NIH National Library of Medicine

The National Library of Medicine (NLM), a leader in research in biomedical informatics and data science, is the world's largest biomedical library and 1 of the 27 Institutes and Centers at NIH. NLM's research and information services support scientific discovery, health care, and public health.

A Platform for Biomedical Discovery

The NLM strategic plan includes three goals:

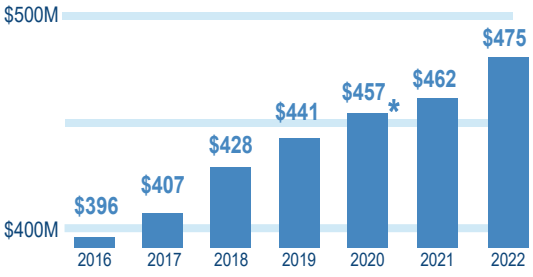
1) Accelerate discovery and advance health through data-driven research.
2) Reach more people in more ways through enhanced dissemination and engagement.
3) Build a workforce for data-driven research and health.

Implementation of the strategic plan enables NLM to support and respond to NIH-wide priorities.

Patricia Flatley Brennan, R.N., Ph.D.

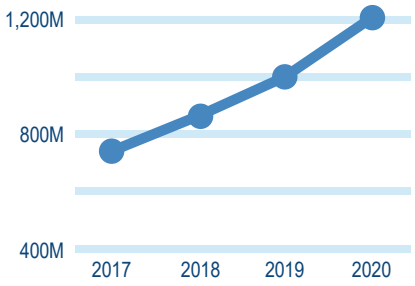
Director of the NLM since 2016, Dr. Brennan spearheaded the development of a 10-year strategic plan that envisions NLM as a platform for biomedical discovery and data-powered health. Combining her background in engineering, information technology, and clinical nursing practice, Dr. Brennan positions the NLM and its visionary biomedical data and literature resources to serve science and society, and to guide advances in data science and data-driven discovery.

Appropriation History



*Does not include $10 million of supplemental funding from the Coronavirus Aid, Relief, and Economic Security (CARES) Act

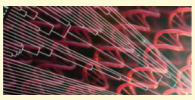
Users of NLM Services



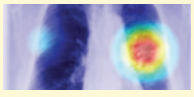
NLM Conducts and Funds Research

NLM's vibrant intramural research program conducts innovative research and training in computational biology and computational health sciences. NLM's extramural grants support research projects and training in biomedical informatics and data science.

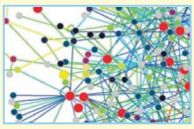
Intramural Researchers at NLM



Develop computational methods to characterize functions of the non-coding part of the human genome.



Explore novel applications of AI to image analysis, including to detect COVID-19 in chest X-rays.



Apply network analysis approaches to protein-protein interactions to predict interactions between individual molecules in human diseases.

Extramural Researchers Across the Nation

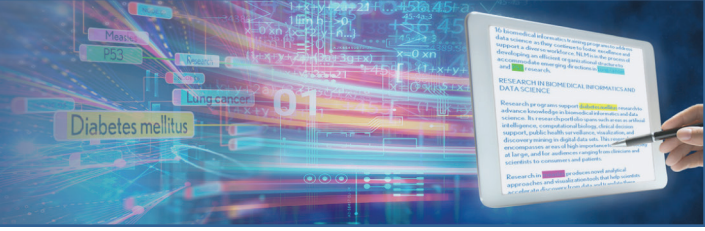
Leverage high-throughput sequencing data from wastewater process flows to create an innovative early warning system for virus surveillance and public health protection.

Apply machine learning to electronic health record data to support patient-matching and help clinicians explore effective treatments for similar patients.

Integrate data collected from intensive care units and create sophisticated models of causation to support health care professionals and patients in making real-time treatment decisions.

National Library of Medicine

Improving health through data-driven discovery



21st Century Library

Every day, millions of scientists, health professionals, and members of the public use NLM's online information resources to translate research results into new treatments, access our collections, develop new products, inform clinical decision making, and improve public health.

PubMed — The most heavily used biomedical literature citation database in the world, containing more than 31 million citations.

PMC PubMed Central — Digital archive of more than 6.4 million freely accessible, full-text biomedical and life sciences journal articles.

ClinicalTrials.gov — The world's largest clinical trial registry and results database, with more than 350,000 clinical studies and 45,000 results summaries

Sequence Read Archive — The world's largest publicly available repository for high-throughput sequencing data, comprising more than 40 petabytes of data.

MedlinePlus Trusted Health Information for You — NLM's trusted and authoritative source of consumer health information, accessed by more than 371 million users annually.

Terminology Standards — NLM is the central coordinating body within HHS for clinical terminology standards for health data interoperability.

Biomedical Informatics Training

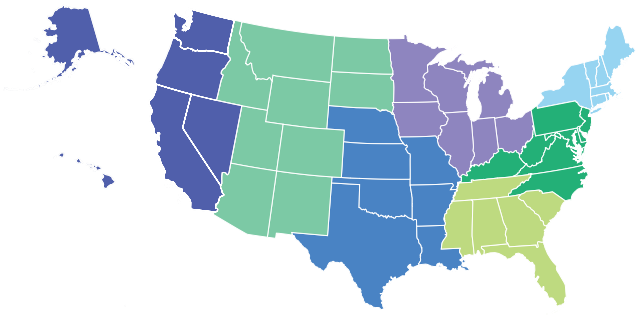
NLM funds research training programs in biomedical informatics and data science at 16 universities across the country that enroll approximately 200 predoctoral and postdoctoral trainees.

Supplemental funding allows training programs to work with library and information schools, and partner with minority-serving institutions to teach and apply data science research skills.

NLM also provides summer research experiences for undergraduates interested in careers in biomedical informatics and data science.

Outreach and Engagement

NLM leverages its Network of the National Library of Medicine (NNLM) of more than 8,000 academic health science libraries, hospital and public libraries, and community organizations to improve access to health information for all. NNLM offers training to support effective use of NLM information resources by librarians, health professionals, researchers, and the public. NNLM will operate through seven regions across the United States from FY 2021-2026 as shown below.



Future Initiatives

NLM will continue to lead the development of analytics that uncover novel biomedical patterns from large genetic and literature databases, create innovative ways to reach scientists and society with trustable health information, and develop health data literacy among scientists, clinicians, librarians, and consumers. NLM will:

Accelerate biomedical and health data science. Through investment in intramural and extramural research, NLM will create strategies that support efficient and accurate exploration of large biomedical databases and generate analytical methods and models to gain insights from clinical data.

Support public accountability and open science. NLM will leverage its expertise in creating high-quality, sustainable, and secure databases and make them accessible to scientists, clinicians, and the public.

Modernize NLM infrastructure. NLM will build a 21st century digital library that offers literature, data, analytical models, and new approaches to scientific communication that are accessible, sustainable, and available 24 hours a day, 7 days a week.

Contribute to NIH and government-wide priorities. NLM will share its scientific, policy, and program leadership and expertise in data science, data management, infrastructure and security, and workforce development to support the U.S. priorities in economic competitiveness empowered by data science, artificial intelligence, and open science.