DEPARTMENT OF HEALTH AND HUMAN SERVICES

NATIONAL INSTITUTES OF HEALTH
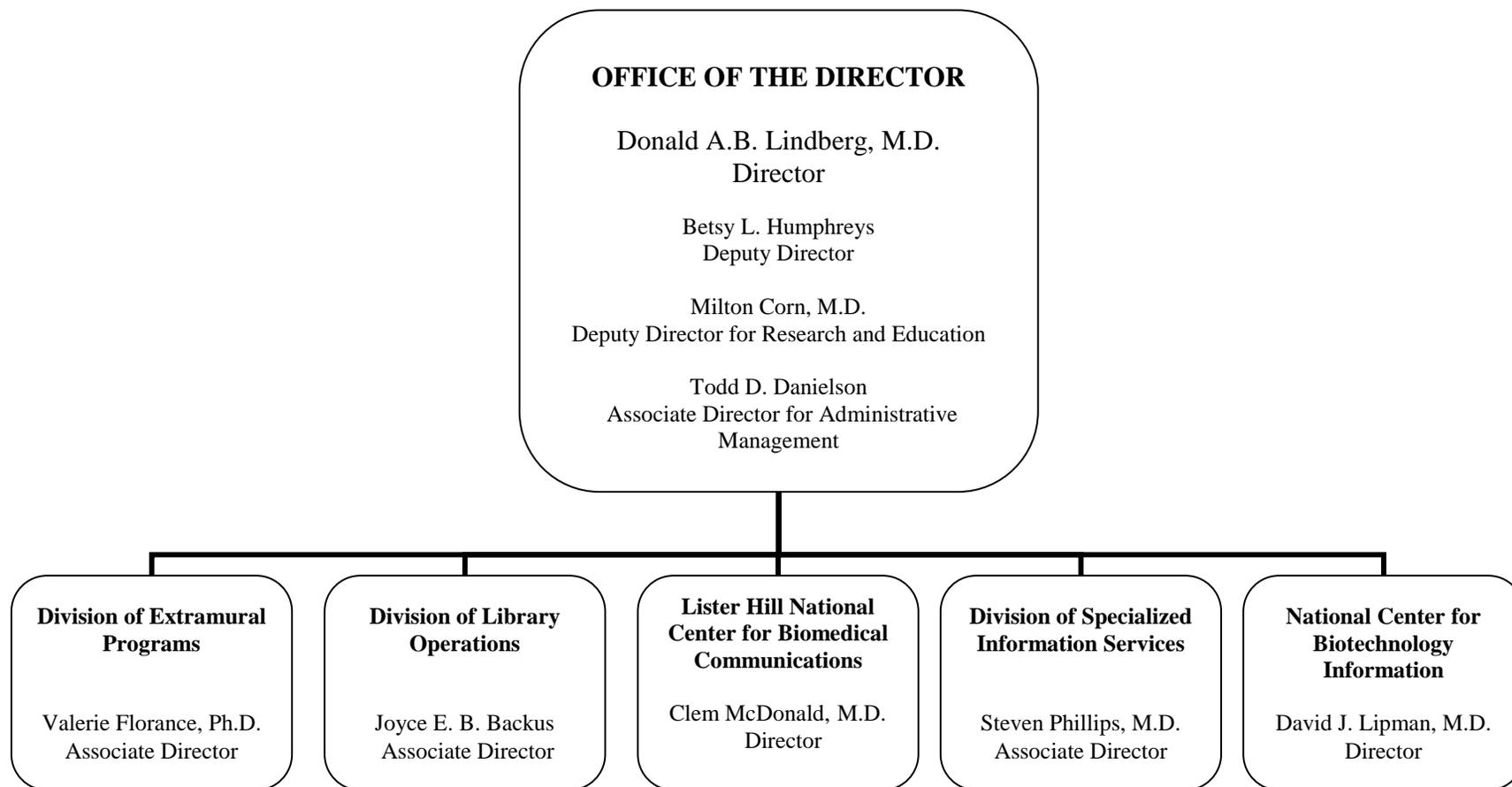
National Library of Medicine (NLM)

NATIONAL INSTITUTES OF HEALTH

NATIONAL LIBRARY OF MEDICINE

ORGANIZATION STRUCTURE

OFFICE OF THE DIRECTOR

Donald A.B. Lindberg, M.D.
Director

Betsy L. Humphreys
Deputy Director

Milton Corn, M.D.
Deputy Director for Research and Education

Todd D. Danielson
Associate Director for Administrative
Management

Division of Extramural Programs	**Division of Library Operations**	**Lister Hill National Center for Biomedical Communications**	**Division of Specialized Information Services**	**National Center for Biotechnology Information**
Valerie Florance, Ph.D. Associate Director	Joyce E. B. Backus Associate Director	Clem McDonald, M.D. Director	Steven Phillips, M.D. Associate Director	David J. Lipman, M.D. Director

NATIONAL INSTITUTES OF HEALTH

National Library of Medicine

For carrying out section 301 and title IV of the PHS Act with respect to health information communications, $382,252,000, of which $4,000,000 shall be available until September 30, 2015, for improvement of information systems: Provided, That in fiscal year 2014, the National Library of Medicine may enter into personal services contracts for the provision of services in facilities owned, operated, or constructed under the jurisdiction of the National Institutes of Health (referred to in this title as "NIH"): Provided further, That in addition to amounts provided herein, $8,200,000 shall be available from amounts available under section 241 of the PHS Act to carry out the purposes of the National Information Center on Health Services Research and Health Care Technology established under section 478A of the PHS Act and related health information services.

NATIONAL INSTITUTES OF HEALTH
National Library of Medicine

Amounts Available for Obligation [1]
(Dollars in Thousands)

Source of Funding	FY 2012 Actual	FY 2013 CR	FY 2014 PB
Appropriation	338,278	339,705	382,252
Type 1 Diabetes	0	0	0
Rescission	(639)	0	0
Supplemental	0	0	0
Subtotal, adjusted appropriation	337,639	339,705	382,252
Secretary's Transfer for Alzheimer's disease (AD)	(221)	0	0
Secretary's Transfer for AIDS authorized by PL 112-74, Section 206	(96)	0	0
Comparative Transfers to NLM for NCBI and Public Access	27,565	35,700	0
Subtotal, adjusted budget authority	364,887	375,405	382,252
Unobligated balance, start of year	0	467	0
Unobligated balance, end of year	(467)	0	0
Subtotal, adjusted budget authority	364,420	375,872	382,252
Unobligated balance lapsing	(122)	0	0
Total obligations	364,298	375,872	382,252

[1] Excludes the following amounts for reimbursable activities carried out by this account:
FY 2012 - $46,283   FY 2013 - $54,900   FY 2014 - $55,000

National Library of Medicine
Budget Mechanism - Total [1]
(Dollars in Thousands)

MECHANISM	FY 2012 Actual		FY 2013 CR		FY 2014 PB		Change vs. FY 2012	
	No.	Amount	No.	Amount	No.	Amount	No.	Amount
Research Grants								
Research Projects								
Noncompeting	58	$19,793	59	$20,134	55	$18,623	-3	-$1,170
Administrative Supplements	-	336	(0)	225	(0)	0	(0)	-336
Competing:								
Renewal	1	487	1	300	3	900	2	413
New	19	6,182	16	5,206	22	7,267	3	1,085
Supplements	0	0	0	0	0	300	0	300
Subtotal, Competing	20	$6,669	17	$5,506	25	$8,467	5	$1,798
Subtotal, RPGs	78	$26,798	76	$25,865	80	$27,090	2	$292
SBIR/STTR	5	768	6	844	6	894	1	126
Research Project Grants	83	$27,566	82	$26,709	86	$27,984	3	$418
Research Centers								
Specialized/Comprehensive	1	2,473	1	3,330	0	1,050	-1	-1,423
Clinical Research	0	0	0	0	0	0	0	0
Biotechnology	0	0	0	0	0	0	0	0
Comparative Medicine	0	0	0	0	0	0	0	0
Research Centers in Minority Institutions	0	0	0	0	0	0	0	0
Research Centers	1	$2,473	1	$3,330	0	$1,050	-1	-$1,423
Other Research								
Research Careers	8	852	8	852	7	924	-1	72
Cancer Education	0	0	0	0	0	0	0	0
Cooperative Clinical Research	0	0	0	0	0	0	0	0
Biomedical Research Support	2	1,286	2	1,286	0	0	-2	-1,286
Minority Biomedical Research Support	0	0	0	0	0	0	0	0
Other	40	11,907	40	11,907	36	14,223	-4	2,316
Other Research	50	$14,044	50	$14,045	43	$15,147	-7	$1,103
Total Research Grants	134	$44,084	133	$44,084	129	$44,181	-5	$97
Ruth L. Kirschstein Training Awards	FTTPs		FTTPs		FTTPs		FTTPs	
Individual	0	0	0	0	0	0	0	0
Institutional	0	0	0	0	0	0	0	0
Total Research Training	0	$0	0	$0	0	$0	0	$0
Research & Development Contracts	10	18,327	10	18,327	10	18,327	0	0
SBIR/STTR (non-add)	(0)	(0)	(0)	(0)	(0)	(0)	(0)	+(0)
	FTEs		FTEs		FTEs		FTEs	
Intramural Programs	701	288,221	701	298,449	701	305,078	0	16,857
Research Management and Support	99	14,255	103	14,545	103	14,666	4	411
Construction		0		0		0		0
Buildings and Facilities		0		0		0		0
Total, NLM	800	$364,887	804	$375,405	804	$382,252	4	$17,365

[1] All items in italics and brackets are "non-adds".

Major Changes in the Fiscal Year 2014 President's Budget Request

Major changes by budget mechanism and/or budget activity detail are briefly described below. Note that there may be overlap between budget mechanism and activity detail and these highlights will not sum to the total change for the FY 2014 President's Budget for NLM, which is $17.4 million over the FY 2012 level, for a total of $382.3 million.

Intramural Programs (+$16.9 million; total $305.1 million): Funds ($13.3 million) have been specifically included in NLM's budget request to allow the National Center for Biotechnology Information (NCBI) to meet the challenge of collecting, organizing, analyzing, and disseminating the deluge of data emanating from research in molecular biology and genomics and to support the deposit of manuscripts in PubMed Central under the NIH Public Access Policy. The additional funds will take the place of the funds that are now obtained from other NIH sources in the year of execution. Providing direct funding to NLM decreases administrative burden, increases transparency and enhances NCBI's ability to provide an integrated, genomic information resource for biomedical researchers at NIH and around the world and to provide access to papers resulting from NIH-funded research. Additionally, NLM will support incremental cost of literature purchases and contractual services in order to maintain its national biomedical information services, including the development and dissemination of molecular biology and genomic information, clinical trials data, published literature, and other services that provide access to the results of research.

FY 2012 Actual	$364,887
FY 2014 President's Budget	**$382,252**
Net change	**$17,365**

CHANGES	2014 President's Budget FTEs	2014 President's Budget Budget Authority	Change from FY 2012 FTEs	Change from FY 2012 Budget Authority
A. Built-in:				
1. Intramural Programs:				
a. Annualization of March				
2013 pay increase & benefits		$68,560		$170
b. January FY 2014 pay increase & benefits		68,560		509
c. One more day of pay		68,560		260
d. Differences attributable to change in FTE		68,560		0
e. Payment for centrally furnished services		8,015		144
f. Increased cost of laboratory supplies, materials,				
other expenses, and non-recurring costs		228,503		16
Subtotal				$1,099
2. Research Management and Support:				
a. Annualization of March				
2013 pay increase & benefits		$9,285		$23
b. January FY 2014 pay increase & benefits		9,285		69
c. One more day of pay		9,285		35
d. Differences attributable to change in FTE		9,285		0
e. Payment for centrally furnished services		0		0
f. Increased cost of laboratory supplies, materials,				
other expenses, and non-recurring costs		5,381		5
Subtotal				$131
Subtotal, Built-in				$1,230

Summary of Changes--continued

CHANGES	2014 President's Budget		Change from FY 2012	
	No.	Amount	No.	Amount
B. Program:				
1. Research Project Grants:				
a. Noncompeting	55	$18,623	-3	-$1,506
b. Competing	25	8,467	5	1,798
c. SBIR/STTR	6	894	1	126
Total	86	$27,984	3	$418
2. Research Centers	0	$1,050	-1	-$1,423
3. Other Research	43	15,147	-7	1,103
4. Research Training	0	0	0	0
5. Research and development contracts	10	18,327	0	0
Subtotal, Extramural		$62,508		$98
	FTEs		FTEs	
6. Intramural Programs	701	$305,078	0	$15,758
7. Research Management and Support	103	14,666	4	279
8. Construction		0		0
9. Buildings and Facilities		0		0
Subtotal, program	804	$382,252	4	$16,135
Total changes				$17,365

Fiscal Year 2014 Budget Graphs

History of Budget Authority and FTEs:

FTEs by Fiscal Year*

Fiscal Year	FTEs
2010	800
2011	804
2012	800
2013	804
2014	804

*FYs 2010, 2011 and 2012 are non-comparable for DEAS transfer.

Funding Levels by Fiscal Year*
(Dollars in Millions)

Fiscal Year	Funding
2010	339.7
2011	362.5
2012	364.9
2013	375.4
2014	382.3

*FY 2010 and FY 2011 are non-comparable for NCBI PA
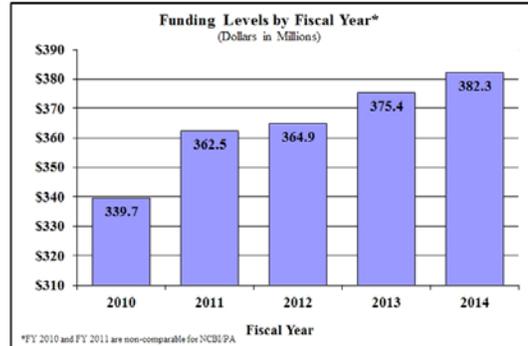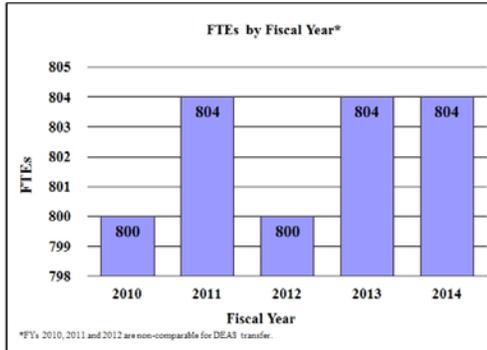
Distribution by Mechanism:

FY 2014 Budget Mechanisms
(Dollars in Thousands)

- Intramural Programs $305,078 80%
- R&D Contracts $18,327 5%
- Research Training $0 0%
- Other Research $15,147 4%
- Research Centers $1,050 0%
- Research Project Grants $27,984 7%
- RMS $14,666 4%
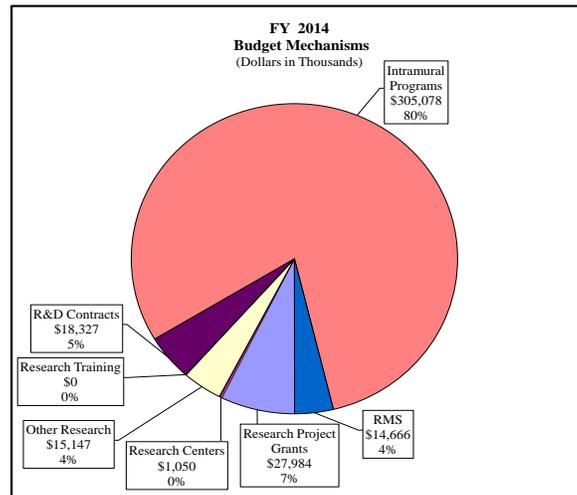
Change by Selected Mechanisms:

FY 2014 Estimate Percent Change from FY 2012
Mechanism

Mechanism	Percent Change
Research Project Grants	1.51%
Research Centers	-57.54%
Other Research	7.85%
Research Training	0.00%
R&D Contracts	0.00%
Intramural Programs	5.85%
Res. Mgmt. & Support	2.88%
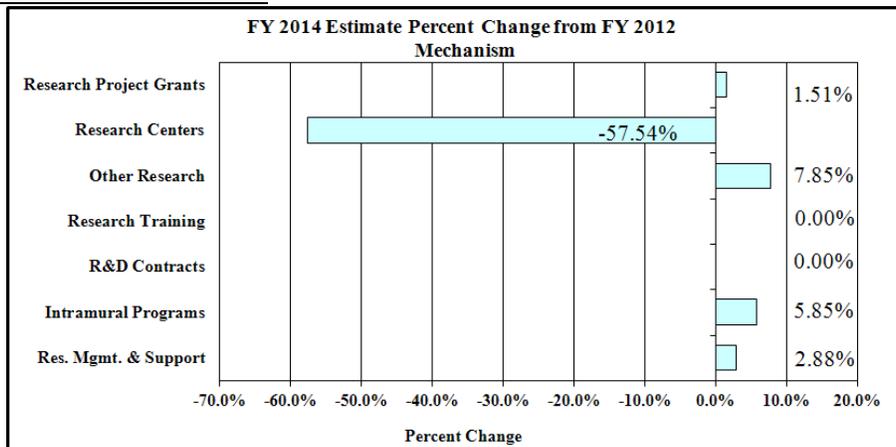
NOTE: In FY 2014, no new funds will be added by NLM for the Informatics for Integrating Biology and the Bedside (i2b2) project; the five year project ended. (Research Centers mechanism).

NATIONAL INSTITUTES OF HEALTH
National Library of Medicine
Budget Authority by Activity [1, 2]
(Dollars in Thousands)

	FY 2012 Actual		FY 2013 CR		FY 2014 PB		Change vs. FY 2012	
Extramural Research Detail:	**FTEs**	**Amount**	**FTEs**	**Amount**	**FTEs**	**Amount**	**FTEs**	**Amount**
Health Information for Health Professional and Public (NN/LM)		**$12,182**		**$12,182**		**$12,182**		$0
Informatics Infrastructure		**17,483**		**18,416**		**17,191**		-$292
Informatics Research		**32,746**		**31,813**		**33,135**		$389
Subtotal, Extramural		$62,411		$62,411		$62,508		$97
Intramural Programs	701	$288,221	701	$298,449	701	$305,078	0	$16,857
Research Management & Support	99	$14,255	103	$14,545	103	$14,666	4	$411
TOTAL	800	$364,887	804	$375,405	804	$382,252	4	$17,365

[1] Includes FTEs whose payroll obligations are supported by the NIH Common Fund.

[2] Includes Transfers and Comparable Adjustments as detailed in the "Amounts Available for Obligation" table.

NATIONAL INSTITUTES OF HEALTH
National Library of Medicine

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2013 Amount Authorized	FY 2013 CR	2014 Amount Authorized	FY 2014 PB
Research and Investigation	Section 301	42§241	Indefinite	$375,405,000	Indefinite	$382,252,000
National Library of Medicine	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				$375,405,000		$382,252,000

NATIONAL INSTITUTES OF HEALTH
National Library of Medicine

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2005	$316,947,000	$316,947,000	$316,900,000	$317,947,000
Rescission				($2,801,000)
2006	$318,091,000	$318,091,000	$327,247,000	$318,091,000
Rescission				($3,181,000)
2007	$313,269,000	$313,269,000	$315,294,000	$320,850,000
Rescission				-
2008	$312,562,000	$325,484,000	$327,817,000	$326,669,000
Rescission				($5,707,000)
2009	$323,046,000	$331,847,000	$329,996,000	$330,771,000
Rescission				-
Supplemental				$1,705,000
2010	$334,347,000	$342,585,000	$336,417,000	$339,716,000
Rescission				-
2011	$364,802,000	-	$364,254,000	$339,716,000
Rescission				($2,982,909)
2012	$387,153,000	$387,153,000	$358,979,000	$338,278,000
Rescission				($639,345)
2013	$372,651,000	-	$381,981,000	-
Rescission				
2014	$382,252,000	-	-	-

Justification of Budget Request

National Library of Medicine

Authorizing Legislation: Section 301 and title IV of the Public Health Service Act, as amended.

Budget Authority (BA):

	FY 2012 Actual	FY 2013 CR	FY 2014 President's Budget	FY 2014 +/- FY 2012
BA	$364,887,000	$375,405,000	$382,252,000	+$17,365,000
FTE	800	804	804	+4

Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

Director's Overview

The National Library of Medicine (NLM), the world's largest biomedical library:
- produces electronic information resources used billions of times each year by millions of scientists, health professionals, and members of the public;
- supports and conducts research, development, and training in biomedical informatics and health information technology; and
- coordinates a 6,000-member National Network of Libraries of Medicine that promotes and provides access to health information in communities across the U.S.

Through advanced information systems, a cutting-edge informatics research portfolio, and extensive partnerships, NLM plays a pivotal role in catalyzing and supporting the translation of basic science into new treatments, improved practice, useful decision support for health professionals and patients, and effective disaster and emergency preparedness and response.

NLM's advanced information systems disseminate an enormous range of information, including genetic, genomic, and biochemical data; images; published and unpublished research results; decision support resources; scientific and health data standards; informatics tools for system developers; and health information for the public. NLM describes and organizes information produced by government agencies, NIH-funded institutions, non-profit organizations, commercial publishers, and libraries. Scientists, health professionals, and the public can search or download much of this information directly from an NLM Web site, find it via an Internet search engine, or use an "app" that provides value-added access to NLM data. Thousands of commercial and non-profit system developers regularly use the applications programming interfaces that NLM provides to promote private sector innovation.

NLM's expanding databases of research results, scientific data, and high quality health information, coupled with the growing stores of standardized electronic health records, provide

extraordinary opportunities to increase understanding of disease, to identify new therapeutic avenues, and to speed the translation of such discoveries into improved health and health care.

Overall Theme: High Priorities for FY 2014

- **Theme 1: Today's Basic Science for Tomorrow's Breakthroughs**

High quality, cost-effective science builds upon evidence in previously published papers, uses existing scientific data effectively, and then produces more published evidence and data that in turn promote new science and new discoveries. NLM databases and systems promote scientific breakthroughs by playing a crucial role in all phases of this process. Scientists rely heavily on NLM's rapidly growing and richly linked databases and tools to identify, access, and analyze existing published papers and important sources of research data. Many also use NLM information systems to make publications and data resulting from their own research readily available to the scientific community.

In intramural research divisions and through extramural grants, NLM actively conducts and supports advanced research in information storage, indexing, and retrieval. NLM also funds the development of computational tools and methods for analysis of publications, scientific data, electronic health records, and images. In addition, NLM supports research on human interaction with biomedical information.

NLM's National Center for Biotechnology Information (NCBI) has been a focal point for "Big Data" in biomedicine for decades. NCBI is a leader in organizing and providing rapid access to massive amounts of genetic sequence data from evolving high-throughput sequencing technologies. NCBI serves more than 25 terabytes of biomedical data to more than 2.7 million users every day, drawing on massive data archives. Some of the largest datasets, such as those from NIH's 1000 Genomes Project, are also available in the cloud. This allows faster access and analysis by researchers who are otherwise hampered by insufficient bandwidth or computing power.

Although immense quantities of data are available from NLM and other accessible sources, vast amounts of complex digital data resulting from NIH-funded research remain relatively hidden in the individual labs that generated them. In 2014, NLM will contribute to NIH-wide efforts to improve access to additional categories of NIH-funded scientific data.

- **Theme 2: Translational Science**

Clinical trials are critical to the translation of research results into effective treatments. NLM's ClinicalTrials.gov is the world's most comprehensive trial registry, with more than 140,000 studies. The picture it provides of current trends in trial design, size, focus, and methods can help to identify opportunities for innovations in translational science. Due to requirements in the 2007 Food and Drug Administration Amendments Act, ClinicalTrials.gov now includes summary results data for thousands of trials of drugs and devices. As the only public source of results data for some trials, ClinicalTrials.gov enhances transparency of research involving human subjects.

With FDA, academia, and the private sector, NLM's NCBI is creating a public database of the gene sequences of 100,000 bacteria known to cause foodborne outbreaks. Access to these genomes will speed identification of the bacteria involved in specific outbreaks and facilitate development of tests to aid diagnosis and treatment of people affected.

NLM grants support informatics research that contributes to translational science, particularly relating to secondary use of electronic health data in biomedical research. This includes methods for patients to share personal health data for research studies; mining health records to identify possible participants for new clinical trials; and creating virtual 'research cohorts' to speed clinical research and lower the costs. NLM's intramural research program on personal health records builds on more than two decades of work on standard terminologies in the Unified Medical Language System. Researchers explore methods to help people to use evidence to manage their own health, convey information to their health care teams, and generate standardized data to speed scientific discovery.

- **Theme 3: Recruiting and Retaining Diverse Scientific Talent and Creativity**

NLM offers training at many career stages and focuses on diversity in recruitment through participation in college programs for minority students. NLM also offers formal postdoctoral training within the NIH Intramural Research Program, with a strong emphasis on recruitment of women and minority candidates for research fellows. In FY 2012, nearly 100 intramural participants received training. They conducted research on a broad range of topics related to clinical health records, the biomedical literature, and computational biology. Topics included 3-D image processing, biomedical ontology and terminology, information retrieval, personal health records, de-identification of medical records, genome sequence analysis, population genetics, literature-based discovery, natural language processing, pill identification, semantic web, and disaster management systems.

Overall Budget Policy: The FY 2014 President's Budget request is $382.252 million, an increase of $17.365 million or 4.8 percent over the FY 2012 Actual Level. Increased funding in FY 2014 will be devoted to processing and organizing the deluge of new scientific data resulting from NIH-wide investments in high throughput technologies by NLM's National Center for Biotechnology Information. NLM's highest priority is maintaining the quality and integrity of the Library's national collection of biomedical information and its many heavily used electronic databases. NLM's intramural program focuses on building and providing access to these essential services and comprises 79.8 percent of the NLM budget request. Funds for extramural grants increase by $0.097 million in FY 2014 and the Library will continue to support the National Network of Libraries of Medicine and its role in improving U.S.-wide access and use of health information in communities across the nation; to support pre- and post-doctoral informatics research training and career transition for its trainees; to foster special projects that disseminate information to reduce health disparities; to support scholarship in the history and philosophy of biomedicine and ethics; and to invest in new investigators and competing RPGs through informatics research grants.

Funds are included in R&D contracts to support trans-NIH initiatives, such as the Basic Behavioral and Social Sciences Opportunity Network (OppNet).

Program Descriptions and Accomplishments

Intramural Programs
NLM's intramural programs acquire, organize, preserve, and provide access to the world's biomedical literature, no matter the medium. NLM serves as a leading resource for molecular biology, genomic, and clinical trials information. It also provides information services on toxicology, disaster preparedness, and environmental health. Intramural research addresses standards, systems, technologies, and networks for information access by scientists, health professionals, patients, and the general public.

Delivering Reliable, High Quality Biomedical and Health Information Services: At the core of NLM is the world's largest, continually expanding collection of biomedical literature, along with associated online databases. NLM creates a broad array of authoritative databases for health professionals, scientists, the public, and the librarians and information specialists who serve them. NLM also develops and uses sophisticated information systems to support the complex operations necessary to acquire, describe, index, and provide rapid access to materials in its collections. Special attention is given to developing systems to build and refine electronic databases and services for many different audiences.

In FY 2012, NLM greatly expanded the quantity and range of high quality information readily available to scientists, health professionals, and the general public. Major advances in scientific data access included:
- growth in ClinicalTrials.gov which now includes more than 140,000 registered studies and summary results for more than 8,000 trials, including many not available elsewhere;
- expansion of NCBI's Entrez system, an integrated collection of some 40 databases and about 700 million records of molecular and genomic data;
- coordination with NIH institutes for deposition of high-throughput genomic sequencing data from projects they fund;
- development of ClinVar and other new resources that house the growing body of data relating to genetic variation;
- continued support for PubChem, an archive of chemical and biological data from the NIH Molecular Libraries Roadmap initiative and 200 outside organizations; PubChem now contains information on more than 35 million unique chemical structures and more than six million bioassays;
- continued growth of the database of Genotypes and Phenotypes (dbGaP), which connects individual-level genomic data with individual-level clinical information, protecting the confidentiality of participant data via a controlled access system; and
- expansion of the Gene Expression Omnibus database, which has added data from thousands of epigenomic studies.

NLM also continued to expand access to biomedical literature. More than 760,000 journal articles were indexed for PubMed/MEDLINE, NLM's most heavily used database, which contains more than 22 million references to articles in the biomedical and life sciences journals.

The PubMed Central® digital archive now provides public access to the full-text versions of more than 2.5 million research articles, including those produced by NIH-funded researchers. NLM added thousands of full-text clinical evidence reports and other effectiveness studies to its electronic books database and featured this content in PubMed Health.

National Library of Medicine

Twenty Three Years of Growth: NCBI Data and User Services
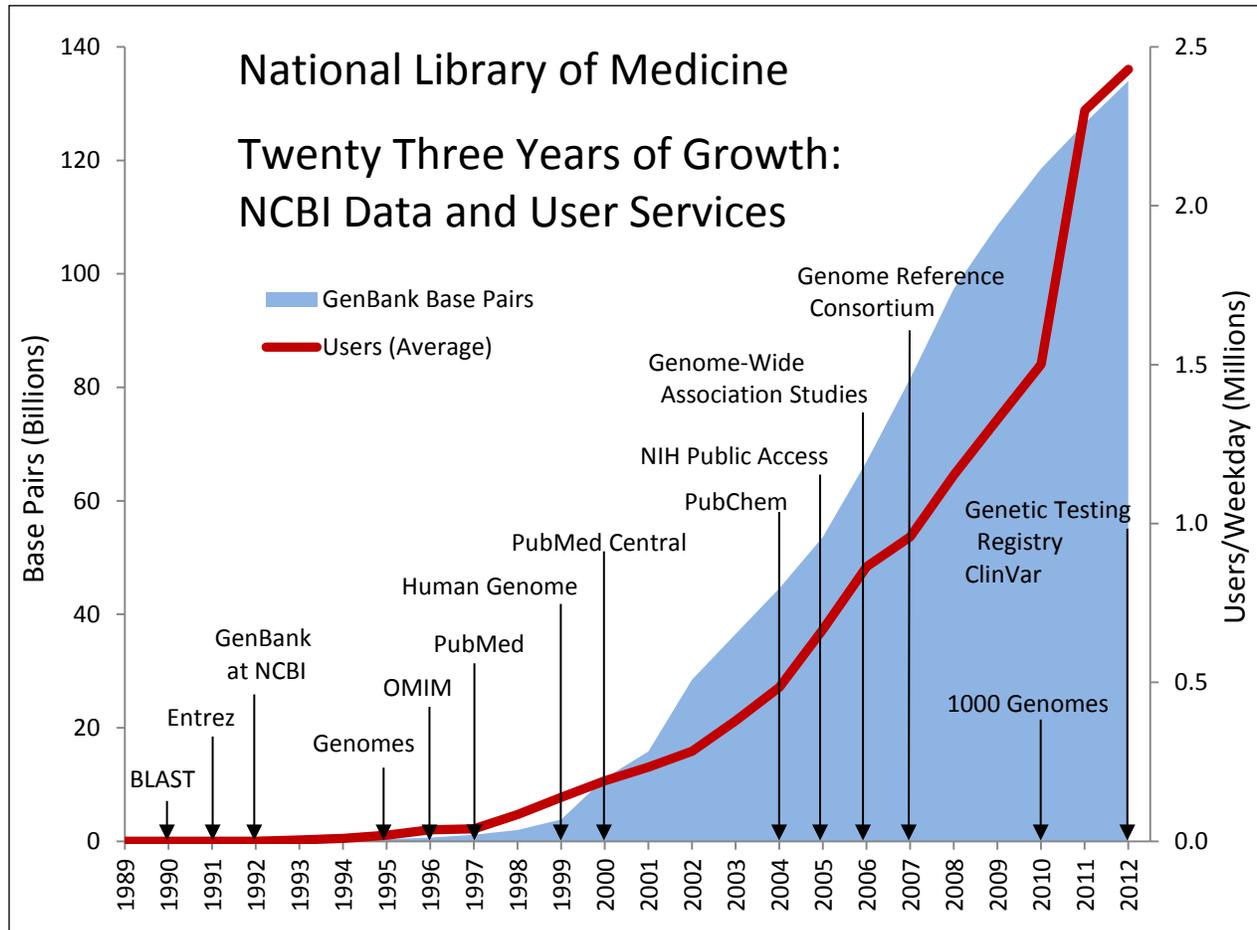
NLM also expanded the content and diversified access to its consumer health information resources, including the highly popular MedlinePlus.gov site, with new mobile Web sites and "apps." The Library continued to be a leading player in social media amongst HHS agencies with active Facebook, Twitter, and YouTube accounts, including the very popular medlineplus4you on Twitter, and sending out daily updates to a combined audience of nearly 130,000 followers. NLM was ranked as one of the top three most liked, most followed, and most mentioned organizations amongst small government agencies with social media accounts.

Budget Policy: The FY 2014 President's Budget estimate for delivering reliable, high quality biomedical and health information services is $121.844 million, an increase of $1.136 million or 0.9 percent over the FY 2012 Actual level of $120.708 million. In FY 2014, the Library will concentrate on maintaining its current level of services and its most heavily used resources, including Medline/PubMed and PubMed Central®, which provide critical access to published biomedical research results worldwide. Another key service, MedlinePlus, contains a wide range of information written and formatted for consumers. Keeping MedlinePlus current with new

information (in English, Spanish, and other languages) from NIH and other reliable sources is a high priority in FY 2014. NLM will continue to maintain ClinicalTrials.gov in FY 2014 to accommodate increasing submissions of summary results in accordance with the Food and Drug Administration Amendments Act of 2007.

Program Portrait: Standards for Interoperable Electronic Health Records

FY 2012 Level: $15.7 million
FY 2014 Level: $15.7 million
Change: $0 million

In close collaboration with the Office of the National Coordinator for Health Information Technology (ONC), within HHS, NLM provides ongoing funding for the clinical terminologies designated as U.S. standards for meaningful use of electronic health records (EHRs) and health information exchange. NLM's support allows these standards to be updated regularly to reflect new drugs, tests, and changes in biomedical knowledge and health practice — and also allows them to be used free-of-charge in U.S. systems that support health care, public health, and biomedical research. NLM produces and maintains a growing number of convenient vocabulary subsets to help EHR developers and users transition to use vocabulary standards, including subsets of frequently encountered patient problems, frequently ordered tests, and medications currently available in the U.S. market. In FY 2012, NLM worked with the ONC, the Centers for Medicare and Medicaid Services, the HHS Office of the Secretary, and others to provide authoritative access to the standard vocabulary components of clinical quality measures. The inclusion of standard terminology in EHRs enables more effective clinical decision support by making it easier to link information in a patient's record to the knowledge relevant to that record. In FY 2012, additional improvements to NLM's MedlinePlus Connect service expanded its utility to EHR vendors seeking to fulfill explicit requirements for Meaningful Use by connecting their products directly to NLM's high quality information relevant to a patient's problems, medications, and test results. Standardized EHRs are also an important source of data for cost-effective clinical and translational research. In 2012, NLM continued its work to facilitate the use of standard clinical terminology in international genomic research databases and in common data elements and patient assessment instruments used in NIH and HHS-funded comparative effectiveness and clinical research. NLM's Unified Medical Language System (UMLS) resources provide essential infrastructure for advanced clinical decision support by connecting standard clinical terminologies to billing codes and more than 120 other important biomedical vocabularies, such as those used in information retrieval and gene annotation. By linking the many different terms used to represent the same concepts and by providing associated natural language processing programs, NLM's UMLS resources help computer programs interpret biomedical text correctly. These resources are heavily used in NIH-funded research; in commercial products and developments, including IBM's Watson question answering system; and in many electronic information services, including those produced by NLM.

Promoting Public Awareness and Access to Information: The NLM has extensive outreach programs to enhance awareness of NLM's diverse information services among biomedical researchers, health professionals, librarians, patients, and the public. To improve access to high quality health information, NLM works with the National Network of Libraries of Medicine and has formal partnerships such as Partners in Information Access for the Public Health Workforce and the Environmental Health Information Outreach Partnership with Historically Black Colleges and Universities, tribal colleges, and other minority serving institutions. In FY 2012, dozens of community-based projects were funded across the country to enhance awareness and access to health information and to address health literacy issues. As part of its outreach efforts, NLM also continually solicits feedback from users on how existing resources can be improved.

NLM also fosters informal community partnerships and uses exhibitions, the media, and new technologies in its efforts to reach underserved populations and to promote young people's interest in careers in science, medicine, and technology. In 2012, NLM held a number of special events associated with its major exhibition, *Native Voices: Native Peoples' Concepts of Health and Illness,* as part of its outreach efforts to populations that suffer from serious health disparities. Many video interviews used in the exhibition were developed in response to Congressional interest in ensuring documentation and awareness of traditional Native Hawaiian healing practices. NLM continues to expand its successful traveling exhibitions program as another means of enhancing access to the Library's services and promoting interest in careers in science and medicine in communities across the country. Examples include the highly popular *Harry Potter's World: Renaissance Science, Magic, and Medicine*; *Life and Limb: The Toll of the Civil War,* and *Opening Doors: Contemporary African American Academic Surgeons.*

With assistance from other NIH components and outside partners, NLM continues to increase the distribution of the *NIH MedlinePlus* magazine, and its Spanish counterpart, *NIH Salud*. The magazine, which is also available online in Spanish and English, is distributed to doctors' offices, health science libraries, the Congress, the media, federally supported community health centers, select hospital emergency and waiting rooms, and other locations where the public receives health services nationwide. This past year, NLM and NIH continued to partner with the National Hispanic Medical Association, the American Diabetes Association, the Peripheral Arterial Disease Coalition, among others, to extend the distribution of the magazine to the audiences they serve. Depending on partners for each issue, between 300,000 and 600,000 copies of the quarterly magazine are distributed and reach more than five million readers across America.

Budget Policy: The FY 2014 President's Budget estimate for promoting public awareness and access to information is $5.537 million, the same as the FY 2012 Actual level. In FY 2014, NLM will continue its outreach programs with a special emphasis on those aimed at underserved and minority populations. As recommended by its 2006-2016 Long Range Plan, NLM will develop and test innovative outreach methods, including infrastructure improvements (for example, PDAs, intelligent agents, and network techniques) to "enable ubiquitous health information access in homes, schools, public libraries, and work places." Also as recommended in the Plan, the Library will continue to use its major historical exhibitions as a means for improving science and health literacy and promoting interest in biomedical careers, as well as increasing awareness and use of NLM information services.

Program Portrait: Quality Health Information for Disaster Management

FY 2012 Level: $3.2 million
FY 2014 Level: $3.2 million
Change: $0 million

From superstorms to earthquakes and oil spills, managing disasters requires managing information. NLM's Disaster Information Management Research Center (DIMRC) develops innovative tools, resources, and expertise in disaster information management to assist with the Nation's preparedness, response, recovery, and risk reduction efforts. Tools such as Wireless Information System for Emergency Responders (WISER), Radiation Emergency Medical Management (REMM), and Chemical Hazards Emergency Medical Management (CHEMM) assist emergency responders in managing hazardous materials and chemical, biological, radiological, and nuclear events. With nearly 500,000 downloads worldwide, these mobile apps and tools provide emergency responders and other disaster personnel with quick and easy access to tailored information for decision-making. NLM also worked with the HHS Assistant Secretary for Preparedness and Response to design the first interactive All-Hazards Plan to manage the federal medical and public health response to disasters. It was first used for Hurricanes Isaac and Sandy.

With the modification of the Stafford Act to include libraries as critical infrastructure following disasters, ensuring that library staff is ready to assist the disaster workforce and the general public is extremely important. NLM and the Medical Library Association developed specialized training, leading to a certificate in disaster information management. The Emergency Access Initiative, a partnership among NLM, the National Network of Libraries of Medicine (NN/LM), and the Professional/Scholarly Publishing Division of the Association of American Publishers and other publishers, provides temporary free access to medical books and articles during times of disaster. The NN/LM has also developed a toolkit and cooperative agreements to assist medical libraries in their response to disasters.

NLM is a member of the Bethesda Hospitals' Emergency Preparedness Partnership (BHEPP), a private-federal-military partnership developed to assist in the management of a medical surge in a disaster. NLM developed numerous patient management and communication tools to aid in disaster response, including an HHS award-winning electronic patient tracking and management system that includes a digital pen used in patient triage, a radio frequency identification (RFID) system to tag patients and monitor their position within and between the partner hospitals, and a patient data exchange to seamlessly exchange patient information among partner hospitals, a family reunification system, and a virtual training platform.

Developing Advanced Information Systems, Standards and Research Tools: The NLM's advanced information services have long benefitted from its intramural research and development (R&D) programs. The Library has two organizations that conduct advanced R&D on different aspects of biomedical informatics — NCBI and the Lister Hill National Center for Biomedical Communications (LHC).

NCBI, created in 1988, conducts R&D on the representation, integration, and retrieval of molecular biology data and biomedical literature, in addition to providing an integrated, genomic information resource consisting of more than 40 databases for biomedical researchers at NIH and around the world. NCBI's development of large-scale data integration techniques with advanced information systems is key to its expanding ability to support the accelerated pace of research made possible by new technologies such as next-generation DNA sequencing, microarrays, and small molecule screening. As one of the world's largest repositories of DNA sequence information, NCBI's services for access to these data, all of which are linked to the scientific

literature, provide the foundation for researchers to accelerate the rate of discovery and facilitate the translation of basic science into new diagnostics and treatments.

LHC, established in 1968, conducts and supports research in such areas as the development and dissemination of health information technology standards; the dissemination, processing, and use of high quality imagery; medical language processing; high-speed access to biomedical information; and advanced technology for emergency and disaster management.

Imaging tools developed by LHC, including those designed to use with Visible Human Project data, are integral to medical training programs across the country and have also been incorporated into commercial medical imaging technologies. The Insight ToolKit (ITK), an NLM-funded, publicly available, open-source software package for high-dimensional (3D, 4D, and higher) data processing, has been providing a software foundation for biomedical image research and commercial product development for over a decade. In 2012, an NLM-funded team of academic and industry researchers completed work on a project to accelerate and enhance ITK to take advantage of new graphics processing hardware and the latest software development approaches. LHC is also leading the development of OpenI (pronounced "open eye"), a novel system that enables image-based searches of the biomedical literature. In addition to the usual text-based search terms, users can create search queries that incorporate elements such as radiographic images, photographs of organs, sketches, graphs, or charts. OpenI indexes both textual and image-based features from the collection of 250,000 open access articles and one million illustrations in the PubMed Central® database. The first production-quality system of its kind in the biomedical domain, OpenI is able to support searches of vast multimedia collections.

Through its intramural programs, NLM has been a leader in natural language understanding and biomedical text mining research over the past two decades, developing and sharing innovative algorithms, resources, and tools, including the UMLS, MetaMap, Medical Text Indexer (MTI), and SemRep. This research has been applied to indexing, information retrieval, question answering, and literature-based discovery. For example, MTI plays a crucial role in the Indexing Initiative Project that uses language-based and machine learning methods for automating the indexing MEDLINE citations at NLM. The output of SemRep's semantic analysis algorithms is used in the development of clinical guidelines. There is growing evidence of the utility of text mining techniques in the clinical domain; for example, combining genotype information with phenotype information extracted from electronic medical records has proven to be a viable, cost-effective way to study the relationship between genome-wide genetic variation and common human traits.

NLM is expanding text mining research activities in support of literature and clinical text processing. This effort involves (1) developing methods specially adapted to clinical narratives; (2) refining existing methods for more effective support of NLM library services; (3) developing health-related question answering applications; and (4) adapting tools to high-throughput processing of the vast amount of text in electronic health records and large repositories of biomedical articles ("big data"). LHC has many joint research activities with other NIH components and federal agencies, including the NIH Clinical Center, the National Cancer

Institute, the Centers for Disease Control and Prevention's National Center for Health Statistics, the Centers for Medicare and Medicaid Services, and the Department of Veterans Affairs.

In addition to its ground-breaking research in natural language processing and medical image processing, LHC has also made advances that will facilitate health information exchange and meaningful use of EHRs. LHC researchers have developed algorithms for validating vocabulary components of electronic quality measure specifications and analyzed frequency data from multiple health care organizations to produce manageable subsets of large standard clinical vocabularies. They have also developed effective techniques for mapping clinical vocabularies to administrative code sets and have established partnerships to test the use and impact of personal health records.

NLM's Personal Health Record (PHR) project aims to help individuals manage health care for themselves and their families. As a R&D project, the PHR serves as a test-bed for providing patient-specific consumer education information, validating and improving NLM clinical vocabularies, studying consumers' use of PHR systems, and studying the potential of PHR-based educational reminder systems to improve prevention. It is also being investigated as a potential vehicle for gathering patient information during clinical trials. The PHR supports the entry and tracking of key measurements, test results, prescriptions, problems, immunizations, and future health appointments. The PHR automatically assigns codes to the medications, observations, and problems as users enter them. These codes come from national vocabulary standards that are supported or developed by NLM, e.g., Logical Observation Identifiers Names and Codes (LOINC), RxNorm, and Systematized Nomenclature of Medicine - Clinical Terms (SNOMED CT). The strong use of vocabulary standards in the NLM PHR enables many computer-generated features such as personalized reminders, automatic calculation of health measures, and direct links to information sources such as MedlinePlus. Standards will also enable the direct importing of the consumer's own data from clinical sources.

Budget Policy: The FY 2014 President's Budget estimate for developing advanced information systems, standards and research tools is $177.697 million, an increase of $15.721 million or 9.7 percent from the FY 2012 Actual level of $161.976 million. The additional funds will be used by NCBI and will take the place of the funds that are now obtained from other NIH sources in order to process the enormous quantities of data emanating from new NIH-funded sequencing, microarray, and small molecule screening technologies. In accordance with its 2006-2016 Long Range Plan, NLM's research divisions will engage in critical R&D projects that are important to today's scientific community and that will have even greater influence in the future. In addition to NCBI's trans-NIH collaborations, other NLM intramural researchers will continue to improve access to clinical trials data; to pursue disaster management information research in partnership with the NIH Clinical Center, the Department of Defense, and Suburban Hospital; to develop advanced imaging tools for cancer diagnosis in cooperation with the National Cancer Institute; and to work with NIH-funded Clinical and Translational Research Centers on health data standardization issues. The Library will continue to serve as an HHS coordinating center for standard clinical vocabularies; to support, develop, or license for U.S.-wide use key clinical vocabularies, including SNOMED CT®; and to develop and test tools and subsets to promote meaningful use of electronic health records.

Extramural Programs

NLM's extramural programs focus on three priority areas: (1) biomedical informatics research to develop and test sophisticated computational approaches for acquiring, integrating, managing, mining, and presenting biomedical data, information, and knowledge; (2) development of the research workforce; and (3) early support for novel biomedical knowledge resources. To accomplish its extramural goals in FY 2014, NLM will offer grants in four categories: training/career support, research project grants, information resource and scholarship grants, and small business grants. In FY 2012, NLM made 138 grant awards using its base appropriation, of which 38 percent were new awards.

Informatics Infrastructure: For more than 40 years, NLM has funded research and training programs that provided the foundation for the field of biomedical informatics. NLM grants have supported seminal work on conceptual approaches and techniques for decision support, data mining, natural language understanding, visualization, and advanced statistical modeling. Early research into computational support during disasters was supported by NLM research contracts and grants, and two NLM-funded winners of the President's Early Career Award in Science and Engineering focused on biosurveillance informatics for public health. Many of today's informatics researchers and health information technology leaders are graduates of NLM-funded university-based training programs, which annually train about 200 individuals. In 2012, NLM pioneered a grant supplement program that brought specialized information expertise into biomedical research projects supported by other NIH components. In years past, NLM resource grants supported the first Internet connections for many health sciences libraries and hospitals, but its resource grant programs now focus on deployment of Web-based knowledge resources to reduce health disparities. A unique NLM resource grant program supports scholars doing research in the history and philosophy of medicine, biomedical science, and bioethics. NLM will fund six new small business projects in FY 2014, five new career transition awards, and up to eight new awards for knowledge resource or scholarly works projects.

Budget Policy: The FY 2014 President's Budget estimate includes $17.191 million, a decrease of $0.292 million, or 1.6 percent, below the FY 2012 Actual level of $17.483 million. This program builds the informatics expertise and information resources needed to support biomedical scientists, health care providers, public health administrators, and health services researchers. In FY 2014, two long-running infrastructure grant programs will come to an end, the Biomedical Research Resource grant and the National Centers for Biomedical Computing. However, NLM will continue extramural support for its resource grants, career transition programs, and for its highly regarded university-based training program. NLM trainee stipends for both predoctoral and postdoctoral trainees are scheduled to increase in 2014.

Program Portrait: Basic and Applied Informatics for Scientists, Patients and Clinicians

FY 2012 Level: $26.8 million
FY 2014 Level: $27.1 million
Change: +$0.3 million

For decades, NLM's Extramural Programs Division has been the principal source of NIH support for research in basic and applied biomedical informatics. Such research encompasses areas ranging from the de-identification of patient data and protection of confidential health information to novel statistical and computational approaches for analyzing multi-dimensional research data. It also includes automated mining of electronic health records (EHR) for evidence of adverse drug interactions, the use of aggregated data from individual patients for clinical trials on rare diseases, and real-time graphical visualization of data about global health and epidemics. NLM-funded researchers have pioneered computational modeling of a living cell and of the global spread of epidemics. They have developed novel statistical approaches for working with sparse or high-dimensional data and bioinformatics strategies for use in genome-wide association studies. These discoveries, tested and evaluated in early research, can then be applied to specific health conditions by researchers funded by other NIH institutes.

NLM-funded researchers have developed widely-used software approaches for modeling characterizing the complex relationships between genotypes and phenotypes, improving prediction of disease susceptibility. Approaches for using electronic health record data to identify patients with disease and matching them to controls, an important area NLM supports in translational informatics, enable researchers to match genotypes with a given phenotype.

The use of information by consumers and patients is another important area of informatics research funded by NLM grants. For example, NLM-supported researchers are developing machine translation approaches for use in multilingual health settings, including the automatic conversion of discharge instructions from text into pictographs for use with low-literacy or non English-speaking patients. NLM-funded research is also developing tools a patient can use to actively participate in a research cohort.

Informatics Research: NLM research project grants (RPG) have supported pioneering research and development in computational intelligence in medicine, clinical decision support, protection of privacy in electronic medical records, secondary use of routine clinical data for research purposes, regional health data integration, health applications of advanced telecommunications networks, automated bio-surveillance, and information management in disasters. These projects advance the science of biomedical informatics, which is the intersection of computer, information and engineering sciences with medicine, public health, and biological/behavioral sciences. Biomedical informatics research is fundamental to the sophisticated systems in which data from biological research and health care are stored, managed, and displayed. NLM research grant programs support both basic and applied research ranging from major research collaborations to small proof-of-concept projects. Investigator-initiated projects are funded, as are projects from focused requests in target areas important to NLM's mission. In FY 2012, NLM issued 19 new research project grants. Among the newly funded research awards made with appropriated funds is a patient portal that maps a patient's medical record to published knowledge in order to enhance the patient's understanding. Another award funds development of a tool that brings together synthesized clinical, genomic and geographic data into interactive visualizations that support public health decisions. NLM is also funding an evaluation of the utility of cryptography in protection of confidentiality and a training simulator for learning how to administer conscious sedation.

Budget Policy: The FY 2014 President's Budget estimate is $33.135 million, an increase of $0.389 million, or 1.4 percent, over the FY 2012 Actual level of $32.746 million. Informatics research is fundamental to the sophisticated systems in which research and health data are stored, managed, and displayed. NLM plans to continue to strengthen its RPG portfolio by participating with NSF in its Big Data research initiative, and through engagement in multi-IC initiatives on health literacy, genome and the environment, and consumer use of health information. NLM will continue to accept investigator-initiated grants through NIH parent-grant announcements as well as applications submitted to its own funding announcements. In FY 2014, NLM will award 22 new research project grants and continue to support early stage and new investigators on RPG awards at success rates comparable to those of established investigators submitting new RPG applications.

Research Management and Support (RMS)
Research Management and Support (RMS) activities provide administrative, budgetary, logistical, and scientific support for basic library services, intramural research programs, and the review, award, and monitoring of research grants and training awards. RMS functions also include strategic planning, coordination, and evaluation of NLM's programs, regulatory compliance, policy development, international coordination and liaison with other federal agencies, Congress, and the public. NLM staff who conduct these activities are the Director and his immediate staff and personnel from the Office of Extramural Programs, the Office of Administrative Management, the Office of Health Information Programs Development, and the Office of Communications and Public Liaison.

Budget Policy: The FY 2014 President's Budget estimate is $14.666 million, an increase of $0.411 million, or 2.8 percent, over the FY 2012 Actual level of $14.255 million. The focus of RMS will continue to be the coordination of NLM's activities and policies and the development and administration of NLM's grant activities. These funds will support the additional four FTE transferred to NLM for grants management support activities.

NATIONAL INSTITUTES OF HEALTH
National Library of Medicine

Budget Authority by Object Class
(Dollars in Thousands)

	FY 2012 Actual	FY 2014 PB	Increase or Decrease
Total compensable workyears:			
Full-time employment	800	804	4
Full-time equivalent of overtime and holiday hours	3	3	0
Average ES salary (in whole dollars)	$166,073	$166,073	$0
Average GM/GS grade	11.2	11.2	0.0
Average GM/GS salary (in whole dollars)	$89,782	$89,782	$0
Average salary, grade established by act of			
July 1, 1944 (42 U.S.C. 207) (in whole dollars)	$85,932	$85,932	$0
Average salary of ungraded positions (in whole dollars)	$126,035	$126,035	$0

OBJECT CLASSES	FY 2012 Actual	FY 2014 PB	Increase or Decrease
Personnel Compensation:			
11.1 Full-time permanent	$40,326	$41,287	$961
11.3 Other than full-time permanent	16,817	17,123	306
11.5 Other personnel compensation	957	980	23
11.7 Military personnel	44	44	(0)
11.8 Special personnel services payments	1,479	1,503	24
Total, Personnel Compensation	**$59,622**	**$60,937**	**$1,315**
12.0 Personnel benefits	$16,497	$16,863	$366
12.2 Military personnel benefits	45	45	0
13.0 Benefits for former personnel	0	0	0
Subtotal, Pay Costs	**$76,164**	**$77,845**	**$1,681**
21.0 Travel and transportation of persons	$1,230	$1,212	($18)
22.0 Transportation of things	187	188	1
23.1 Rental payments to GSA	0	0	0
23.2 Rental payments to others	222	222	(0)
23.3 Communications, utilities and			
miscellaneous charges	1,083	1,083	0
24.0 Printing and reproduction	659	659	(0)
25.1 Consulting services	52,026	52,026	(0)
25.2 Other services	76,649	89,070	12,421
25.3 Purchase of goods and services from			
government accounts	54,577	57,942	3,365
25.4 Operation and maintenance of facilities	3,453	3,453	(0)
25.5 Research and development contracts	11,665	11,486	(179)
25.6 Medical care	21	21	(0)
25.7 Operation and maintenance of equipment	11,523	11,523	0
25.8 Subsistence and support of persons	0	0	0
25.0 Subtotal, Other Contractual Services	**$209,916**	**$225,521**	**$15,605**
26.0 Supplies and materials	$1,134	$1,134	($0)
31.0 Equipment	30,204	30,204	0
32.0 Land and structures	0	0	0
33.0 Investments and loans	0	0	0
41.0 Grants, subsidies and contributions	44,084	44,181	97
42.0 Insurance claims and indemnities	0	0	0
43.0 Interest and dividends	3	3	(0)
44.0 Refunds	0	0	0
Subtotal, Non-Pay Costs	**$288,723**	**$304,407**	**$15,684**
Total Budget Authority by Object Class	**$364,887**	**$382,252**	**$17,365**

NATIONAL INSTITUTES OF HEALTH
National Library of Medicine

Salaries and Expenses
(Dollars in Thousands)

OBJECT CLASSES	FY 2012 Actual	FY 2014 PB	Increase or Decrease
Personnel Compensation:			
Full-time permanent (11.1)	$40,326	$41,287	$961
Other than full-time permanent (11.3)	16,817	17,123	306
Other personnel compensation (11.5)	957	980	23
Military personnel (11.7)	44	44	0
Special personnel services payments (11.8)	1,479	1,503	24
Total Personnel Compensation (11.9)	**$59,623**	**$60,937**	**$1,314**
Civilian personnel benefits (12.1)	$16,497	$16,863	$366
Military personnel benefits (12.2)	45	45	0
Benefits to former personnel (13.0)	0	0	0
Subtotal, Pay Costs	**$76,165**	**$77,845**	**$1,680**
Travel (21.0)	$1,230	$1,212	($18)
Transportation of things (22.0)	187	188	1
Rental payments to others (23.2)	222	222	0
Communications, utilities and miscellaneous charges (23.3)	1,083	1,083	0
Printing and reproduction (24.0)	659	659	0
Other Contractual Services:			
Advisory and assistance services (25.1)	52,026	52,026	0
Other services (25.2)	76,649	89,070	12,421
Purchases from government accounts (25.3)	46,073	46,216	143
Operation and maintenance of facilities (25.4)	3,453	3,453	0
Operation and maintenance of equipment (25.7)	11,523	11,523	0
Subsistence and support of persons (25.8)	0	0	0
Subtotal Other Contractual Services	**$189,724**	**$202,288**	**$12,564**
Supplies and materials (26.0)	$1,134	$1,134	$0
Subtotal, Non-Pay Costs	**$194,239**	**$206,786**	**$12,547**
Total, Administrative Costs	**$270,404**	**$284,631**	**$14,227**

NATIONAL INSTITUTES OF HEALTH
National Library of Medicine

Details of Full-Time Equivalent Employment (FTEs)

OFFICE/DIVISION	FY 2012 Actual			FY 2013 CR			FY 2014 PB		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division of Library Operations									
Direct:	311		311	311		311	311	-	311
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	311	-	311	311	-	311	311	-	311
Lister Hill National Center for Biomedical Communications									
Direct:	67	-	67	67	-	67	67	-	67
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	67	-	67	67	-	67	67	-	67
National Center for Biotechnology Information									
Direct:	164	1	165	164	1	165	164	1	165
Reimbursable:	114		114	114	-	114	114	-	114
Total:	278	1	279	278	1	279	278	1	279
Division of Specialized Information Services									
Direct:	44	-	44	44	-	44	44	-	44
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	44	-	44	44	-	44	44	-	44
Office of the Director/Administration									
Direct:	81	-	81	81	-	81	81	-	81
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	81	-	81	81	-	81	81	-	81
Division of Extramural Programs									
Direct:	18	-	18	22	-	22	22	-	22
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	18	-	18	22	-	22	22	-	22
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
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	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-
Total	799	1	800	803	1	804	803	1	804

Includes FTEs whose payroll obligations are supported by the NIH Common Fund.
FTEs supported by funds from Cooperative Research and Development Agreements.

FISCAL YEAR	Average GS Grade
2010	11.1
2011	11.1
2012	11.2
2013	11.2
2014	11.2

NATIONAL INSTITUTES OF HEALTH
National Library of Medicine

Detail of Positions

GRADE	FY 2012 Actual	FY 2013 CR	FY 2014 PB
Total, ES Positions	4	4	4
Total, ES Salary	$664,290	$664,290	$664,290
GM/GS-15	31	31	31
GM/GS-14	46	46	46
GM/GS-13	145	145	145
GS-12	144	145	145
GS-11	33	33	33
GS-10	0	0	0
GS-9	22	22	22
GS-8	55	56	56
GS-7	14	15	15
GS-6	2	2	2
GS-5	6	7	7
GS-4	17	17	17
GS-3	11	11	11
GS-2	3	3	3
GS-1	2	2	2
Subtotal	531	535	535
Grades established by Act of July 1, 1944 (42 U.S.C. 207):			
Assistant Surgeon General	0	0	0
Director Grade	0	0	0
Senior Grade	0	0	0
Full Grade	1	1	1
Senior Assistant Grade	0	0	0
Assistant Grade	0	0	0
Subtotal	1	1	1
Ungraded	296	296	296
Total permanent positions	531	535	535
Total positions, end of year	833	837	837
Total full-time equiv (FTE) at YE	800	804	804
Average ES salary	$166,073	$166,073	$166,073
Average GM/GS grade	11.2	11.2	11.2
Average GM/GS salary	$89,782	$89,782	$89,782

Includes FTEs whose payroll obligations are supported by the NIH Common Fund.