

Meet the Director

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Society of Toxicology
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NIH Legislative Report for FY2012

- Elimination of \$300 million Global AIDS Transfer
- Elimination of NCRR
- Creation of the National Center for Advancing Translational Sciences (NCATS), with a budget of \$576,456,000
- Continuation of the National Children's Study with \$193,880,000
- \$10 million within NCATS for the Cures Acceleration Network
- \$487,767,000 for the Clinical and Translational Science Awards
- \$545,962,000 for the NIH Common Fund
- 0.189 percent across-the-board cut for NIH and discretionary programs

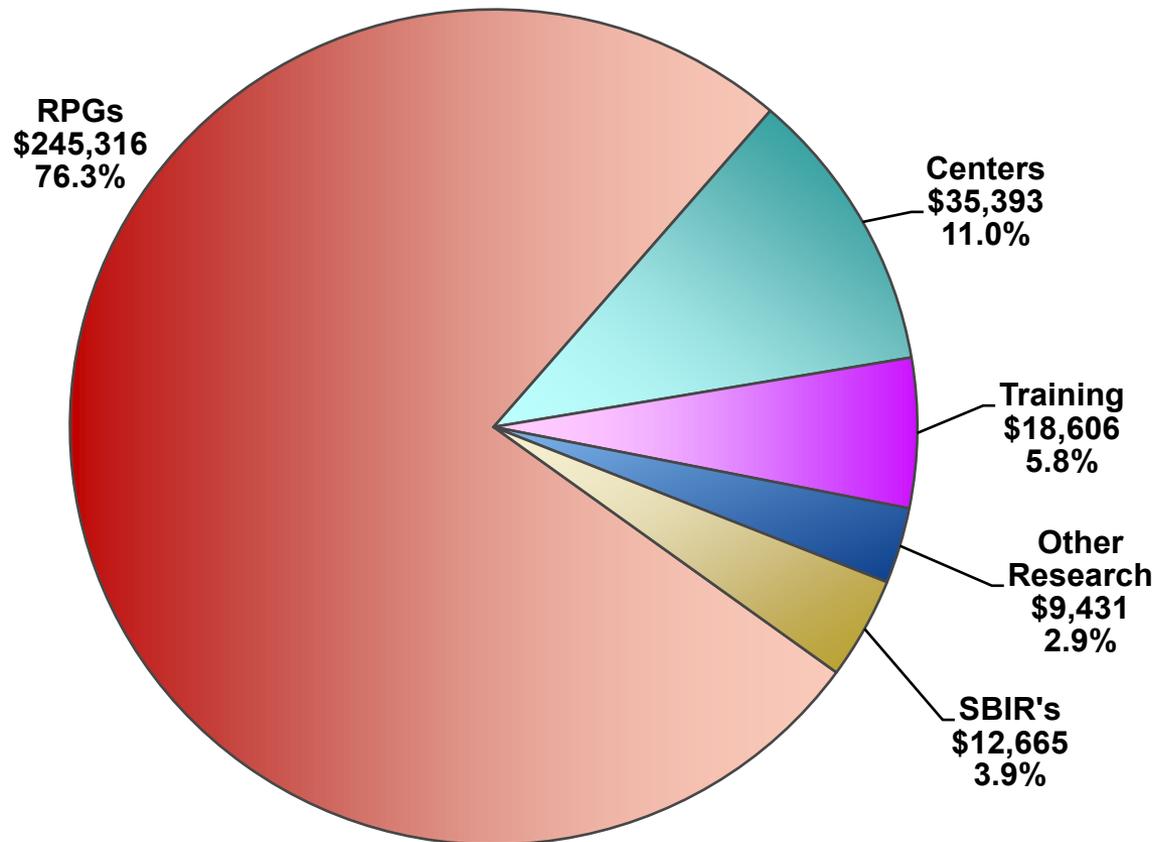


NIEHS Budget – Update

	FY 2009 Appropriation	FY 2010 Appropriation	FY 2011 Full-Year CR	FY 2012 Appropriation	FY 2013 Request
NIH (HHS)	\$ 30,545,098,000	\$ 31,008,788,000	\$ 30,688,286,000	\$30,631,985,000	\$30,623,259,000
NIEHS	\$ 662,820,000	\$ 689,781,000	\$ 683,724,312	\$685,570,818	\$684,030,000
Superfund	\$ 78,074,000	\$ 79,212,000	\$ 79,053,576	\$ 78,927,514	\$ 78,928,000
NIEHS/DOE Training	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	\$ 10,000,000	

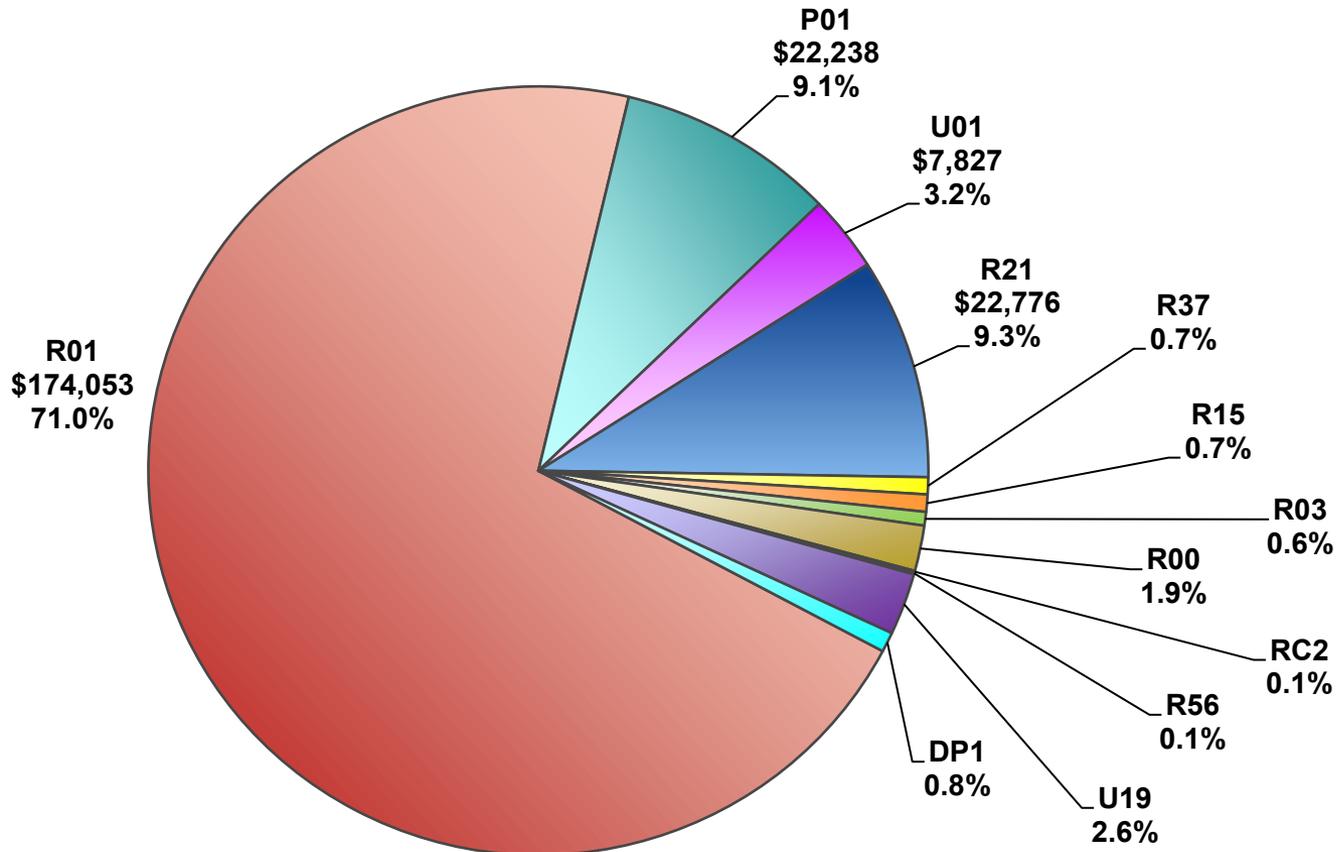
NIEHS FY 2011 Extramural Grants Distribution (Excludes Superfund)

FY2011 Grants Total: \$321,411



NIEHS FY 2011 Research Project Grants Expenditures by Activity (Excludes Taps and Superfund)

FY2011 RPG Total = \$245,316

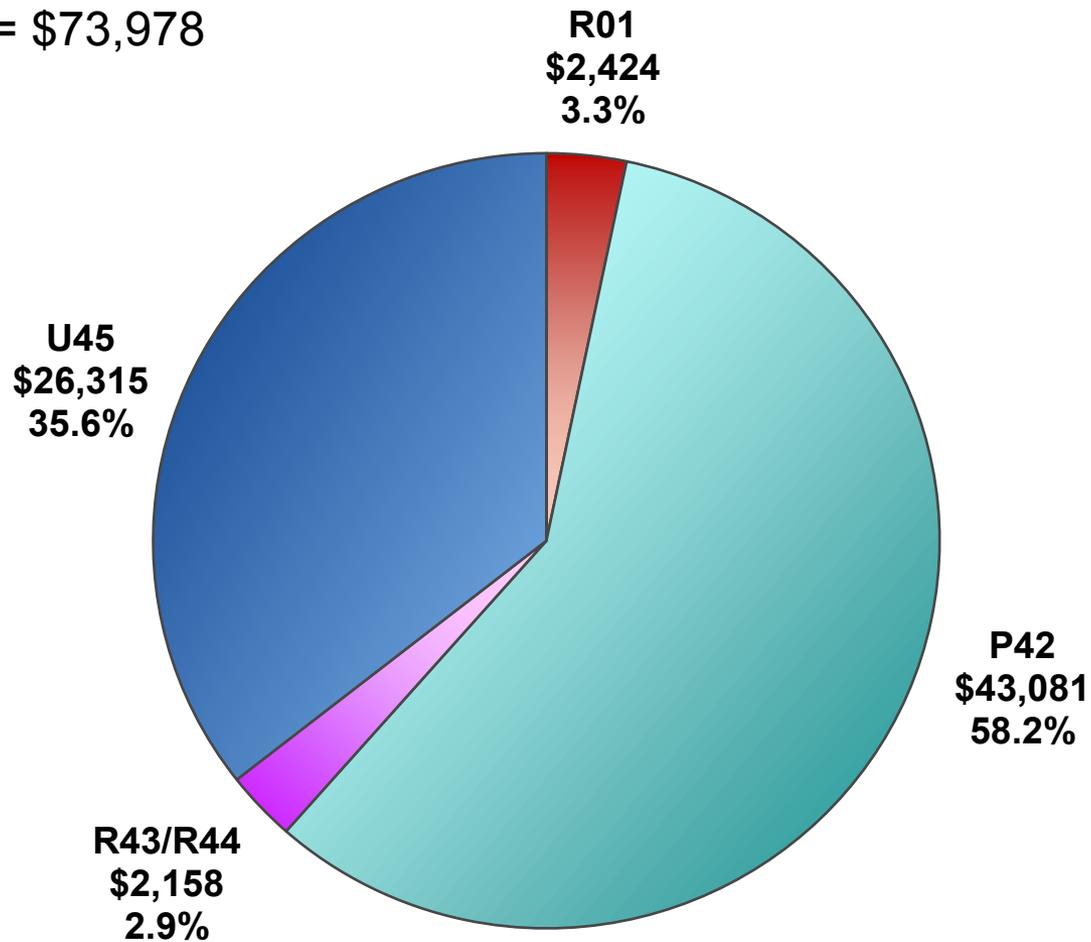


Average Grant Cost FY 2011 (in thousands)

<u>Research Project Grants</u>	<u>Noncompeting</u>			<u>Competing</u>			<u>Total</u>		
	<u>No.</u>	<u>Amount</u>	<u>Avg. Cost</u>	<u>No.</u>	<u>Amount</u>	<u>Avg. Cost</u>	<u>No.</u>	<u>Amount</u>	<u>Avg. Cost</u>
DP1.....	3	2,043	681.0				3	2,043	681.0
P01.....	17	22,238	1,308.1				17	22,238	1,308.1
R00.....	19	4,686	246.6				19	4,686	246.6
R01.....	315	133,370	423.4	87	40,683	467.6	402	174,053	433.0
R03.....	14	1,030	73.6	5	381	76.2	19	1,411	74.3
R15.....		125		4	1,658	414.5	4	1,783	445.8
R21.....	58	12,577	216.8	46	10,199	221.7	104	22,776	219.0
R37.....	4	1,757	439.3				4	1,757	439.3
R56.....				1	200	200.0	1	200	200.0
RC2.....		161					-	161	
U01.....	15	6,159	410.6	13	1,668	128.3	28	7,827	279.5
U19.....	5	5,944	1,188.8	3	437	145.7	8	6,381	797.6
Subtotal, RPGs.....	450	190,090	422.4	159	55,226	347.3	609	245,316	402.8
SBIR/STTR:									
R41.....				2	247	123.5	2	247	123.5
R42.....				2	1,395	697.5	2	1,395	697.5
R43.....	1	339	339.0	18	3,096	172.0	19	3,435	180.8
R44.....	7	3,703	529.0	9	3,886	431.8	16	7,589	474.3
Subtotal, SBIR/STTR.....	8	4,042	505.3	31	8,624	278.2	39	12,666	324.8

NIEHS FY 2011 Superfund Grants Expenditures by Activity

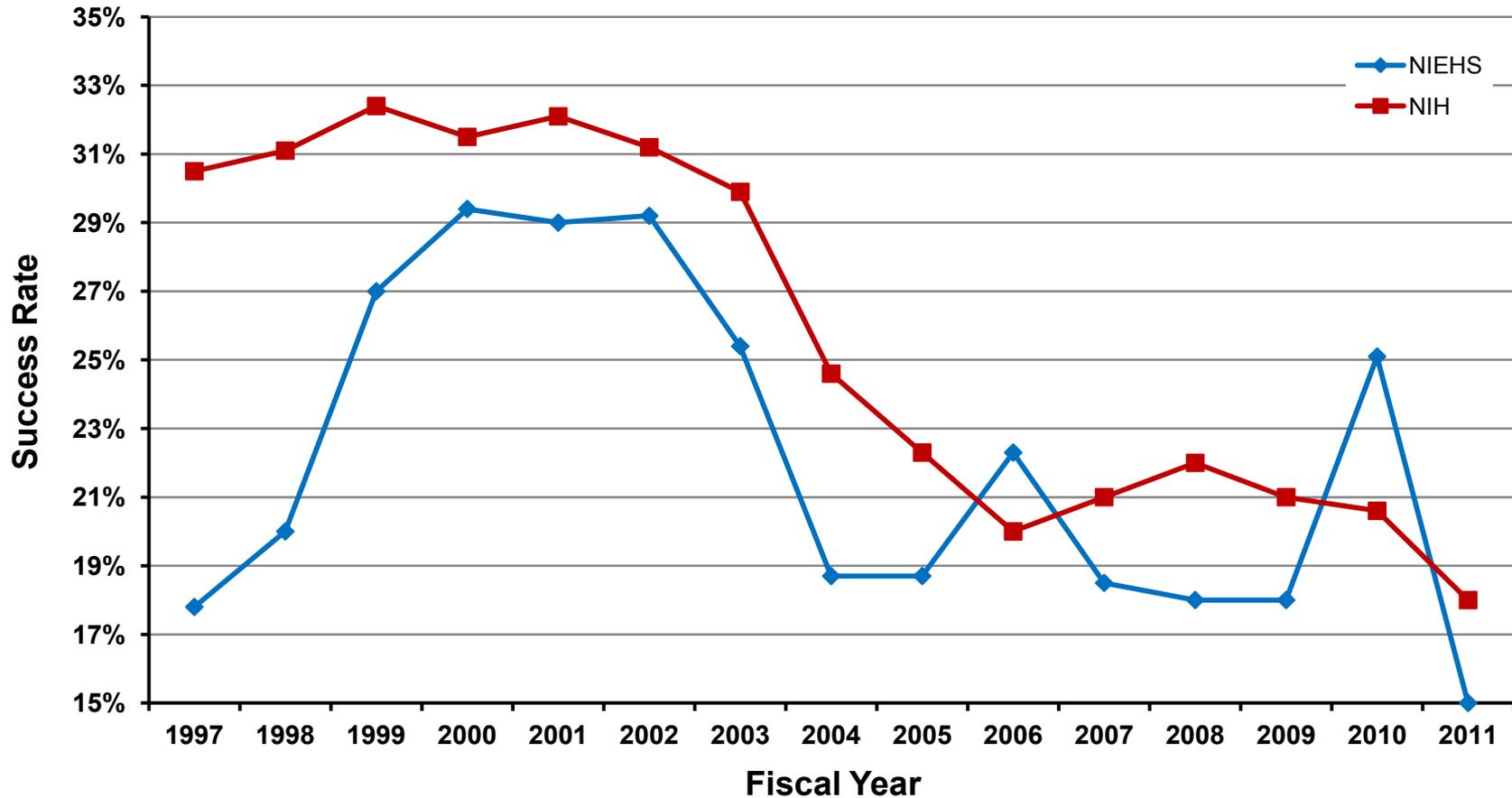
FY2011 Total = \$73,978



FY 2011 RPGs Overall Success Rates all mechanisms

Institutes/Centers	# Reviewed	# Awarded	SR
OD	59	59	100.0%
NHGRI	301	88	29.2%
NEI	961	277	28.8%
NIDCD	734	202	27.5%
NIGMS	3,944	934	23.7%
NIDCR	783	176	22.5%
NCRR	198	42	21.2%
NINDS	3,556	749	21.1%
NIDDK	3,137	650	20.7%
NIAID	4,914	994	20.2%
NIAAA	806	150	18.6%
NIDA	1,909	347	18.2%
NHLBI	4,909	856	17.4%
NIMH	2,730	465	17.0%
NIA	2,450	395	16.1%
NLM	118	19	16.1%
FIC	157	24	15.3%
NIAMS	1,531	228	14.9%
NIEHS	1,079	159	14.7%
NCI	8,038	1,106	13.8%
NIBIB	1,217	155	12.7%
NICHD	3,151	391	12.4%
NIMHD	101	12	11.9%
Common Fund	1,556	176	11.3%
NCCAM	574	52	9.1%
NINR	679	59	8.7%
NIH Total	49,592	8,765	17.7%

FY 2011 Success Rates: Research Project Grants



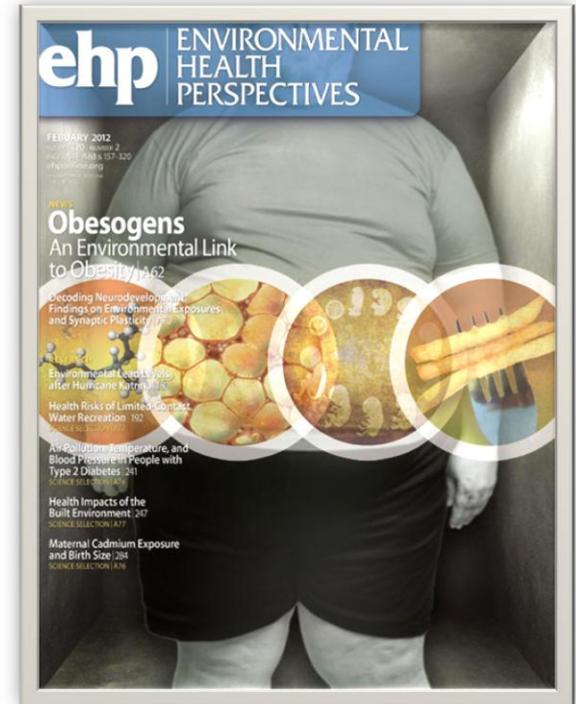
The number of applications for competing RPG awards increased during the NIH budget “doubling period” (FY 1998 through FY 2002) and this trend has continued.

FY 2011 R01s Success Rates (SR)

Institute/Center	SR
FIC	100.0%
OD	100.0%
NEI	34.0%
NHGRI	31.6%
NIDCD	27.8%
NIGMS	24.0%
NIDDK	22.0%
NINDS	21.6%
NCRR	18.8%
NIMH	18.5%
NIDCR	18.4%
NLM	18.1%
NHLBI	17.8%
NIA	17.6%
NIAID	17.3%
NIAMS	16.6%
NIBIB	16.5%
NIAAA	16.1%
NIDA	15.0%
NCI	14.6%
NIEHS	13.6%
NICHD	12.2%
NIMHD	12.0%
NINR	10.5%
NCCAM	10.0%
Common Fund	6.9%
NIH Total	18.4%

EHP Is Going Paperless

- Most readers already access EHP online
- Reduced cost for printing and distribution
- Reduces carbon footprint – no trees used, eliminates fuel for transportation
- Faster publication and dissemination to readers
- More dynamic to include new multimedia
- Frees up resources to develop new applications to reach a wider audience



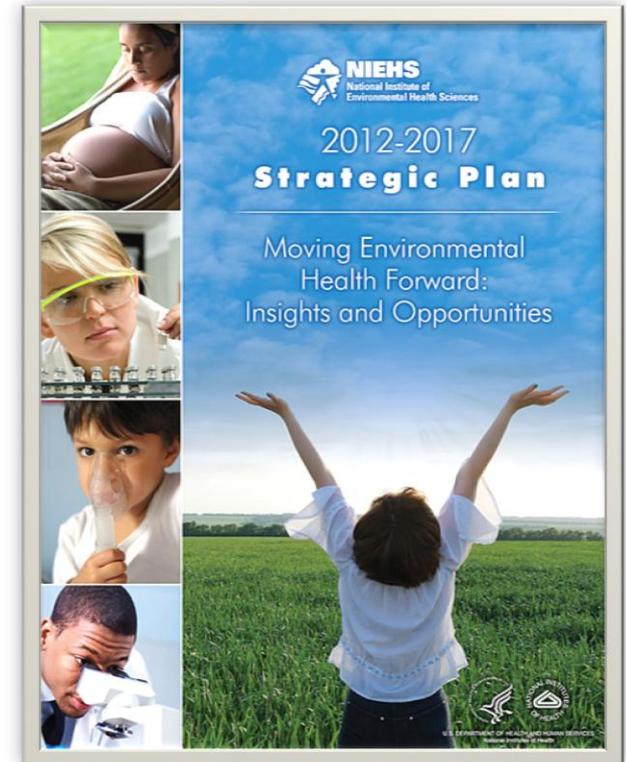
NIEHS Strategic Planning – Overview

Planning for Institute direction for next 5 years

- New Mission and Vision statements
- Development of Supporting Pillars
- Strategic Goals and implementation

Three phase process

- I. Broad-based stakeholder input (February-July)
 - Visionary Ideas solicited on the Web
 - Stakeholder Community Workshop July
- II. Draft Mission, Vision, and Supporting Pillars
 - Strategic Planning Workshop Oct. 13-14
- III. **Develop Strategic Goals** and Implementation



Stakeholder Community Workshop

- July 12-14, 2011 Sheraton Imperial RTP, NC
- Approx. 170 participants
 - Scientists (basic, translational/applied, clinical/epidemiology/public health)
 - Public Health, Policy, Regulatory Experts (advocates, public health practitioners, trade group reps)
 - Management of Research (other IC's/ federal agencies, education/training, NIEHS program leadership)
 - Communication Experts (science writers, journal editors)
 - Other NIEHS staff (administrative, technicians, trainees)
- Modified Open Space Technology format



Strategic Planning Themes

- Basic Research on Human Health and Disease
- Exposure Science and the Exposome
- Translational Science
- Collaborative and Integrative Approaches for Conducting Research
- Data Management and Analysis
- Global Environmental Health and Health Disparities
- Training of the Environmental Science Workforce
- Communication and Outreach

Strategic Planning Workshop – October

Day One

- Drafting a Mission statement
- Drafting a Vision statement and “tag line”
- Drafting Supporting Pillars

Day Two

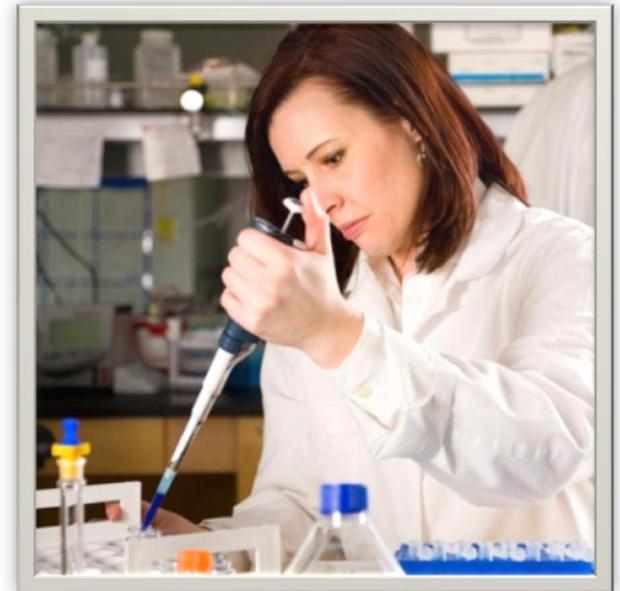
- Elaborating and Clarifying Supporting Pillars

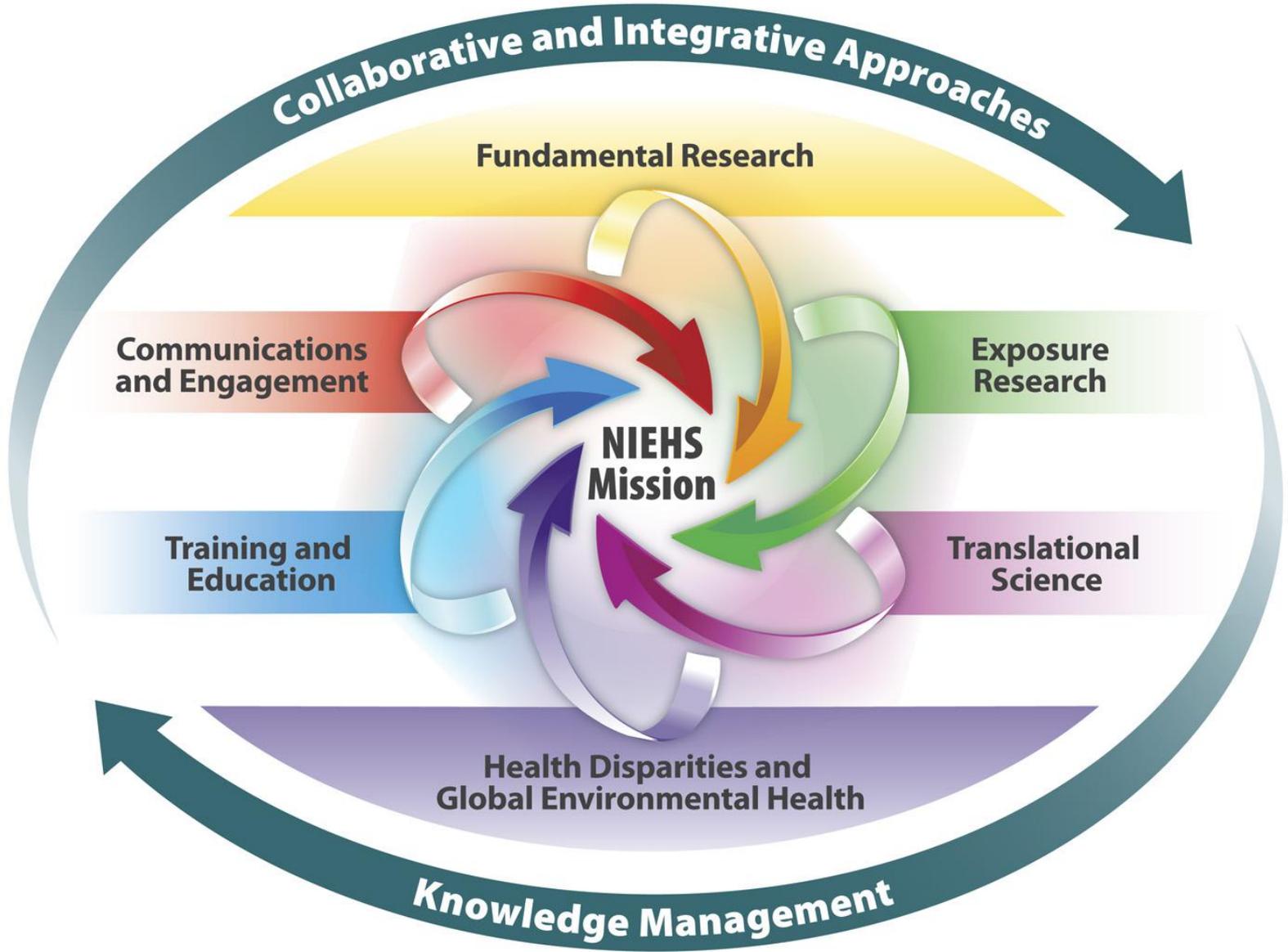


Draft Mission and Vision Statements

The mission of the National Institute of Environmental Health Sciences is to discover how the environment affects people in order to promote healthier lives.

The vision of the National Institute of Environmental Health Sciences is to provide global leadership for innovative research that improves public health by preventing disability and disease from our environment.





Developing Strategic Goals

- NIEHS leadership team spearheaded the process
- NIEHS divisions led retreats to develop “institutional” strategic goals based on pillars
- All goals were collected and coalesced into a single list
- NIEHS leadership team reviewed all suggested goals, organized and prioritized them, and developed a set of 11 institutional goals

Strategic Goal #1:

- **Identify and understand fundamental shared mechanisms or common biological pathways (e.g., inflammation, epigenetic changes, oxidative stress, mutagenesis) underlying a broad range of complex diseases, in order to enable the development of broadly applicable prevention and intervention strategies.**
 - Investigate the effects of the environment on **genome structure and function**.
 - Investigate the effects of the environment on the **epigenetic regulation of biological and pathological processes**.
 - **Understand the role of key protective mechanisms and their regulation** in determining resistance and susceptibility to environmental stressors.
 - Understand the **normal processes of human development** and **identify environmental factors that contribute to altered function**.
 - Develop a pipeline to **integrate high throughput screening, cell systems and model organisms** to identify **fundamental mechanisms** underlying responses to existing and emerging environmental toxicants and to better predict their relationship to disease.

Strategic Goal #2:

- **Understand individual susceptibility across the life span to chronic, complex diseases resulting from environmental factors, in basic and population-based studies, to facilitate prevention and decrease public health burden.**
 - Using a life span approach, **identify critical windows of susceptibility** to the effects of environmental exposures.
 - Deepen our understanding of **dose response relationships** to environmental factors across the lifespan.
 - Study the factors that determine **individual susceptibility** to environmental stressors across the lifespan.

Strategic Goal #3:

- Transform exposure science by enabling consideration of the totality of human exposures and links to biological pathways and create a blueprint for incorporating exposure science into human health studies.
 - Advance characterization of environmental exposures through **improved exposure assessment** at both the individual and population levels.
 - **Define and disseminate the concept of the exposome.**
 - Create **tools and technologies**, and the research capacity, needed to **characterize the exposome.**

Strategic Goal #4:

- **Understand how combined environmental exposures affect disease pathogenesis.**
 - Assess the joint action of **multiple environmental insults** (including chemicals, non-chemical stressors, and nutritional components) on toxicity/disease and identify interactions resulting from combined exposures.
 - Study the **role of the human microbiome** and its influence on environmental health; explore the role of the microbiome in responses to environmental exposures.
 - Study the **interactions of infectious agents** with environmental exposures.
 - Understand how **non-chemical stressors** (including socioeconomic, behavioral factors, etc.) interact with other environmental exposures to impact human health outcomes, and **identify preventive measures** that could be taken.

Strategic Goal #5:

- **Identify and respond to emerging environmental threats to human health on both a local and global scale.**
 - Enlist the capacity of the EHS research enterprise to elucidate information necessary for **timely and effective public health action**.
 - **Act proactively** with other public health partners to provide appropriate responses to emerging environmental threats.
 - **Focus on research needs to help inform policy responses** in public health situations in which lack of knowledge hampers policymaking (e.g., health effects of exposures related to hydrofracking or climate change, or exposures to engineered nanomaterials).

Strategic Goal #6:

- Establish an environmental health disparities research agenda to understand the disproportionate risks of disease and to define and support public health and prevention solutions in affected populations.
 - Conduct **community-based participatory research**.
 - Include **research and education on the ethical, legal, and social implications of EHS research**, including human participation issues, research integrity, reporting of results, and other issues.
 - Develop and recommend or implement **interventions to reduce or eliminate environmental exposures** that cause the greatest burden of disease to affected populations.

Strategic Goal #7:

- Use knowledge management techniques to create a collaborative environment for the EHS community to encourage an interdisciplinary approach to investigate, analyze, and disseminate findings.
 - Develop **bioinformatics, biostatistics, and data integration tools** to conduct **interdisciplinary research** for application to environmental health science.
 - Develop and invest in **publicly available resources and computational tools** for integrating and analyzing environmental health data.

Strategic Goal #8:

- **Enhance the teaching of EHS at all levels of education and training (K-professional) to increase scientific literacy and generate awareness of the health consequences of environmental exposures.**
 - **Empower individuals** at all levels of education with knowledge to make better health decisions.
 - Use leadership and partnerships to **strengthen EHS education and literacy**, using research on effective EHS education strategies and creating mechanisms for educators to promote EHS education.
 - **Develop critical training programs** in EHS research tailored for multiple groups (students, postdocs, foreign scientists, and science teachers).
 - Incorporate **EHS into Medical Education/Practice** (nursing, MD, etc.) to increase awareness of environmental medicine in healthcare practice.

Strategic Goal #9:

- **Inspire a diverse and well-trained cadre of scientists to move our transformative environmental health science forward; train the next generation of EHS leaders from a wider range of scientific disciplines and diverse backgrounds.**
 - Foster **cross-disciplinary training** in areas that are necessary but underrepresented in EHS (informatics, engineering, biobehavioral, etc.)
 - **Recruit trainees from other disciplines** to diversify our science base.
 - Ensure effective **opportunities across the entire career trajectory**, for young investigators' transition to independence and also for retraining of mid-career scientists and other EHS professionals.
 - Promote the **integration of EHS into Medical Education** to increase the number of physician or nurse researchers that are trained in EHS.
 - Build environmental health research capacity in those **countries around the world** experiencing the greatest burden of death, disease, and disability related to the environment.
 - Increase **diversity within training programs** for environmental health scientists.

Strategic Goal #10:

- **Evaluate the economic impact of policies, practices, and behaviors that reduce exposure to environmental toxicants through prevention of disease and disabilities; invest in research programs to test how prevention improves public health and minimizes economic burden.**
 - Develop an interdisciplinary research and training program in **environmental health economics**, to better understand the economic costs and benefits of environmental exposures, related diseases, and interventions to prevent exposures and diseases.
 - Measure **economic benefits and comparative effectiveness** of NIEHS investments, employing health economics as a part of the NIEHS research agenda – developing the tools and databases to advance this research.
 - **Assist policymakers** with systematic review and state of the science assessments to help them make clinical/policy recommendations.

Strategic Goal #11:

- **Promote bidirectional communication and collaboration between researchers and stakeholders (policy makers, clinicians, intervention/prevention practitioners, and the public) in order to advance research translation in the environmental health sciences.**
 - Promote **NIEHS as a trusted and accessible source of EHS-based information.** Increase NIEHS's reach and effectiveness in communication and outreach.
 - **Identify and expand our relevant stakeholder communities;** enhance engagement to understand their priorities, concerns and needs related to EHS.
 - Build and lead long-term **federal and non-federal partnerships with health education agencies and mission-related stakeholder groups** to create a pipeline for the coordination of disseminating scientific results to the public and also to hear back from their constituents.
 - Conduct **research as needed on effective EHS communication strategies** (including risk communication).
 - Develop an integrated, searchable **knowledge base on the impact of environment on health.**

Next Steps

- Public comment on work to date (through end of Feb)
- Development of the narrative around mission, vision, pillars and goals (end of March)
- Post draft of final plan for public comment (month of April)
- Present final draft plan for Council approval in May
- Development of “implementation strategies:”
 - Division Directors work within divisions
 - What will be done, when will it be done, and how much will it cost
 - Leadership integrates implementation strategies into an operational and financial plan for NIEHS

Thank you!



NIEHS Strategic Plan Website
<http://www.niehs.nih.gov/strategicplan>

