

National Institutes of Health

Summary of the FY 2007 President's Budget



February 6, 2006

NIH Budget at a Glance

		<u>Change</u>
FY 2005 Actual	\$28,644 M	
FY 2006 Appropriation	\$28,578 M	-0.2%
FY 2006 NIH Program Level	\$28,587 M	
FY 2007 President's Budget - Budget Authority	\$28,578 M	0.0%
FY 2007 NIH Program Level	\$28,587 M	0.0%
Number of Competing RPGs	9,337	+275 over FY 2006
Total Number of RPGs	35,805	(642) under FY 2006

The FY 2007 program level for the NIH is \$28,587 million, the same as the FY 2006 program level. The NIH's President's Budget authority request to the Labor/Health and Human Services/Education Appropriations Subcommittee is \$28,350 million. The budget authority request to the Interior, Environment, and Related Agencies Subcommittee is \$78 million for the NIEHS Superfund research program. The NIH program level also includes \$150 million for the Type I Diabetes Initiative appropriated by Public Law 107-360.

The Nation's substantial investment in NIH is yielding innumerable scientific achievements, which are helping to improve the length and quality of human life. Research is contributing to the reduction in morbidity and mortality from heart disease, stroke, cancer, and infectious disease. The research NIH conducts and supports today will be the basis for countless future advances in science and improvements in health. Such research ranges from rigorous multicenter clinical trials for testing new therapies to the transformation of day-to-day medical practice through practical applications in genomics.

Today, in large part because of the success of medical research, our citizens are living longer than ever before. However, chronic diseases now account for 70 percent of all deaths and 75 percent of today's health expenditures. Ironically, the rise in the incidence and prevalence of chronic disease is the result of the Nation's success in battling acute and lethal diseases as the share of the U.S. population over the age of 65 increases, so has the segment of the population most likely to suffer from chronic diseases such as cardiovascular disease, Parkinson disease, Alzheimer disease, hypertension, and cancer. At the same time, acute infectious diseases, such as strains of influenza that have pandemic potential, antibiotic resistant tuberculosis, and infectious agents that might be used for bioterrorism remain a continuing and evolving challenge. And the Nation continues to face significant health disparities among racial, ethnic, and disadvantaged populations.

This budget request reflects the tough choices that had to be made during its formulation. To best preserve our investment in biomedical research and to support research for medical advancements that will improve the length and quality of human life, NIH has chosen to carefully invest in several trans-NIH strategic initiatives and priorities that are outlined on the following pages.

The FY 2007 budget request provides resources in the Research Project Grants (RPG) mechanism to preserve to the greatest extent possible the ability of scientists to obtain individual support for their research ideas. NIH will also continue to sustain efforts such as the Roadmap for Medical Research that provide, on a competitive basis, new opportunities for scientific advances by developing novel resources and supporting interdisciplinary innovations that will enhance the scientific reach of individual researchers.

Biodefense

The intentional release of anthrax in 2001 underscored the seriousness of the threat of bioterrorism. In addition to anthrax, the microbes of most concern are smallpox, plague, tularemia, hemorrhagic fevers, and botulinum toxin. These agents are highly lethal and have the potential to be deployed as bioweapons. NIH will continue implementation of the long-range strategic plan for biodefense research. The NIH total Biodefense budget level is \$1,891 million, an increase of \$110 million and 6.2 percent over FY 2006. Within this increase, NIH will direct \$160M, an increase of +\$110M over the FY 2006 program level of \$50 million, to an Advanced Development fund in the NIH Office of the Director. This initiative, directed through the NIH Office of the Director, will support efforts to work with academia and industry to develop candidate countermeasures from the point of Investigation New Drug Application (INDA) to the level that these candidate countermeasures could be eligible for acquisition by Project BioShield.

Enhanced Support for New Investigators

NIH must sustain a vibrant, creative research workforce, including sufficient numbers of new investigators with new ideas and new skills, such as interdisciplinary research skills. The engines that drive the research enterprise are talented, creative and dedicated research personnel. We cannot again risk losing a "class" of young researchers, as we did in the mid-1990's, by allowing new investigators to become utterly discouraged by the difficulty of obtaining funding for their research ideas, and leaving science. In the FY 2007 Request, NIH will invest \$15 million in a new "Pathway to Independence" program that will provide increased support for new investigators.

NIH Roadmap for Biomedical Research

NIH has embarked on an ambitious program to refocus the investments made during the doubling period, to help us move from 20th century medicine to 21st century medicine, and to coalesce the research community around a strategic initiative--the NIH Roadmap. The NIH Roadmap is the result of an ongoing series of consultations with scientists charged with thinking broadly about the future. The Roadmap has three themes – New Pathways to Discovery, Research Teams of the Future, and Re-engineering the Clinical Research Enterprise – comprising 28 trans-NIH research initiatives. NIH began implementing the initiatives in FY 2004. Initiatives that build upon existing research efforts are expected to achieve their goals rapidly, while other newer, or more complex, endeavors will likely take years to come to fruition. Examples of the initiatives are highlighted below:

New Pathways to Discovery: \$181 million. Initiatives under the NIH Roadmap's *New Pathways to Discovery* theme are pushing the envelope of possibility with cutting-edge technologies—working at smaller and smaller scales down to the atomic level, processing information at faster and faster speeds, and synthesizing huge data sets from disparate fields, all in ways barely imaginable a decade ago.

Multidisciplinary Research Teams of the Future: \$81 million. As the cumulative store of scientific knowledge continues to expand exponentially, scientists increasingly must focus and specialize to push their fields to new heights. However, as noted above, researchers also increasingly appreciate the importance of the interactions and interconnectivity within biological systems. This reality, in addition to the scale and complexity of today's biomedical research problems, requires today's researchers to extend themselves beyond their own areas of research to thrive in collaborative science teams and new scientific disciplines. *Research Teams of the Future* encourages new ways of combining skills and disciplines; training of investigators to thrive in interdisciplinary settings; and development of novel support mechanisms to facilitate these endeavors.

Re-engineering the Clinical Research Enterprise: \$181 million. The NIH Roadmap initiatives for this theme are designed to incorporate modern information technology into clinical research; improve the integration of clinical research networks; stimulate the development of more effective means to assess subjective clinical outcomes; facilitate the coordination of clinical research policies; improve clinical research workforce training; and support key elements of the translational research infrastructure.

In FY 2007, NIH will direct \$443 million towards the Roadmap initiatives, an increase of +\$113 million over the FY2006 Appropriation. Of this amount, \$111 million will be provided by the NIH Director's Discretionary Fund (DDF), and the remaining \$332 million will be contributed by the Institutes and Centers (ICs). The IC contribution to support these trans-NIH research goals is estimated to be 1.2 percent of each individual budget request for FY 2007. Taken together, the components of the NIH Roadmap represent an ambitious vision for a more efficient and productive system of medical research, with the ultimate goal of improving the length and quality of human life. The collaborative trans-agency process for developing and implementing the NIH Roadmap represents an enhanced approach to portfolio management, and sets a new standard for responding to emerging needs and scientific opportunities.

Genes, Environment and Health Initiative

The Department of Health and Human Services is proposing a forward-looking initiative to benefit the health of all Americans. Recognizing that health and disease are due to the complex interplay of genetic and environmental factors, including diet and physical activity, the Initiative's two-pronged approach would lead directly to the identification of major genetic susceptibility factors for common diseases like heart disease, stroke, osteoarthritis, cancer, diabetes, and Alzheimer's disease, while simultaneously advancing the development of new technologies to assess the contribution of diet, physical activity, and environmental exposures to the causation of these illnesses. Like the Human Genome Project (the successful effort to sequence the human genome) and the International HapMap Project (the successful effort to

catalog variation in the human genome) that laid the groundwork necessary for it, this new Initiative would catalyze the development of U.S. biotechnology and would make the data it generates rapidly and freely available to researchers in both the public and private sectors, speeding the development of new strategies and tools to fight disease. To prepare effectively for this initiative, the National Institutes of Health (NIH) has planned several pilot studies, which begin in FY 2006. In FY 2007, NIH will direct \$68 million towards this multi-year initiative.

Clinical and Translational Sciences

In order to accelerate the benefits of the major research investment of the past several years, NIH will undertake a bold new program to reshape support for clinical and translational sciences. The goal is to provide the academic homes and integrated resources necessary to advance a new intellectual discipline of clinical and translational sciences, create and nurture a cadre of well-trained investigators, and advance the health of the nation by transforming patient observations and basic discovery research into clinical practice. This program will take elements of existing NIH programs for clinical research, primarily the General Clinical Research Centers (GCRCs) in the National Center for Research Resources (NCRR), as well as Roadmap initiatives in the Reengineering the Clinical Research theme and combine them in a way that will create better and faster bridges between research findings and clinical practice. In addition to several full awards, NIH plans to award planning grants for this activity in FY 2006, and in 2007 the program will increase as existing GCRCs complete their current funding cycles and re compete as these transformational awards. In FY 2007, NIH has also directed an additional \$3 million to the NCRR for this high-priority program.

Management Innovations

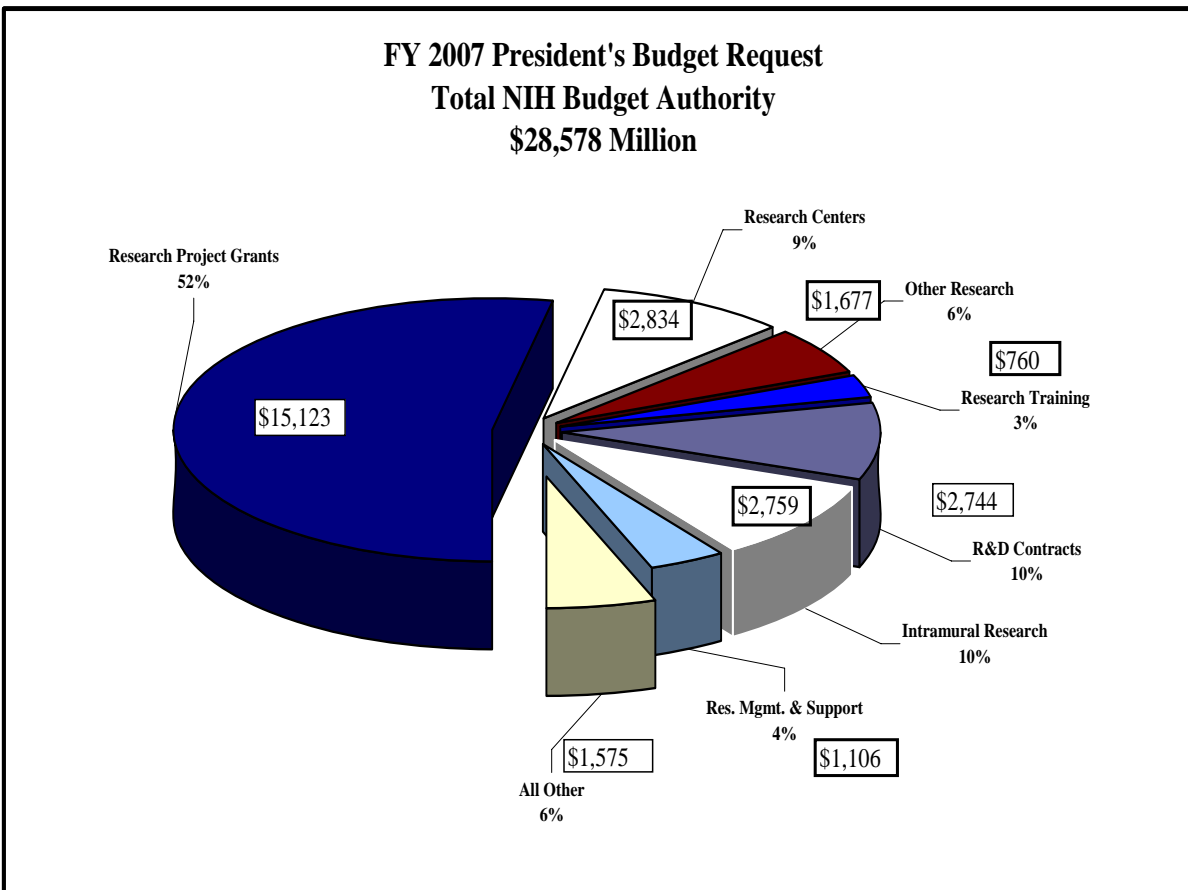
NIH will continue to pursue innovative ways to improve the management of its biomedical and behavioral research portfolio. The newly formed Office of Portfolio Analysis and Strategic Initiatives (OPASI) will develop methods to assist the agency in assessing its large and complex portfolio, coordinate trans-NIH evaluation efforts, and provide a transparent process for identifying important scientific initiatives that cut across or fall between the missions of institutes and centers. Selected initiatives will be supported through a Common Fund that will build on the funding base of the NIH Roadmap. Proposals for topics to be funded through the Common Fund will be selected based on review and advice obtained from scientific and public representatives from existing chartered NIH advisory committees and the NIH scientific leadership. To ensure that there are sufficient funds for continuous development of new trans-NIH efforts, it is expected that initiatives funded through this process will be time limited. OPASI represents a bold and innovative approach that will enhance NIH-wide planning and priority setting.

AIDS

The AIDS research program decreases by -0.5 percent or \$15.172 million, for a total of \$2,888 million. NIH will also continue to support the Global Fund for HIV/AIDS, Malaria and Tuberculosis, by providing \$100 million from its total budget in FY2007.

Pandemic Influenza

Consistent with the Department's Pandemic Influenza Preparedness Plan, the FY 2007 President's Budget requests \$17 million to support specific initiatives in pandemic influenza research.



Mechanism Discussion

The funding of basic biomedical research through investigator-initiated research, including Research Project Grants (RPGs), and ensuring an adequate number of new researchers with new ideas, remains a high priority for the National Institutes of Health. The FY 2007 Request would support an estimated 9,337 competing RPGs, for \$3.3 billion, an increase of 275 competing RPGs over the FY 2006 Appropriation. In the FY 2007 Request for NIH, the average cost of a competing RPG will not increase over the FY 2006 Appropriation. The apparent decrease in average cost in FY 2007 is the result of an extremely large cohort of AIDS clinical trials and G-8 HIV Vaccine awards cycling from competing into noncompeting status. While no inflationary increases are provided for direct, recurring costs in non-competing RPG's, where the NIH has committed to a programmatic increase in an award, such increases will be provided.

The FY 2007 request would support 1,373 Research Centers, for \$2.8 billion, an increase of \$62 million, or 2.3 percent.

Other Research increases by 1.2 percent. Within the Other Research mechanism, Research Careers increases by \$21 million, including \$15 million for a new program to support new investigators. This program is consistent with the recommendations contained in two recently-published reports from the National Research Council, *"Bridges to Independence: Fostering the Independence of New Investigators in Biomedical Research"* (March, 2005) and *"Advancing the Nation's Health Needs: NIH Research Training Programs"* (May, 2005). This new career transition award program, "The Pathway to Independence" will promote the initiation of independent research careers. The award is anticipated to provide up to five years of support consisting of two phases. The initial phase will provide 1-2 years of mentored support in the Research Careers mechanism, followed by 1-3 years of independent support as a Research Project Grant, contingent on securing an independent research position.

In the FY 2007 Request for NIH, stipends for trainees supported by the Ruth L. Kirschstein National Research Service Award (NRSA) will remain at the FY 2006 Appropriation levels. No increases are provided for other components of the NRSA training programs, such as tuition or health benefits. In the FY 2007 request, training remains at approximately the same level as the FY 2006 Appropriation. The FY 2007 Level will support 17,499 Full-Time Training Positions (FTTPs), approximately the same as the FY 2006 Appropriation.

Research and Development (R&D) contracts increase by \$44 million and 1.6 percent compared to the FY 2006 Appropriation. This increase is the result of the increase in the Genes, Health and Environment initiative and increases in the Program Evaluation set-aside.

Intramural Research decreases in total by -0.3 percent. Research Management and Support increases by \$14 million, or 1.3 percent. NIH must have the necessary resources to ensure good stewardship of its research portfolio, including improvements in data management and security systems.

An integral element to developing and supporting a robust extramural biodefense research program in the U.S., is to build and provide to extramural researchers the use of the specialized,

high-containment labs that they need in order to conduct research on the most dangerous and infectious pathogens known to exist. Researching these pathogens requires the use of biosafety level (BSL) 3 and/or BSL-4 research laboratories. These specialized facilities, in conjunction with specialized procedures, are designed to eliminate the threat to laboratory and clinical personnel, and to adjacent communities, of these highly-lethal and infectious agents. In FY 2007, NIH is requesting a total of \$25 million to construct additional BSL-3 laboratories and to renovate existing laboratories to meet current BSL-3 standards, including providing the capacity to support Good Laboratory Practice (GLP) research processes within selected BSL-3 laboratories. Consistent with the FY 2006 Appropriation, no funds are provided for non-biodefense extramural construction.

The Buildings and Facilities mechanism remains at \$89 million, the same as the FY 2006 Appropriation. The Buildings and Facilities appropriation request is \$81M, which is also the same as FY 2006. These funds will allow NIH to fund ongoing programs for essential safety and regulatory compliance, as well as Repairs and Improvements, in order to maintain valuable research capacity and to ensure the safety of NIH facilities and their occupants. Funds for the NCI-Frederick facility remain at \$8 million, the same as the FY 2006 Appropriation.

The Office of the Director (OD) increases by \$140 million, or 27 percent, for a total of \$668 million. Of this amount, \$111 million has been reserved in the NIH Director's Discretionary Fund for the NIH Roadmap for Medical Research, an increase of +\$29 million over the FY 2006 Appropriation. NIH will also direct an additional \$1 million to the Office of Portfolio Analysis and Strategic Initiatives. Support for Advanced Development for biodefense countermeasures will be directed through the NIH Office of the Director, and in FY 2007, this fund increases by +\$110 million over the FY 2006 Appropriation, for a total of \$160 million. Funding for Nuclear/Radiological and Chemical Countermeasures research will remain at \$96 million, the same as the FY 2006 Appropriation.

NATIONAL INSTITUTES OF HEALTH

Summary of Appropriations

(Dollars in millions)

Appropriation	FY 2005 Budget Authority 1/	FY 2006 Appropriation 1/	FY 2007 Estimate 1/	2007/2006
	Includes AIDS	Includes AIDS	Includes AIDS	\$ Change
NCI	4,828	4,793	4,754	-40
NHLBI	2,941	2,922	2,901	-21
NIDCR	392	389	386	-3
NIDDK 2/	1,864	1,855	1,844	-11
NINDS	1,539	1,535	1,525	-10
NIAID 3/	4,403	4,383	4,395	12
NIGMS	1,944	1,936	1,923	-12
NICHD	1,270	1,265	1,257	-7
NEI	669	667	661	-5
NIEHS	645	641	637	-4
NIA	1,052	1,047	1,040	-7
NIAMS	511	508	505	-3
NIDCD	394	393	392	-2
NIMH	1,412	1,404	1,395	-9
NIDA	1,006	1,000	995	-5
NIAAA	438	436	433	-3
NINR	138	137	137	-1
NHGRI	489	486	483	-3
NIBIB	298	297	295	-2
NCRR	1,115	1,099	1,098	-1
NCCAM	122	121	121	-1
NCMHD	196	195	194	-1
FIC	67	66	67	0
NLM	315	315	313	-2
OD 4/ 5/	405	528	668	140
B&F	110	81	81	0
Type 1 Diabetes	-150	-150	-150	0
Subtotal, Labor/HHS	28,415	28,349	28,350	1
Interior Approp. for Superfund Res.	80	79	78	-1
Total, NIH Discretionary B.A.	28,494	28,428	28,428	0
Type 1 Diabetes	150	150	150	0
Total, NIH Budget Authority	28,644	28,578	28,578	0
NLM Program Evaluation	8	8	8	0
Total, Prog. Level	28,653	28,587	28,587	0

Totals may not add due to rounding

1/ Includes funds to be transferred to the Global Fund for HIV/AIDS, Malaria, and Tuberculosis.

2/ Includes funds for the Type 1 Diabetes Initiative.

3/ FY 2006: NIAID includes \$18,000,000 for Pandemic Influenza from PHSSEF; comparable for \$49,500,000 to OD.

4/ Total OD includes Roadmap funds for FY 2005 of \$59,520,000; FY 2006 of \$82,170,000; FY 2007 of \$110,700,000.

5/ OD comparable for \$47,021,000 from PHSSEF - FY 2005, and \$49,500,000 from NIAID for Advance Development - FY 2006.

NATIONAL INSTITUTES OF HEALTH

Budget Mechanism - Total

(Dollars in Millions)

MECHANISM	FY 2005		FY 2006		FY 2007		2007/2006		
	Actual 1/		Appropriation		Estimate		# Change	\$ Change	% Change - \$
	No.	Amount	No.	Amount	No.	Amount			
Research Grants:									
Research Projects:									
Noncompeting	27,385	\$11,019	27,385	11,158	26,468	\$11,081	(917)	(\$77)	-0.7
Administrative supplements	(1,860)	436	(1,628)	184	(1,592)	167	(36)	(17)	-9.3
Competing	9,599	3,406	9,062	3,408	9,337	3,271	275	(136)	-4.0
Subtotal, RPGs	36,984	14,861	36,447	14,750	35,805	14,520	(642)	(230)	-1.6
SBIR/STTR	1,924	623	1,880	605	1,866	603	(14)	(2)	-0.4
Subtotal, RPGs	38,908	15,484	38,327	15,355	37,671	15,123	(656)	(233)	-1.5
Research Centers:									
Specialized/comprehensive	1,125	2,125	1,125	2,164	1,093	2,230	(32)	66	3.1
Clinical research	103	298	105	305	101	308	(4)	3	0.9
Biotechnology	97	134	94	131	101	129	7	(1)	-1.1
Comparative medicine	51	119	51	117	50	113	(1)	(4)	-3.5
Research Centers in Minority Institutions	17	55	28	54	28	54	0	(1)	-1.8
Subtotal, Centers	1,393	2,731	1,403	2,771	1,373	2,834	(30)	62	2.3
Other Research:									
Research careers	4,232	633	4,233	642	4,352	664	119	21	3.3
Cancer education	101	35	99	34	99	34	0	(0)	-0.5
Cooperative clinical research	327	335	335	339	340	337	5	(1)	-0.4
Biomedical research support	156	70	142	66	139	64	(3)	(1)	-1.8
Minority biomedical research support	155	116	153	115	152	114	(1)	(1)	-0.6
Other	1,710	448	1,681	460	1,632	463	(49)	3	0.6
Subtotal, Other Research	6,681	1,636	6,643	1,656	6,714	1,677	71	21	1.2
Total Research Grants	46,982	19,850	46,373	19,783	45,758	19,633	(615)	(149)	-0.8
Ruth L. Kirschstein Training Awards:	FTTPs		FTTPs		FTTPs				
Individual awards	2,923	119	2,869	120	2,856	120	(13)	(1)	-0.4
Institutional awards	14,715	637	14,590	640	14,643	641	53	0	0.0
Total, Training	17,638	756	17,459	761	17,499	760	40	(0)	0.0
Research & development contracts (SBIR/STTR)	2,891 (92)	2,641 (24)	2,842 (103)	2,700 (27)	2,891 (103)	2,744 (27)	49 0	44 (0)	1.6 -0.5
Intramural research		2,756		2,768		2,759		(9)	-0.3
Research management and support		1,079		1,092		1,106		14	1.3
Cancer prevention & control		532		520		517		(3)	-0.5
Extramural Construction		179		30		25		(5)	-15.8
Library of Medicine		313		312		309		(3)	-0.8
Appropriation		(315)		(315)		(313)		(-2)	-0.5
Office of the Director		341		445		557		112	25.1
Appropriation		(405)		(528)		(668)		(140)	26.6
Buildings and Facilities 2/		118		89		89		0	0.0
Type 1 Diabetes 3/		-150		-150		-150		0	0.0
Subtotal, Labor/HHS Budget Authority		28,415		28,349		28,350		1	0.0
Interior Appropriation for Superfund Res.		80		79		78		(1)	-0.9
Total, NIH Discretionary B.A.		28,494		28,428		28,428		0	0.0
Type 1 Diabetes 3/		150		150		150		0	0.0
Total, NIH Budget Authority		28,644		28,578		28,578		0	0.0
NLM Program Evaluation		8		8		8		0	0.0
Total, Program Level		28,653		28,587		28,587		0	0.0

1/ Budget Authority 2005 total includes mechanism distribution of NCI breast cancer stamp funds of \$2,987,000.

2/ Includes the B&F appropriation plus the following included in NCI -- FY 05: \$7,936,000; FY 06: \$7,920,000; FY 07: \$7,920,000.

3/ Included in NIDDK -- FY 05: \$150,000,000; FY 06: \$150,000,000; FY 07: \$150,000,000.

May not add due to rounding.

Numbers of grants identified in FY 2006 and FY 2007 are estimates, and WILL change as applications are received and selected for funding.