Clinical Research
<i>NIH Scientists</i>	Richard Suzman NIA, Director, Division of Behavioral and Social Research	Richard Fabsitz NHLBI, Deputy Chief, Epidemiology Branch	Stephen Marcus NCI, Scientist, Tobacco Control Research Branch	Richard Fisher NEI, Associate Director for Science Policy and Legislation
<i>NIH SOSM Working Group</i>	Christie Drew NIEHS, Health Scientist Administrator, Program Analysis Branch	Nancy Jones NIAID, Planning and Evaluation Specialist, Strategic Planning and Evaluation Branch	Patty Mabry OD, Office of Behavioral and Social Sciences Research	Susan Daniels NIAID, Health Scientist Administrator, Office of Scientific Coordination and Program Operations
<i>Observers</i>	Luci Roberts (OPASI)	Joni Rutter (NIDA)	Christina Clark (COPR)	Genevieve R Dealmeida-Morris (NIDA)

Field Expert Presentation

- Present collective experience
- Include visionary and innovative concepts
- Challenge the accepted wisdom
- Provide a baseline for the theme specific cross-talk breakout discussions