

Collection Development Guidelines of the National Library of Medicine

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National Library of Medicine (US)
Bethesda (MD)

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About the NLM Collection Development Guidelines

Updated: June 23, 2020.

The *Collection Development Guidelines of the National Library of Medicine* establish boundaries for the Library's permanent collection and provide a conceptual and philosophical framework for the selection of biomedical materials. Defining the boundaries of the NLM collection is complicated by the interdisciplinary nature of biomedicine, the prominence of political, ethical, economic and social issues in contemporary biomedical practice and research, rapid advances in health care technology and the proliferation of information sources and formats.

The Guidelines are based on the Collection Development Policy adopted by the NLM Board of Regents in 1976 and amended in 1983, 1992, and 2019. The Guidelines are intended primarily for NLM staff, but also may be of interest to a wider community of users including the staffs of other health science and research libraries, publishers and researchers. The Guidelines define the range of subjects to be acquired and the extent of the Library's collecting effort within these subjects. They also address selection issues presented by a range of formats and literature types. The Guidelines do not present principles for the selection of materials temporarily retained for the use of on-site users; nor do they describe the full range of information resources, including databases, to which NLM provides access.

Policy for Updating the NLM Collection Development Guidelines

The Library conducts regular reviews of the *Collection Development Guidelines of the National Library of Medicine*. In support of this objective, NLM staff review annual changes to the MeSH vocabulary, attend meetings of the Literature Selection Technical Review Committee, identify significant new health initiatives (such as the creation of new NIH Centers) and format types, and monitor scientific and professional literature to identify emerging disciplines in biomedicine and public health. The Library seeks the advice and recommendations of the NLM Board of Regents on matters related to the scope and content of the NLM collection.

Please submit comments and suggestions to the [Contact NLM page](#).

The Collection and Preservation Policy of the NLM

Updated: April 23, 2021.

The National Library of Medicine (NLM) was established "to assist the advancement of medical and related sciences and to aid the dissemination and exchange of scientific and other information important to the progress of medicine and to the public health..." (42 U.S.C. 286) Central to this mission is the development of a collection that supports contemporary biomedical and health care research and practice as well as future scholarship.

To this end, NLM attempts to aggregate and to maintain for permanent access library materials that:

- Record progress in research in biomedicine and the related areas of the life sciences,
- Document the practice and teaching of medicine broadly defined,
- Demonstrate how health services are organized, delivered and financed,
- Chronicle the development and implementation of policy that affects research and the delivery of health services, and
- Illustrate the public perception of medical practice and public health.

Board of Regents Policy

Building on the National Library of Medicine (NLM) congressional mandate, the NLM Board of Regents, an advisory body to the Secretary of Health and Human Services (HHS) on matters affecting the Library, adopted a collection policy in June 1976. This policy was subsequently updated in 1983, 1992 and most recently in September 2019. The NLM Preservation Policy was adopted in 1986 by the NLM Board of Regents, to fulfill the mandate to maintain and preserve the biomedical literature. The NLM Preservation Policy is subsumed under this Collection Policy, which is established for the NLM pursuant to the authority contained in the National Library of Medicine Act of 1956. (P.L. 84-941).

The NLM Collection represents the intellectual content and diversity of the world's biomedical literature, data, and other research objects and information. Since NLM cannot presume to collect all materials and resources that have some relevance to the life sciences, NLM shall concentrate on collecting those materials pertaining to human health and health care practice in any format deemed appropriate to the fulfillment of its mission without being limited by present perceptions.

Coverage of authoritative, scientifically rigorous biomedical literature shall be comprehensive; coverage of other health and life sciences information may be more selective. In determining coverage, NLM will take into consideration its roles as the trusted library of record for biomedicine and health care, as the national resource for the provision of biomedical literature not otherwise readily available, and as the national bibliographic center for the health professions.

Recognizing the interconnected nature of the biomedical and scientific literature with data and other research objects in a digital landscape, NLM shall facilitate, where appropriate, broad access to and integration of materials in the Collection, consistent with relevant laws and policies. NLM shall promote access through its public resources and the efforts of the Network of the National Library of Medicine to drive scientific discovery and advance human health.

NLM shall ensure the preservation of its collected literature, research products and associated data. Means of preservation are according to industry best standards and guidelines and may include: (1) preservation of the analog original; (2) preservation of born digital materials; and 3) digital replication. NLM staff shall ensure the use of the most effective methods available and may participate in research, development, testing and evaluation

of preservation technology. NLM should coordinate preservation efforts with national, research and biomedical libraries, and in partnership with other trusted organizations which advance research and scholarship.

To maintain the cultural context of the Collection, collection development criteria will be interpreted with flexibility in acquiring information relating to the history of medicine, and in documenting public perception of current medical practice and public health. Collection criteria will also be interpreted broadly to support NLM, National Institutes of Health (NIH) and other federal policies, initiatives and programs. The scope of the Collection may evolve as Library strategic priorities and resources change.

NLM recognizes the interdependence of NLM, the Library of Congress and the National Agricultural Library, and its collecting policies will reflect this relationship. While the libraries seek to minimize overlap, some duplication of collections among these national libraries is necessary for each to fulfill their stated mission. The libraries use a system of collecting levels developed by the research library community and intended primarily for the uniform evaluation of collections in research libraries.

This policy is prospective and thus does not require disposal of any materials previously acquired by NLM. NLM staff will regularly update the Guidelines for the NLM Collection, in consultation with the Director, subject matter experts, and the NLM Board of Regents.

Approved by the NLM Board of Regents, September 11, 2019

Audience for the NLM Collection

Updated: July 6, 2018.

Traditionally, the primary audience for the collection of the National Library of Medicine has consisted of biomedical and public health professionals. This diverse audience includes not only clinical practitioners such as physicians and nurses, but also those engaged in scientific research, scholarly inquiry, policy making, management, education, and communication in areas related to health. NLM has developed its collections with the research needs of this professional audience in mind, and regularly seeks the opinion and expertise of professional, scholarly, and scientific stakeholders in the Library's collection development program planning efforts.

NLM has expanded its services to address the general public's increased interest in health information, without compromising the Library's mission to serve as the library of record for biomedicine. NLM provides electronic access to authoritative information and consumer health content in its database, MedlinePlus. [ClinicalTrials.gov](https://clinicaltrials.gov), a registry of federally and privately funded trials of experimental treatments, is also available. The Library continually seeks the advice and assistance of consumer health experts in order to improve quick access to health information for the public.

Collections Overview

Updated: September 10, 2021.

The National Library of Medicine is the world's largest and most comprehensive medical library, with rich collections in virtually every written language and from every country. The Library collects materials in all areas of biomedicine, health care and the history of medicine as well as works on biomedical aspects of the humanities, physical, social and life sciences.

The Library's collection is constantly growing and currently numbers over 32 million items, from ancient manuscripts to born digital publications and data sets.

The Library's acquisitions program is international in scope, including arrangements with book dealers, subscription agents, media producers, publishers, governments, societies, and libraries worldwide. NLM also receives donations from around the world.

The Library's collection may be consulted in the on-site [Reading Rooms](#), requested via [interlibrary loan](#) or, in many cases, accessed electronically.

In the [main reading room](#) users have immediate access to reference works representing all areas of biomedicine, and some general reference works. The History of Medicine Division also maintains a [reading room](#) housing a reference collection containing the major bibliographic resources necessary for historical research, as well as standard works in the history of medicine.

General Collection

The General Collection contains the majority of monographs published in 1914 forward and serials published in 1871 forward. Electronic materials and audiovisuals produced since 1970 also are housed in the general collection. Titles may be identified through the [LocatorPlus Catalog](#) or the [NLM Catalog](#), both of which provide access to NLM bibliographic data for over 1.5 million journals, books, audiovisuals, computer software, electronic resources, and other materials.

Historical and Special Materials

The [History of Medicine Division](#) (HMD) is responsible for historical and special materials as described below.

Printed works: The historical collection includes all book-length material in NLM printed before 1914, thousands of later pamphlets and dissertations, and all pre-1871 journals. NLM holds not only many of the great landmark works in medicine such as William Harvey's *De motu cordis*, 1628, but also the many works of lesser authors necessary for historical research and scholarship. Of particular interest are reprints of more than 1,300 important Chinese medical works dating from before the Han dynasty.

Early Manuscripts: The Library holds 90 early western manuscripts (before 1600), microfilm copies of about 600 manuscripts held by European libraries, and collections of 139 Arabic and Persian medical manuscripts.

Modern Manuscripts: This collection comprises over 28 million items in more than 900 collections. The modern manuscript collection is particularly rich in eighteenth and nineteenth century American and British materials and is also quite strong in twentieth century American medicine. Areas of special strength and interest include biochemistry, biotechnology and molecular biology; surgery; pediatrics and child development; medical informatics; the history of medicine; military medicine; and the Public Health Service (including the National Institutes of Health and the National Library of Medicine).

Oral History: The oral history collection consists of about 200 memoirs of important figures in the health sciences. The collection comprises audiotapes and unpublished or restricted transcripts of potential value to

scholars. Interviews in other formats (e.g., video recordings) or published personal narratives are housed in the general collection.

NLM Archives: The NLM Archives contain the internal records of NLM and its official publications. Internal records consist of the papers of the Library's Directors (including John Shaw Billings), Board of Regents meeting minutes, annual reports, selected administrative records from the Library's operational divisions, archival copies of NLM publications and some oral histories. The Archives also include electronic copies of NLM Web site documents and files that are no longer current but are considered to be of permanent value.

Most internal records of the [National Institutes of Health](#) are in the [National Archives and Records Administration](#).

Prints and Photographs: The prints and photographs collection, consisting of some 73,000 items, illustrates social and historical aspects of medicine. It ranges from 15th century woodcuts to 21st century photographs. The collection includes many individual portraits of physicians, pharmacists, nurses, dentists, and others who have contributed to the health services and professions. Visual sources also represent health care facilities and laboratories, medical procedures and equipment, and other images which document the practice of medicine. The visual formats include fine prints, historical and contemporary photographic processes, posters, and visual ephemera such as patent medicine trade cards. The Library owns over 3,000 fine prints, including several hundred caricatures on medically related subjects. Artists represented in the collection include Goya, Daumier, Gillray, Hogarth and Rowlandson.

Historical Audiovisuals: In addition to current audiovisuals, the Library's collection includes approximately 4,000 historical audiovisuals consisting of films, videocassettes, slide-tape programs, film strips, and audiocassettes produced between 1917 and 1970.

The NLM and Coordinated Collection Development

Updated: June 23, 2020.

The Library of Congress (LC), the National Agricultural Library (NAL) and the National Library of Medicine (NLM) strive to keep collecting duplication to the minimum necessary to serve their diverse user populations. A dialogue is maintained among these national libraries and coordination helps define areas of mutual collecting interest.

The principal areas of mutual collecting interest between NLM and the Library of Congress are the political, economic, social and cultural aspects of health care and health care delivery systems. NLM assumes responsibility for collecting the research and professional literature of the health sciences; LC primarily collects health-related literature addressed to general audiences, and such works as are deemed necessary to support its Congressional mission. LC also collects works in non-traditional medicine, public health, and other areas of cultural, social, and economic scholarly interest. As the broadest in scope of the national libraries, it assumes responsibility for maintaining a comprehensive collection in the physical and natural sciences, the social sciences, and the humanities. For more information, see the Library of Congress [collections policy statement on Medicine](#).

The principal areas of significant overlap between NLM and NAL collections are in human nutrition, laboratory animal science, and veterinary medicine. NLM's collecting emphasis in these areas centers on topics that comparatively, experimentally, theoretically, or directly affect or advance either human health care or biomedical research. The NAL, on the other hand, focuses collecting effort on those materials that relate experimentally, theoretically, or directly to the production of agricultural commodities, agronomy, consumer nutrition education, food safety, food science, animal husbandry, animal health and animal culture.

The NLM and Other Biomedical Libraries

Beyond the national libraries are important and rich collections in other federal agencies, academic institutions, public libraries, special libraries, museums, archives and research centers. Many of these collections are important in their own right in that they contain unique materials and special collections not held by the national libraries.

The centrality of the NLM collection to the concept of a national collection in biomedicine and the complementary nature of other library collections is well recognized. NLM, in its 1987 Long Range Plan describes a "distributed library of record" for the biomedical sciences and acknowledges that "even within any narrowly identified scope of biomedical materials, there is more than any single library can acquire. Indeed, among the Nation's biomedical libraries are many collections of unique materials."

The national collection in any discipline is not limited to the holdings of a single national library; nor is it simply the sum of all titles on a given subject. It is a composite of individual titles and important special collections located in many different institutions. NLM seeks to identify existing strengths in other collections and to encourage other libraries to collect unique materials, particularly state and local biomedical literature, manuscripts, and items of strong local interest.

History of the NLM Collection

Updated: June 23, 2020.

The National Library of Medicine has evolved from a small collection of books and journals in the Office of the Surgeon General in the Medical Department of the Army to the world's largest biomedical library. The Library was begun by Joseph Lovell, Surgeon General from 1818 to 1836, and grew slowly at first. The first request for funds -- \$150 to buy books -- appeared in the 1836 estimate of expenses for the Medical Department. In 1840, the first Catalogue of Books in the Library of the Surgeon General's Office was prepared. This handwritten list records only 134 titles representing about 200 volumes, considerably smaller than the personal libraries of many mid-nineteenth century physicians, and far exceeded by those of established medical schools, medical societies and institutions.¹

Although the medical advances and concerns of the Civil War stimulated use of the Library, its collection had grown to only 1,800 volumes by 1864. In that year, Surgeon General Joseph K. Barnes published the first printed catalog. It listed books alphabetically by author under nine subject headings: anatomy; physiology; materia medica; pharmacy and therapeutics; general pathology and practice of medicine; surgery; midwifery and diseases of women and children; medical jurisprudence and medical policy; natural philosophy; chemistry, etc. It also listed miscellaneous journals, reviews, reports, encyclopedias, etc.

After Lee's surrender at Appomattox, the Army closed all temporary military hospitals, dismantled their libraries and sent the most valuable of their works to the Army Medical Library in Washington, D.C. In October 1865, John Shaw Billings, then an assistant to the Surgeon General, was given responsibility for building and managing the growing collection of medical books and journals. Under Billings' leadership, acquisitions expanded dramatically. By 1870, the Library was among the largest medical libraries in the United States, exceeded only by those of the Pennsylvania Hospital and the College of Physicians in Philadelphia.

Sometime during 1871, discussions between Billings and Surgeon General Barnes led to a decision to broaden the objectives of the Library to include the development of a collection to serve the entire American medical profession, rather than the military exclusively. Their vision was to develop a "National Medical Library" with a collection of medical literature that would contain "every medical book published in this country and every work relating to public health and state medicine."²

Billings was indefatigable in his pursuit of this aim. Although he collected all types of medical publications, Billings concentrated on acquiring and maintaining complete files of American medical journals. During his tenure the Library also made its first significant efforts to acquire rare books, manuscripts, visual records of the history of medicine, and to develop literature exchange programs with domestic and foreign institutions.

In the twentieth century, the collection continued to expand. However, by World War II, the collection's growth rate, which had been the fastest in the nation under Billings, had declined because of low appropriations, low staffing levels and insufficient space, becoming the slowest among America's large research libraries. Wartime demand for medical information gave rise to a survey of the Library's operations and management. The subsequent report recommended an aggressive acquisition program, including a larger book budget and an active gift and exchange program.³

¹ Miles, Wyndham D. A history of the National Library of Medicine, the nation's treasury of medical knowledge. Washington, D.C.: Government Printing Office, 1982, p.5.

² Ibid, p. 36. Letter, Surgeon General Barnes to Rep. J.A. Garfield, Jan. 6, 1872; also letter, Barnes to Sen. L.M. Morrill, February 9, 1872: NA.

³ The National Medical Library: Report of a survey of the Army Medical Library. Chicago : American Library Association, 1944.

After the war, the Library set out to remedy the deficiencies in its collection. The Library initiated programs to acquire U.S. works published during the depression, to secure literature published in enemy countries during the war, and to reestablish relations with book dealers in all areas of the world. As wartime Army hospitals were closed, their books and journals were shipped to the Library in Washington.

In 1949, Library Director Frank Bradway Rogers established the first internal committee on scope and coverage. The aim of the committee was: "to define the subjects to be collected and the degree of collecting within each subject."⁴

Its report was in essence a basic guide for materials selection, which has since been refined numerous times to reflect contemporary collecting policy and the growth and specialization of biomedicine.

Billings' dream of a true national library was realized in 1956 when Senators Lister Hill and John F. Kennedy submitted to Congress a bill "to promote the progress of medicine and to advance the national health and welfare by creating a National Library of Medicine."⁵

On August 3, 1956, the National Library of Medicine Act was signed into law. The Library is an official part of the National Institutes of Health within the U.S. Department of Health and Human Services.

Since that time, the collections of the library have grown considerably. Collection development and expansion in the area of manuscripts, historical and contemporary audiovisuals and posters has been especially notable.

In 1976, NLM was officially designated a U.S. Government Partial Depository for biomedical information. In 1986, the Library established a [Preservation Section](#) to develop and implement a national plan for the preservation of the biomedical literature.

At the end of the twentieth century, NLM embarked on an initiative to improve access to health information for the general public. The decision was made to develop a Web-based resource, [MedlinePlus](#), as the primary vehicle for providing access to consumer health information. The Library also began collecting and indexing selected consumer health periodicals for PubMed. NLM continued its existing policy of adding to the collection only representative examples of other consumer health publications.

The Library continues to add to its outstanding collection of early printed works and manuscripts and to develop its modern manuscript collection emphasizing twentieth-century U.S. medicine, public health and health care advocacy. The papers of Nobel laureates are featured on the Library's Web site [Profiles in Science](#)[™]. This site celebrates twentieth-century leaders in biomedical research and public health. It makes the archival collections of prominent scientists, physicians, and others who have advanced the scientific enterprise available to the public through modern digital technology.

In addition to collecting and preserving the print biomedical literature, NLM fulfills its archival and service mission for electronic resources. The Library's general approach to addressing these challenges is to use its own electronic services and to work with its sister National Libraries and other organizations to develop and test strategies for ensuring permanent access to electronic information. [PubMed Central](#), a digital archive of full-text life sciences literature, is the Library's primary service for ensuring permanent access to electronic journals.

⁴ Report of [the] Committee on Scope and Coverage: Army Medical Library. Presented to [the] Association of Honorary Consultants to [the] Army Medical Library, 20 October 1950. Appendix 1. Authorization for the Committee

⁵ 34th Congress. 2nd Sess. Bill S.3430. 1955.

NLM Retention Policy

Updated: April 23, 2021.

As a national library and the library of record for biomedicine in the United States, NLM builds its collection for the long term. With few exceptions, the Library retains material it acquires, although not necessarily in its original format. As collection development policies change over time, NLM does not remake the collection in the image of the newer policy.

In some instances, the Library may remove materials from the collection, according to the following guidelines:

- 1 Withdrawal is the removal of a title from the NLM collection. Withdrawal follows a prescribed and rigorous review process. Justification for and approval of withdrawal is formally recorded in the Library's catalog.
 - a General withdrawal principles. Withdrawal may be recommended on one or more of the following grounds:

Subject: Under current and former collecting policies, the work is not within the subject scope of the NLM collection. It may fit more properly within the collecting responsibility of another institution.

Coverage: The work does not meet coverage criteria for the collection.

Electronic availability: A free electronic work selected for the NLM collection that is not archived at NLM or in an identified repository may become permanently unavailable on the web.

Deterioration or damage: The print, audio or visual content has deteriorated to the extent that copying or retention is not practical, and replacement with a better copy is not feasible.

Loss: The work is no longer available.

b. Withdrawal of audiovisual and electronic works on physical media. The long-term value of some audiovisual and electronic works on physical media may be difficult to determine at the time of selection. Changes in technologies, resources, and user demands may warrant the revisiting of some earlier selection decisions. Withdrawal of such works also may be based on the following grounds:

Significance or relevance: The audiovisual or electronic work is of lesser significance or relevance compared with other works held in the subject or genre.

Representation: The Library holds more audiovisual or electronic works than is judged necessary to represent the subject area or genre.

2. Weeding is the removal of surplus copies, or supplementary material acquired for temporary, onsite use. Except for rare and valuable materials, the process is less rigorous than the withdrawal process. The following categories of material are candidates for weeding:

Duplicate copies: Duplicate copies are candidates for weeding when the level of use no longer justifies their retention, or when a copy or copies of a particular work are inferior to other copies of that work held at NLM. The weeding of duplicates of rare or valuable works requires approval by the NLM Director.

Publications that are cumulated: After cumulated volumes (e.g., of bibliographic and reference works) are received, NLM may weed the now-superseded individual issues.

Obsolete or less desirable formats: If a work is held in multiple formats, NLM may consider weeding the format that is less desirable from an access or preservation viewpoint.

3. Disposal is the physical process of properly disposing of items withdrawn or weeded from the collection. NLM has statutory authority (42 USC section 286) to discard materials from its collection, but prefers, whenever possible, to make withdrawn or weeded material available to another institution where the material would more appropriately reside. When material is no longer useable because of condition or obsolescence, it may be discarded.

Selection Guidelines by Subject

These guidelines contain guidance for the selection of contemporary materials by subject. Subject descriptions are based on a current understanding of the trends in biomedical research, health care practice, and associated issues. They are organized alphabetically according to subject category and apply to selection of post-1913 materials. Selection decisions for historical materials are based more broadly on the importance of a discipline to the historical practice of medicine and public health. Selection guidance for some specific literature types is found under Selection Guidelines by Format and Literature Type.

The Library collects works on all aspects of biomedicine and health care, and many areas of the life sciences. These guidelines are not intended to be an exhaustive description of every subject collected, nor has there been any attempt to establish mutually exclusive subject categories. Since it would be impossible to discuss all topics that fall within the Library's collecting scope, these guidelines focus on subjects that:

- represent emerging disciplines,
- present complex selection challenges,
- require additional elaboration as to the Library's collecting interest, or
- constitute an especially large body of literature.

Subject categories are subdivided as follows:

Definition: Most terms are consistent with the [Medical Subject Headings](#) (MeSH), the Library's controlled vocabulary. In some instances, non-MeSH terms, derived from authoritative sources, are used.

Discussion: For subjects that present selection difficulties. This section provides additional context to the Library's described collecting interest. It may include representative subtopics which provide additional guidance to the selector.

Scope and emphasis: This section defines the Library's collecting interest in a subject, and the level of intensity at which it is applied. "Collected comprehensively" signifies that the Library collects at the highest level of intensity, according to generally accepted collection development standards, as follows: The NLM collection serves as a national and international resource in the fields of medicine, health and related life sciences. NLM strives to assemble a subject collection that is as exhaustive as is reasonably possible, including works from all countries and in all applicable written languages. The Library's collection of significant published materials is exhaustive; collections of manuscripts and other relevant formats and literature types are very extensive; and NLM retains and systematically preserves older material to serve the needs of historical research.

Special considerations: Where applicable, this section provides information about collecting policies of other national libraries, major initiatives at NLM, and/or formats which are especially pertinent to a subject.

See also **references:** Refer users to topics which may offer additional guidance.

Addiction Medicine

Updated: September 10, 2021.

Definition

A medical specialty focused on the study, diagnosis, and treatment of addictive behavior disorders, including substance-related disorders and impulse control disorders; and the management of co-occurring medical and psychiatric conditions (adapted from [MeSH](#)).

Discussion

The major focus of addiction medicine literature is the study and treatment of alcoholism and drug abuse, but the field also addresses other addictions.

Scope and emphasis

The emphasis of the collection is on works of basic science; pharmacology; clinical diagnosis and therapy; epidemiology and public health aspects; health policy; and ethics. NLM generally does not collect the criminological and sociological literature of substance use and abuse, except when it pertains to health.

Aerospace Medicine

Updated: December 15, 2003.

Definition

The fields of medicine concerned with the maintenance of health, safety and performance of those involved in aviation or space activity.

Scope and emphasis

Collected comprehensively.

Allergy and Immunology

Updated: November 9, 2018.

Definition

The branch of medicine concerned with the hypersensitivity of the individual to foreign substances and protection from the resultant infection or disorder (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Anatomy

Updated: December 3, 2003.

Definition

The study of the structure of the body and the relation of its parts.

Scope and emphasis

The NLM collecting emphasis is on the anatomy of humans, other primates, and laboratory animals.

Special considerations

The Library has an extensive collection of historical anatomical works. Anatomy textbooks are selectively acquired, with emphasis on those most widely used in education for the health professions in the United States.

Anesthesiology

Updated: July 8, 2004.

Definition

The branch of medicine concerned with the relief and prevention of pain during and following surgical, obstetric, therapeutic and diagnostic procedures.

Discussion

Anesthesiology has expanded to include neuroscience and other basic scientific research on pain. Anesthesiologists increasingly are engaged in interdisciplinary clinical fields such as pain management, intensive care, and palliative care.

Scope and emphasis

Collected comprehensively.

Anthropology

Updated: April 29, 2004.

Definition

The study of the origin, development and nature of the human species through biological, sociocultural, archaeological and linguistic perspectives.

Discussion

Physical or biological anthropology traces the biological origins, evolutionary development and genetic diversity of humans and other primates. Subdisciplines include osteology, primate paleobiology, and paleopathology. Cultural anthropology uses ethnographic methodology to study activities and beliefs of peoples within particular cultures or societies. Linguistic anthropology studies the history, evolution and internal structure of human languages. Medical anthropology uses a variety of anthropological techniques to investigate ways in which cultures define, experience, and manage health and illness; it includes subdisciplines such as ethnomedicine.

Scope and emphasis

NLM comprehensively collects physical, biological and medical anthropology. The Library is interested in medical belief systems (e.g., medical astrology) and healing modalities (e.g., herbalism) from all cultures. NLM collects cultural and linguistic anthropology research related to health and medicine, such as studies of practices surrounding birth, death, and diet, and the relationship between language and cognition. The Library does not collect works on archaeology.

Behavioral Medicine

Updated: November 9, 2018.

Definition

The interdisciplinary field concerned with the development and integration of behavioral and biomedical science, knowledge, and techniques relevant to health and illness and the application of this knowledge and these techniques to prevention, diagnosis, treatment, and rehabilitation ([MeSH](#)).

Scope and emphasis

Collected comprehensively.

Biochemistry

Updated: February 21, 2004.

Definition

The chemistry of living organisms and of vital processes.

Scope and emphasis

Collected comprehensively.

Bioengineering

Updated: October 5, 2012.

Definition:

The application of experimental and analytical techniques based on the engineering sciences to the development of biologics, materials, devices, implants, processes and systems that advance biology and medicine and improve medical practice and health care.

Discussion

Bioengineering is a growing and increasingly interdisciplinary area of research and practice. Recent technological advances have revolutionized the diagnosis and treatment of disease, and provided unprecedented opportunities for conducting biological investigations and improving understanding of fundamental biological processes. Typical areas of research include artificial organs and bionic medicine, tissue engineering and transplant medicine, bioinstrumentation, clinical engineering, biomechanical engineering, biomaterials, nanomedicine, biomolecular engineering, electromagnetic fields in biology and medicine, lasers and optical applications, and ultrasonic applications.

Scope and emphasis

NLM comprehensively collects works in theoretical, experimental and applied studies in bioengineering that further the understanding of living systems or relate directly to or provide models for improvements to human health and health care delivery.

The [Library of Congress](#) and the National Agricultural Library assume responsibility for environmental and agricultural bioengineering.

Bioethics

Updated: November 9, 2018.

Definition

A branch of applied ethics that studies the value implications of practices and developments in life sciences, medicine, and health care ([MeSH](#)).

Discussion

Bioethics includes literature on the legal and public policy issues surrounding health care and biomedical research.

Scope and emphasis

Collected comprehensively.

Special considerations

NLM provides access to the bioethics literature in conjunction with the [Kennedy Institute of Ethics](#).

Bioinformatics

Updated: January 7, 2004.

Definition

The organization and analysis of biological and related information, usually involving the use of computers to develop databases, retrieval mechanisms, and data analysis tools, especially in the fields of molecular biology, structural biology, and genetics (adapted from Dorland's Illustrated Medical Dictionary. 29th ed. Philadelphia: Saunders; c2000. p. 212).

Scope and emphasis

NLM is interested in applications of bioinformatics to biomedical research and the fundamental biological sciences. The Library collects works in environmental, industrial or agricultural research only as applied to biomedicine.

Biological Sciences

Updated: October 5, 2012.

Definition

The scientific study of living organisms.

Scope and emphasis

The Library's collecting emphasis in the biological sciences is on research that probes the underlying mechanisms of human life. Biochemistry, molecular biology, and genetics are central to this effort and therefore are of major importance to NLM.

Biological research on higher levels of organization including cellular processes, developmental biology, physiology and biological systems is selected if the emphasis of the work pertains to humans, to organisms related to human disease, or to species used as models for humans or comparative study. NLM also selects works on the origin of life, evolutionary processes and the interaction of humans with other organisms when they make a significant contribution to understanding the broader context of human life, health and illness.

The [Library of Congress](#) and the [National Agricultural Library](#) assume responsibility for the areas of natural history, systematics and speciation.

Biomathematics

Updated: September 30, 2004.

Definition

Biomathematics is the application of mathematics to problems in biology and medicine.

Discussion

Biomathematics is an essential tool in fields such as population genetics, cellular neurobiology, comparative genetics, biomedical imaging, pharmacokinetics, and epidemiology. It plays an increasingly vital role in the effort to understand diseases and disorders, and to improve therapies.

Scope and emphasis

Theoretical and applied biomathematics are comprehensively collected.

Biomedical Imaging

Updated: August 24, 2004.

Definition

The science and the branch of medicine concerned with the development and use of imaging devices and techniques to obtain internal anatomic images and to provide biochemical and physiological analysis of tissues and organs.

Discussion

The field of biomedical imaging utilizes advanced technologies to capture, store, analyze and display images at the organ, tissue, cellular, and molecular level. Modalities such as computed tomography, magnetic resonance imaging, molecular imaging, and scanning microscopies play an increasingly important role in clinical practice and basic life sciences research.

Scope and emphasis

Collected comprehensively.

Biomedical Research

Updated: January 20, 2004.

Definition

Research that is conducted to increase fundamental knowledge and understanding of the physical, chemical and functional mechanisms of human life processes and diseases.

Scope and emphasis

NLM comprehensively collects works on the organization, management, and funding of biomedical research; on research design, tools, methods and models as applied to biomedical research, including analytical, statistical and computational techniques; on research ethics and scientific fraud; and on the interrelationship between the biomedical research community and government or other organizations concerned with research outcomes and public policy.

Biophysics

Updated: January 2, 2004.

Definition

The discovery and application of physical principles, methods and theories relevant to the study of living organisms and life processes.

Discussion

Biophysics has been described as a subject lying at the borders of biology, physics, chemistry, mathematics, engineering, genetics, physiology and medicine. Studies include the biophysics of movement, electrophysiology, membrane physics, the three-dimensional structure of proteins, protein-DNA interactions, glycoprotein structure and function, gene expression, and network theories applied to cellular metabolism and macromolecular interactions. The study of biophysics has led to the development of new instrumentation and methods of discovery that have had profound effects on our understanding of chemistry, biology and medicine, including light microscopy, X-ray crystallography, nuclear magnetic resonance spectroscopy, and circular dichroism spectroscopy.

Scope and emphasis

NLM collects works in biophysics, including theoretical and computational biophysics, as applied to molecular biology, biochemistry, physiology (from the cell to the organism), and any research with implications for the practice of medicine, biomedical engineering or biomedical research.

Biotechnology

Updated: April 28, 2016.

Definition

Biotechnology is the body of knowledge related to the use of organisms, cells or cell-derived constituents for the purpose of developing products which are technically, scientifically and clinically useful.

Discussion

Biotechnology is an interdisciplinary subject that spans medicine, agriculture, industrial technology and commerce, and impacts health, culture, and society. The literature of biotechnology is derived from diverse fields and includes basic research publications in molecular and cellular biology, as well as materials describing basic biological processes from several disciplines: biochemistry, genetics, immunology, virology, microbiology and protein structural analysis. The literature of biotechnology also embraces the fields of medical practice and medical ethics.

Scope and emphasis

NLM comprehensively collects works in biotechnology including materials dealing with the alteration of biologic function by changing genetic information, i.e., genetic engineering. NLM is also interested in biotechnology laboratory tools and methods, which include transfection, cloning technologies, molecular sequence and structure/function analysis prediction algorithms, and databases. NLM collects the history of biotechnology as it relates to the history of human medicine, and contemporary implications of biotechnology for medical practice and medical ethics.

Centrally important are publications about genes, proteins, and cells and tissues, when related to humans, primates, or model organisms and with a potential for application to human health care and disease prevention. NLM also collects, but not as broadly, other animal studies of these topics, the use of organisms in sanitary engineering, and the environmental effects of biotechnology on humans or animals.

Cardiology

Updated: November 9, 2018.

Definition

The study of the heart, its physiology, functions and the diseases that affect it ([MeSH](#)).

Scope and emphasis

Collected comprehensively.

Cell Biology

Updated: June 25, 2003.

Definition

Cell biology is the study of the structure and function of the basic unit of living organisms, the cell.

Discussion

Cell biology includes the study of the cell life cycle (including cell death and cancer), cell differentiation (including stem cell research), cell motility and behavior, and organelles and other cellular structures in the growth and functioning of the cell (including membrane transport and signaling).

Scope and emphasis

NLM comprehensively collects cell biology resources.

Chemistry

Updated: June 23, 2020.

Definition

The physical science that investigates the composition, structure, properties, and transformations of substances and elementary forms of matter, primarily at the molecular level ([National Science Foundation](#)).

Discussion

The science of chemistry is historically and conceptually fundamental to many disciplines in the physical, biological and medical sciences. The principal areas of study within chemistry include organic chemistry, inorganic chemistry, physical and theoretical chemistry, biochemistry, and analytical chemistry. There are many subdisciplines, such as chemical engineering, electrochemistry, industrial chemistry, computational chemistry, crystallography, spectroscopy, and nuclear chemistry. As interdisciplinary research has grown in importance, the boundaries among different areas of chemistry, as well as those among chemistry, biology and physics, have become less well defined. There is heightened biomedical interest in many areas (such as surfaces and polymers) that formerly appeared to have little relevance to biomedical research.

Scope and emphasis

NLM collects works in areas of chemistry that are pertinent to biomedical and life sciences research, notably biochemistry; biochemical engineering; biophysical chemistry, chemical toxicology; computational chemistry; and medicinal, pharmaceutical, and natural products chemistry. NLM is particularly interested in studies conducted at the chemistry/biology interface, which focus on the fundamental underlying chemical principles governing biological processes. Typical areas of research include chemical biology, structural biology, molecular recognition, complex biomolecules, signal transduction, metalloproteins, and synthesis of novel biopolymers.

Special considerations

The Library's historical collections (pre-1914) are broader in scope in this area than are the modern collections. Works on alchemy, Paracelsianism and the emerging science of chemistry are well represented in the historical collection and continue to be acquired because of their influence on the development of medicine and pharmacy.

NLM develops and makes available [PubChem](#).

Clinical Laboratory Science

Updated: November 12, 2003.

Definition

The use of laboratory techniques in diagnosis, patient monitoring and therapeutic problem-solving. It involves the selection, performance and interpretation of laboratory tests for patient care, and the testing and analysis of pharmaceuticals used in medical treatment.

Scope and emphasis

Collected comprehensively.

Cognitive Science

Updated: April 6, 2004.

Definition

The study of the functional processes of the mind, and the operations of the brain that enable these processes to be performed.

Discussion

Cognitive science combines the research of cognitive psychology and the neurosciences with research in computer science, artificial intelligence, philosophy, mathematical logic and linguistics to study knowledge representation, memory, language, learning, thinking, and perception.

Scope and emphasis

NLM comprehensively collects in all areas of cognitive science research, including, for example, computer modeling of cognition and of neurological systems; the development of biological-computer interfaces; and psycholinguistics (the study of language acquisition, development, production and processing in the individual).

Communication Disorders

Updated: November 26, 2003.

Definition

Disorders of verbal and nonverbal communication caused by receptive or expressive language disorders, hearing disorders, cognitive dysfunction, or other neurological or psychiatric conditions.

Scope and emphasis

The NLM collecting emphasis is on works on the anatomical, physiological and cognitive basis of communication and the diagnosis and treatment of communication disorders. The Library does not collect works on sign language, language education, or the social, political, or cultural aspects of deafness.

Complementary and Alternative Medicine

Updated: March 26, 2018.

Definition

Complementary and alternative medicine (CAM) or “complementary health approaches” are a group of diverse medical and health care practices and products that are not presently considered to be part of conventional medicine ([National Center for Complementary and Integrative Health](#)).

Discussion

The National Center for Complementary and Integrative Health (NCCIH) classifies most complementary health approaches into one of two subgroups: 1) natural products, including herbs, vitamins, minerals, and probiotics, often sold to consumers as dietary supplements; or 2) mind and body practices, including a large and diverse group of procedures or techniques administered or taught by a trained practitioner or teacher. These include but are not limited to yoga, chiropractic and osteopathic manipulation, meditation, massage therapy, acupuncture, relaxation techniques, tai chi, qi gong, healing touch, hypnotherapy and movement therapies. Other complementary health approaches include traditional healers, Ayurvedic medicine, traditional Chinese medicine, homeopathy and naturopathy. For additional information [see the NCCIH Web site](#).

CAM therapies are termed as Alternative when used in place of conventional treatments and Complementary when used together with conventional treatments. Integrative medicine combines mainstream medical therapies and CAM therapies in a coordinated way.

Scope and emphasis

NLM comprehensively collects research publications that describe, analyze or evaluate the delivery, safety or efficacy of complementary and alternative systems, practices or products; official guidelines or policies for the use of CAM therapies or products; and authoritative works on the education, training and certification of CAM practitioners. Of particular interest are works documenting the clinical and economic impact of CAM therapies on U.S. health care and consumers and works tracing the trajectory of acceptance or rejection of various historical and contemporary therapeutic systems.

Special considerations

CAM generates a large body of literature not specifically addressed to professional health practitioners or scholars. NLM collects such materials selectively, emphasizing works that characterize diverse viewpoints, those chronicling the public response to CAM therapies, and those documenting the CAM health information disseminated to the U.S. public at large. Academic Dissertations on complementary and alternative medicine, especially by medical anthropologists, may be of interest.

Cytology

Updated: October 29, 2003.

Definition

The study of cells, their origin, structure, function and pathology.

Discussion

Cytology is the branch of biology dealing with the morphology, structure, ultrastructure, life cycle, and pathology of cells. Historically cytology has referred to the study of the microscopic appearance of cells and cell structures, especially for the diagnosis of abnormalities and malignancies.

The function and life history of cells is discussed under the topic of cell biology.

Scope and emphasis

NLM collects materials on normal and abnormal cytology. Emphasis is on materials that relate to human health and disease.

Dentistry

Updated: November 9, 2018.

Definition

The branch of medicine concerned with the teeth, oral cavity, and associated structures, and the diagnosis and treatment of their diseases including prevention and the restoration of defective and missing tissue (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Dermatology

Updated: November 9, 2018.

Definition

The study of the skin, its structure, functions, diseases, and treatment (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Special considerations

Since the visual aspect is so important in dermatology, audiovisual media are especially valuable in this area of medicine.

Disaster Management

Updated: July 6, 2018.

Definition

Disaster management is the body of policy, administrative decisions and operational activities required to prepare for, mitigate, respond to, and repair the effects of natural or man-made disasters (adapted from a definition by the [United Nations Development Programme Disaster Management Training Program](#)).

Discussion

Topics of interest within disaster management include health planning and policies, health facilities management, public health workforce training, communicable disease control, emergency medical services, psychological preparedness and response, risk management, health information systems (including early warning, surveillance and communication systems), and laboratory diagnosis and characterization.

Scope and emphasis

NLM collects scholarly and professional works on the health aspects of disaster management, including the management of man-made threats to the public such as bioterrorism and the use of chemical weapons. NLM may select examples of broader works on disaster management to document the public response to specific events or the social, political and cultural context of public health. See the policy statement on Public Health for a complete discussion.

Special considerations

NLM collects examples of rescue literature (handbooks, guides, etc.) written for first responders.

Education for the Health Professions

Updated: June 21, 2004.

Definition

Education and training of physicians, nurses, and other health practitioners.

Discussion

This field includes practical and theoretical inquiries into all aspects of education and training for the health professions. Typical areas of research include quality of education; innovations in teaching; academic leadership; curricular matters; diversity and other recruitment and admissions policies; economics of education for the health professions; role of teaching hospitals in public health; student and resident issues; integration of teaching, research, and health care practice; and the future of academic medicine.

Scope and emphasis

Collected comprehensively.

Embryology

Updated: December 15, 2003.

Definition

The science dealing with the formation, development, structure and functional activity of the embryo.

Scope and emphasis

The NLM collecting emphasis is on human and comparative embryology.

Emergency Medicine

Updated: December 15, 2003.

Definition

The branch of medicine concerned with the provision of immediate treatment to the acutely ill or injured.

Scope and emphasis

Collected comprehensively.

Special considerations

NLM collects examples of literature (handbooks, guides, etc.) written for first responders.

First aid materials intended for the public are collected very selectively, with emphasis on authoritative U.S. or international manuals.

Endocrinology

Updated: July 21, 2004.

Definition

The branch of medicine and science concerned with the physiology and disorders of the endocrine system.

Discussion

NLM comprehensively collects basic endocrinological research in any species, as well as clinical studies in all areas of endocrinology and metabolism.

Scope and emphasis

Collected comprehensively.

Environmental Health

Updated: June 23, 2021.

Definition

The study of the influence of physical, biological, chemical, and psychosocial factors on human health.

Discussion

Environmental health is concerned with the influence of natural factors (e.g., climate), as well as those of human origin (e.g., noise, the built environment). The field is broad and draws upon research in many disciplines, such as molecular biology, toxicology, clinical medicine, population genetics, epidemiology and public health. An emerging area of importance is the application of genomics techniques to study gene-environment interactions.

Scope and emphasis

Collecting emphasis is on life sciences research that elucidates the relationship between environment and health; the clinical diagnosis and treatment of environmentally related diseases; environmental health policy; bioethics of environmental health research and practice; and the history of environmental health.

NLM generally does not collect works in other areas of environmental science and technology unless they have biomedical application or public health content.

Special considerations

The [Library of Congress](#) and the National Agricultural Library have substantial holdings in environmental science and technology.

Exercise Science

Updated: September 10, 2021.

Definition

The scientific study of human movement performed to maintain or improve physical fitness.

Discussion

Exercise science includes such subjects as biomechanics, exercise physiology, exercise psychology, cardiac rehabilitation, athletic training, and fitness for special population groups.

Scope and emphasis

The NLM emphasis is on scholarly works written for the exercise science or other health professional. Scientific studies of yoga, tai chi, and other movement-based systems and practices for health and fitness are of interest. The Library does not collect material on physical education or instructional works for personal fitness.

Family Practice

Updated: December 15, 2003.

Definition

The branch of medicine concerned with the provision of continuing, comprehensive primary health care for the entire family.

Scope and emphasis

Collected comprehensively.

Forensic Medicine

Updated: November 9, 2018.

Definition

The application of medical knowledge to questions of law ([MeSH](#)).

Discussion

Forensic medicine encompasses several specialties, such as forensic pathology, odontology, and psychiatry. A major focus is medicolegal death investigation, but medical forensic specialists also work in areas such as malpractice, investigation of human rights violations, and litigation related to occupational and environmental health issues.

Scope and emphasis

Collected comprehensively.

Gastroenterology

Updated: December 15, 2003.

Definition

The branch of medicine concerned with the physiology and diseases of the digestive system and related structures.

Scope and emphasis

Collected comprehensively.

Genetics

Updated: June 23, 2021.

Definition

The study of genes and their heredity.

Discussion

Includes but is not limited to medical genetics, population genetics, cytogenetics, immunogenetics, behavioral genetics, genomics, and proteomics.

Scope and emphasis

NLM is interested in research that explores the mechanisms of gene inheritance, mutation, regulation and expression, and the applications related to human and comparative biology and the biology of disease-related organisms. Studies of population genetics and evolution that improve our understanding of human health and disease are also important.

The genetic basis of human disorders, immune response, and mechanisms of mutagenesis are of particular collecting interest, as are works on applied genetics, including genetic disease prevention, screening and counseling.

NLM collects works concerned with genetic engineering of animal species, excluding those that focus on animal culture, breeding or agronomy. Plant sequencing is acquired as a basis for the understanding of fundamental biological processes. Research on the genetic engineering of plant species is collected only when research addresses nutritional or health implications for animals, especially humans.

Special considerations

The Library's consumer information about genetic conditions and the genes or chromosomes responsible for those conditions can be found on [MedlinePlus](#).

DNA sequencing and other molecular, genetic and structural information is available through the [NCBI](#) and other data depositories. Literature regarding the history of the [Human Genome Project](#) and other collaborative efforts is also collected.

Geriatrics

Updated: November 26, 2003.

Definition

The branch of medicine concerned with the health of the aged and the process of aging.

Discussion

The closely related field of gerontology is the study of the biological, psychological, sociological, health, and economic aspects of aging.

Scope and emphasis

NLM comprehensively collects geriatrics, and the biological, psychological and health aspects of gerontology.

Gynecology

Updated: November 9, 2018.

Definition

The study of the physiology and disorders of the female genital tract and related reproductive physiology and endocrinology (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Health Communication

Updated: June 23, 2020.

Definition

The study or use of communication strategies to inform and influence individual and community decisions that affect health (adapted from [Healthy People 2020](#)).

Discussion

This field encompasses many areas of research and practice, such as health risk communication, health literacy, mass communication of health and medicine, patient-professional communication, and the development of telemedicine applications.

Scope and emphasis

Collected comprehensively.

Health Economics

Updated: September 30, 2004.

Definition

The economics of the provision of healthcare services, their delivery, and their use, with special attention to quantifying the demands and measuring outcomes for such services, the social, financial and opportunity costs of such services, and of their delivery, and the benefits obtained (adapted from Slee's health care terms, 4th ed. St. Paul : Tringa Press, 2001).

Discussion

Health economics is commonly regarded as an applied field of economics, focusing on the costs and benefits of health care to a population. Health economics looks at the value of health, the demand for health care (including barriers to access), the supply of health care (including human resources issues, equipment, costs of production, etc.), and influences on health other than direct care (e.g., education, income, genetics). Research in the field encompasses economics, epidemiology, management, operational research, psychology, sociology, and studies of health care outcomes and effectiveness. Some examples of subjects studied in health economics include the economics of health care technology; consumer behavior; advertising and marketing of health care; health care financing (including public and private programs); insurance; and benefit and cost analysis.

Scope and emphasis

Collected comprehensively.

Special considerations

Working papers are important sources of economics research and are selectively acquired.

Health Facilities

Updated: October 7, 2003.

Definition

Institutions that provide medical or health-related services.

Discussion

This category includes not only hospitals and clinics, but also other facilities where health services are offered, such as imaging centers, long term care facilities, tissue and blood banks, and laboratories. Typical areas of research include performance measurement and accreditation, costs and utilization of services, infection control and other safety issues, staffing effectiveness, and disaster preparedness.

Scope and emphasis

The Library maintains an extensive international collection of works about health facilities, including organizational and financial management, design and construction, legal and ethical aspects, patient care management, and services such as pharmacy, rehabilitation, laboratories, records management, and libraries.

Special considerations

NLM acquires significant standards, guidelines and codes related to health facilities, with emphasis on issuances of major U.S. and international organizations and agencies.

The Library selectively acquires practical works regarding topics such as housekeeping, food service, and physical plant maintenance in health facilities, with emphasis on those likely to be of widespread interest in the U.S. health services community.

Health Occupations

Updated: April 6, 2004.

Definition

All health and allied health professions and the professional issues related to them.

Discussion

The health occupations encompass a broad spectrum of activities directed to the cure and prevention of disease; the provision, administration and management of health services; the development of policy; and biomedical research, scholarship and education.

Scope and emphasis

Collected comprehensively. This includes but is not limited to topics such as recruitment, training, and compensation; characteristics and behavior of health professionals; patient-provider relationships; practice management; professional associations and organizations; standards and ethics.

Health Policy

Updated: April 6, 2004.

Definition

The development by government and other policy makers of present and future objectives pertaining to health care and the health care system, and the articulation of arguments and decisions regarding these objectives in legislation, judicial opinions, regulations, guidelines, standards, etc. that affect health care and public health.

Discussion

Health policy literature includes works that describe the roles played by both government and non-governmental entities and individuals in the policy process; studies of economic, technological, social, cultural and other influences on policy development; and the effects of resulting policies, guidelines, standards and protocols.

Scope and emphasis

Collected comprehensively.

Special considerations

See statements on Government Publications and Grey Literature.

Health Sciences Librarianship

Updated: April 6, 2004.

Definition

The application of library and information science principles and practices to collecting, organizing, managing, providing access to and preserving biomedical and health related information services and resources, and providing assistance and instruction in the location and use of these resources.

Scope and emphasis

Collected comprehensively.

Health Services Research

Updated: October 5, 2012.

Definition

The multidisciplinary field of scientific investigation that studies how social factors, financing systems, organizational structures and processes, health policies, health technologies and personal behaviors affect access to health care, the quality and cost of health care, and ultimately the health and well-being of individuals, families, communities and populations (adapted from [AcademyHealth](#)).

Discussion

Health services research involves the integration of statistical, epidemiological, and social and behavioral research techniques in the study of health services, including randomized controlled trials, qualitative research, health care surveys, systematic reviews and meta-analysis. Examples of research topics include evaluation of practice variations, guideline adherence, and diffusion of innovation; quantitative and qualitative analysis of inequalities in health status and health care; assessment of patient attitudes to health, health seeking behavior, acceptance of health care, willingness to pay, and compliance with treatment.

Scope and emphasis

Collected comprehensively.

Special considerations

NLM develops and makes available numerous resources on health services research through its [National Information Center on Health Services Research and Health Care Technology Assessment](#).

Hematology

Updated: December 15, 2003.

Definition

The study of the morphology, physiology, and pathology of the blood and blood-forming tissues.

Scope and emphasis

Collected comprehensively.

Histology

Updated: March 5, 2004.

Definition

The study of the structure, composition and function of tissues.

Scope and emphasis

NLM collects materials on normal and pathologic histology. The emphasis is on human and comparative histology.

History of Medicine

Updated: July 30, 2004.

Definition

The history of medical thought and practice.

Discussion

The selection of the secondary source literature for the history of medicine, that is, for interpretive, analytical and biographical studies of the medicine of the past, requires a broad interpretation of medical thought and practice, and a recognition that the boundaries of medicine change over time. Further, an understanding of the impact of social, political, economic and religious factors on medical practice is essential for research in the history of medicine.

Scope and emphasis

The scope of the Library's collecting effort in the history of medicine is broad, including such topics as the history of the biological sciences; all aspects of the practice of medicine; medical and allied professions; histories of selected hospitals, schools of medicine, medical museums, and other health-related institutions; public health; biographies of medical figures; medicine as depicted in art, stamp and coins; medical theories and philosophies; popular and folk medicine; quackery; and the sociology of medicine. NLM also selectively acquires significant works in related subjects to document the sociocultural context of a particular era. Scholarly works are collected without regard to their language or geographical origin.

Selected related works are acquired as needed to provide a cultural context for the study of medical history, as are the reference and bibliographical tools of historical scholarship deemed most important for the NLM mission.

Special Considerations

Because the Library of Congress comprehensively collects [reference and bibliographic tools](#), NLM collects only those which are most critical to the support of scholarship in the history of medicine.

Human Nutrition

Updated: June 23, 2021.

Definition

The study of nutrition processes as well as the components of food, their actions, interaction, and balance in relation to health and disease (adapted from [MeSH](#)).

Discussion

The National Institutes of Health (NIH) funds a broad array of basic and applied research studies to further our understanding of nutrition as it relates to human health and disease. This includes research related to how nutrients and food components are ingested, digested, absorbed, metabolized, transported, stored, and excreted and the overall impact on the body as well as the study of the environment, psychology, and behavior associated with eating and how these factors play a role in nutritional status and in which foods people choose to consume.

In May 2020, the NIH released the [2020–2030 Strategic Plan for NIH Nutrition Research](#), to advance nutrition research across a wide range of areas, from basic science to experimental design to research training.

Scope and emphasis

NLM collects research and clinical literature on every aspect of human nutrition including normal nutrition (caloric and nutrient requirements throughout the life cycle and for specific populations), clinical nutrition (nutrition intervention aimed at the treatment or prevention of disease or illness), and nutritional epidemiology. NLM also collects titles on nutrition policy as a public health issue.

Because of the library's emphasis on biomedical research, NLM is particularly interested in works dealing with the physiology and biochemistry of nutrition. Works on nutrition as a health care profession are collected, as are works on nutrition education written primarily for those engaged in or preparing for careers in nutrition research, clinical nutrition, or nutrition in a health care setting. A limited number of instructional works written for general audiences or patients may be selected for their historical value, to chronicle public health outreach efforts, or to represent materials available to health providers for direct patient care. Such materials are collected very selectively with the emphasis on authoritative materials likely to be widely used in U.S. health care.

NLM collects more narrowly in food-related subject areas. The Library's primary interests are food composition, foodborne illness, and food toxicology. NLM also collects works that emphasize the public health aspects of food labeling and food inspection, rather than the management or techniques of dairy, meat, fish, or other food inspection programs. NLM collects works on dietary habits and customs when the content is directly related to biomedicine or health care; purely sociocultural works on food customs generally are not collected. NLM collects works on food service management in health care facilities, but not those on general food service management. NLM does not collect works on the food industry, food technology, food supply (including food consumption, food security and food economics), or home food preparation and handling.

Special considerations

The subject areas covered by this guideline overlap with the collecting priorities of the Library of Congress and the National Agricultural Library. For information on the Library of Congress collecting priorities, see [Cooking, Nutrition and Food Technology](#).

The subject of animal nutrition is addressed in the NLM guideline on veterinary medicine.

Infectious Diseases

Updated: October 5, 2012.

Definition

Disease caused by agents such as bacteria, protozoa, fungi, or viruses.

Scope and emphasis

Collected comprehensively.

Internal Medicine

Updated: November 9, 2018.

Definition

A medical specialty concerned with the diagnosis and non-surgical treatment of diseases of the internal organ systems of adults (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Laboratory Animal Science

Updated: November 9, 2018.

Definition

The science and technology dealing with the procurement, breeding, care, health, and selection of animals used in biomedical research and testing ([MeSH](#)).

Scope and emphasis

NLM collects all aspects of laboratory animal science and welfare including the legal, ethical and public policy issues related to laboratory animal welfare and alternatives to animal testing.

Medical Botany

Updated: January 7, 2004.

Definition

The study and use of plants in biomedicine.

Discussion

Includes the effect on human health of injurious, remedial, and psychoactive plants, fungi, and microorganisms. Currently there is great interest in testing the use and efficacy of traditional botanical remedies as a basis for the development of new therapies and pharmaceutical agents.

Scope and emphasis

Medical botany including medical ethnobotany is comprehensively collected. Materials on the cultivation of medicinal plants are not collected.

Medical Genetics

Updated: July 8, 2004.

Definition

The branch of medicine specializing in the application of genetic research to human health.

Discussion

In addition to clinical diagnosis and management, the field includes genetic counseling services.

Scope and emphasis

Collected comprehensively.

Medical Humanities

Updated: July 30, 2004.

Definition

The study of the intersection of medicine and humanistic disciplines such as philosophy, religion, literature, and the fine and performing arts.

Discussion

This field emphasizes the humane aspects of medicine and health care and has expanded to include research in social sciences disciplines that are informed by humanistic scholarship, such as cultural studies, anthropology, and medical sociology. The literature is diverse, and includes scholarly research, reflective essays, and critical interpretations of artistic and literary works.

Scope and emphasis

Collected comprehensively.

Medical Informatics

Updated: November 9, 2018.

Definition

The field of information science concerned with the analysis, use and dissemination of medical data and information through the application of computers to various aspects of health care and medicine ([MeSH](#)).

Discussion

"Medical informatics attempts to provide the theoretical and scientific basis for the application of computer and automated information systems to biomedicine and health affairs . . . medical informatics studies biomedical information, data, and knowledge - their storage, retrieval, and optimal use for problem-solving and decision-making" (Lindberg, D.A.B., [NLM Long Range Plan. Report of the Board of Regents](#), 1987, p. 31).

This category includes consumer health informatics, dental informatics, nursing informatics, and all other applications of computers to health.

Scope and emphasis

Collected comprehensively.

Medical Sociology

Updated: October 5, 2012.

Definition

Medical sociology is concerned with the relationship between social factors and health, and with the application of sociological theory and research techniques to questions related to health and the health care system.

Discussion

Typical areas of research include the influence of ethnicity, gender, age, or socioeconomic status on the access to and quality of health care; health and risk taking behaviors; social constructs of illness; health beliefs and perceptions; health effects of sociocultural changes; the role of health institutions and health professionals in society; the social implications of biomedical innovations, education, and communication; and other sociological aspects of medical organization and practice.

Scope and emphasis

Collected comprehensively.

Selection questions sometimes arise because of the characteristically multidisciplinary nature of the field, especially in such areas as life course research (childhood, aging), crime, substance abuse, sexuality, and gender issues. When reviewing interdisciplinary works, NLM bases selection decisions on the extent of a work's health related content.

Special considerations

The [Library of Congress](#) maintains an extensive collection of works on sociology and related fields.

Medicine

Updated: July 21, 2004.

Definition

The art and science of preventing, diagnosing, and treating disease, as well as the maintenance of health.

Scope and emphasis

The Library comprehensively collects works on all areas of medical practice, research, and thought; and on all medical specialties and subspecialties.

Microbiology

Updated: November 9, 2018.

Definition

The study of microorganisms such as fungi, bacteria, archaea, protozoa, and viruses ([MeSH](#)).

Scope and Emphasis

NLM collects research on the basic biology of microbes, including molecular structure and function, genetics, biochemical composition, physiological and biochemical processes, and the distribution and evolution of microorganisms, including adaptation to extreme environments such as hot springs, glaciers, space, etc. NLM emphasizes the applied research related to human disease, especially emerging infectious diseases. Studies of host-microbe relationships, microbial pathogenicity and virulence in humans and animal models are of particular interest. Applications to agriculture and environmental science, including food and soil microbial ecology, are included only when related to public health.

Military Medicine

Updated: October 19, 2003.

Definition

The organization and delivery of health care in the uniformed services and the practice of medicine as applied to special circumstances associated with military operations.

Scope and emphasis

Collected comprehensively.

Molecular Biology

Updated: June 25, 2003.

Definition

Molecular biology is the study of the structure and function of molecules and macromolecular systems associated with biological processes, especially the molecular basis of inheritance and protein synthesis.

Discussion

Includes mechanisms of gene expression and regulation, especially DNA replication, transcription, translation, and protein synthesis. Applications use recombinant DNA technology, including plasmid construction, vectors, cloning, and transfection. Also includes genomics, proteomics and structural biology.

Scope and emphasis

The Library's interest in molecular biology is broad. Basic research in molecular biology and applications to medicine are collected. Research on any organism that elucidates the molecular basis of biological functions is of interest.

Special considerations

The [NCBI](#) develops a variety of resources (databases including nucleotide, single nucleotide polymorphisms, genome, structure, protein, taxonomy, etc.) for molecular biology information.

Molecular Medicine

Updated: December 15, 2003.

Definition

A science that seeks to comprehend disease causes and mechanisms at the molecular level, and to apply this basic research to the prevention, diagnosis and treatment of diseases and disorders.

Discussion

Typical applications in molecular medicine include gene therapy, molecular structural analysis, genetic epidemiology, and molecular and clinical pharmacology.

Scope and emphasis

Collected comprehensively.

Nephrology

Updated: December 15, 2003.

Definition

The branch of medicine concerned with the anatomy, physiology, and pathology of the kidney.

Scope and emphasis

Collected comprehensively.

Neurology

Updated: December 15, 2003.

Definition

The branch of medicine concerned with the anatomy, physiology and pathology of the brain and nervous system.

Scope and emphasis

Collected comprehensively.

Neuroscience

Updated: October 8, 2003.

Definition

Neuroscience is the study of the physiological, cellular, molecular and genetic processes underlying the function of the brain and nervous system.

Scope and emphasis

NLM comprehensively collects all aspects of neuroscience as applied to any species.

Nursing

Updated: August 26, 2004.

Definition

A health profession concerned with the promotion of health, prevention of illness and the care of the sick, disabled and dying.

Discussion

Contemporary nursing literature increasingly emphasizes nursing research, advanced nursing practice, nursing policy, technological developments such as nursing informatics, and innovations in nursing education.

Scope and emphasis

Collected comprehensively.

Special considerations

The [History of Medicine Division](#) maintains notable manuscripts in nursing.

Obstetrics

Updated: November 9, 2018.

Definition

The branch of medicine concerned with the management and care of women during pregnancy, childbirth, and postpartum (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Occupational Health and Safety

Updated: March 4, 2004.

Definition

The study of the relationship between work and human health, the promotion of health in the workplace, and the prevention, diagnosis, and management of occupation related diseases, disorders and injuries.

Discussion

Work health and safety issues include concerns about biological, chemical and physical hazards; diseases, disorders and injuries related to or affecting work; health issues involving the physical space of work; types of occupations and their effect on health; job stress, work schedules, and other psychosocial issues in the work environment affecting health.

Scope and emphasis

NLM is interested in works on all aspects of occupational health and safety written for the health professional. Information on design and engineering for safety and ergonomics is generally not collected.

Special considerations

Current guidance on specific occupational health and safety issues is available through the [National Institute of Occupational Safety and Health](#).

Oncology

Updated: December 15, 2003.

Definition

The branch of medicine and the science concerned with neoplasms.

Scope and emphasis

Collected comprehensively.

Ophthalmology

Updated: December 15, 2003.

Definition

The branch of medicine concerned with the structure and function of the eye and the medical and surgical treatment of its defects and diseases.

Scope and emphasis

Collected comprehensively.

Optometry

Updated: November 9, 2018.

Definition

The professional practice of primary eye and vision care that includes the measurement of visual refractive power and the correction of visual defects (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Orthopedics

Updated: November 9, 2018.

Definition

A surgical specialty that utilizes medical, surgical, and physical methods to treat and correct deformities, diseases, and injuries to the skeletal system, its articulations, and associated structures ([MeSH](#)).

Scope and emphasis

Collected comprehensively.

Otolaryngology

Updated: December 4, 2003.

Definition

The branch of medicine concerned with the study and treatment of disorders of the ear, nose, and throat and related areas of the neck and head.

Scope and emphasis

Collected comprehensively.

Parasitology

Updated: April 6, 2004.

Definition

The study of parasites.

Discussion

Parasitology includes the study of human and animal parasites, and the physiological, metabolic, immunological, biochemical, nutritional, and chemotherapeutic aspects of parasites and host-parasite relationships.

Scope and emphasis

NLM comprehensively collects works in all aspects of parasitology with potential application to biomedical research.

Pathology

Updated: November 9, 2018.

Definition

The branch of medicine concerned with the nature and cause of disease as expressed by changes in cellular or tissue structure and function caused by the disease process (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Pediatrics

Updated: November 9, 2018.

Definition

The branch of medicine concerned with maintaining health and providing medical care to children and adolescents (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Pharmacology

Updated: November 9, 2018.

Definition

The study of the origin, nature, properties, and actions of drugs and their effects on living organisms ([MeSH](#)).

Scope and emphasis

Collected comprehensively.

Special considerations

Examples of trade publications from the pharmaceutical industry are collected to track trends and innovations, and to document the impact of the industry on health care around the world.

Pharmacy

Updated: November 9, 2018.

Definition

The practice of compounding and dispensing medicinal preparations ([MeSH](#)).

Scope and emphasis

Collected comprehensively.

Physical Medicine and Rehabilitation

Updated: January 20, 2004.

Definition

Physical medicine and rehabilitation, also referred to as physiatry or rehabilitation medicine, is a branch of medicine concerned with evaluation and treatment of, and coordination of care for, persons with musculoskeletal injuries, pain syndromes, and/or other physical or cognitive impairments or disabilities. The primary focus is on maximal restoration of physical and psychological function, and on alleviation of pain (adapted from definitions by the [American Board of Medical Specialties](#) and the [American Board of Physical Medicine & Rehabilitation](#)).

Scope and emphasis

NLM focuses on medical evaluation, treatment and management of persons with impairments and disabilities. The Library selectively collects works on social, political, legal and cultural aspects of disability, focusing on works that emphasize public health issues, those that are essential to providing a context for evaluation and treatment, and those likely to be of importance to the historical record.

Social and vocational rehabilitation literature is more selectively acquired, and only when the primary intended audience is health professionals.

Physiology

Updated: November 9, 2018.

Definition

The biological science concerned with the life-supporting properties, functions, and processes of living organisms or their parts (adapted from [MeSH](#)).

Scope and emphasis

The NLM emphasis is on the physiology of humans, laboratory animals and model organisms, and fundamental biomedical research in this area.

Plant Biology

Updated: December 15, 2003.

Definition

Plant biology is the study of the structure and function of plants.

Discussion

Research on plants is becoming increasingly important in basic life sciences and biomedical research as it furthers our understanding of fundamental physical, chemical and biological structures and processes.

Scope and emphasis

NLM is interested in fundamental research on plants at the molecular level (e.g., DNA sequencing), and health-related effects of plants and plant products (e.g., animal and human nutrition, pharmacology, toxicology). The Library also collects research on plant physiology when it is applicable to biomedical research.

Other types of agricultural research generally are not collected.

Podiatry

Updated: November 9, 2018.

Definition

The branch of medicine concerned with the diagnosis and treatment of foot disorders and injuries and anatomic defects of the foot (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Preventive Medicine

Updated: November 9, 2018.

Definition

The branch of medicine concerned with the prevention of disease and the promotion and preservation of health in the individual (adapted from [MeSH](#)).

Scope and emphasis

Collected comprehensively.

Primateology

Updated: December 15, 2003.

Definition

The study of primates.

Scope and emphasis

NLM collects works in all aspects of primatology except for those primate ecology and wildlife management materials that are unrelated to the health of primates.

Psychiatry

Updated: October 5, 2012.

Definition

The branch of medicine concerned with the prevention, diagnosis and treatment of mental disorders, including mental retardation and substance-related disorders (adapted from definition by the [American Psychiatric Association](#)).

Scope and emphasis

Collected comprehensively. Both the National Library of Medicine and the [Library of Congress](#) collect works on psychoanalysis and psychoanalytic theory.

Psychology

Updated: November 9, 2018.

Definition

The science dealing with the study of mental processes and behavior in man and animals ([MeSH](#)).

Scope and emphasis

The Library's collection of the psychological literature emphasizes all areas of research with potential application to biomedical research and health care. NLM comprehensively collects works on clinical and counseling psychology; the role of behavior in physical and mental health; biopsychosocial interactions (relationship between biological factors and behavioral or social variables); the function of the brain; and the history of psychology. NLM generally defers to the [Library of Congress](#) in areas of psychology with little application to medicine (e.g., school psychology, organizational behavior).

Special considerations

NLM focuses on the collection of monographs and journals containing original research in psychology. The NLM collection complements that of the [Library of Congress](#), which collects dissertations, textbooks, and consumer health publications in addition to its extensive holdings of monographic and journal literature.

Public Health

Updated: August 14, 2003.

Definition

Public health is concerned with the prevention, detection, and control of disease, and the protection and promotion of health on a community or population level.

Discussion

Public health includes a set of biological, epidemiological, social, and statistical sciences and practices intended to measure, protect, and promote health on a population level. Public health overlaps many fields of medicine, given the growing population focus of biomedical research, the increasing concern with bioterrorism, and the importance of epidemiological methods in clinical trials.

Scope and emphasis

NLM comprehensively collects scholarly and professional works on public health issues and crises. Works on the public health response to crises, disasters, and bioterrorism are of particular collecting importance, as are issues affecting health policy, health economics, and health services research. NLM collects works on epidemiology, population health, health disparities, and the history of public health, including historical demography related to health.

Public health issues (e.g., substance abuse, violence, birth control, HIV/AIDS) often engender a large body of literature not specifically addressed to health professionals or public health practitioners. NLM collects selectively materials of these types, emphasizing serious scholarly works, those characterizing diverse viewpoints, those chronicling the public health response of health professionals and policy makers, and those documenting the health information disseminated to the public at large. Works endorsed by health care associations, patient advocacy groups, and health policy organizations are of particular interest.

NLM generally excludes infrastructure and engineering of waste management, sanitation and water quality, except where this literature represents the focus of public health efforts in the region.

Special considerations

Government documents, reports of international agencies ([WHO](#), [World Bank](#), etc.), domestic task forces, and Foundations are of particular interest.

Representative models of state and local health plans are collected when available.

Reports from oppositional or popular groups presenting perspectives different from those reflected in official documents are collected.

Selected popular educational materials such as posters, prints, photographs, pamphlets, and other ephemera are collected to document trends in public health and public health education. Current educational materials and services for the public are also linked from [MedlinePlus](#).

Pulmonary Medicine

Updated: December 15, 2003.

Definition

A branch of medicine concerned with the diagnosis and treatment of diseases and defects of the lungs and respiratory system.

Scope and emphasis

Collected comprehensively.

Radiology

Updated: November 9, 2018.

Definition

The branch of medicine concerned with the use of x-ray and other forms of radiant energy in the diagnosis and treatment of disease (adapted from [MeSH](#)).

Discussion

Includes the subspecialty of nuclear medicine.

Scope and emphasis

Collected comprehensively.

Religion and Medicine

Updated: October 5, 2012.

Definition

The influence of religious belief and practice on health and biomedical research.

Scope and emphasis

NLM collects works that illuminate the contemporary or historical influences of religion on health, health care policy and practice, and biomedical research.

Special considerations

The Library selectively acquires works for pastoral caregivers in health care settings. Emphasis is on publications likely to be of broad interest to U.S. health professionals.

NLM very selectively acquires denominational or sectarian literature related to health. Collecting emphasis is on works that are likely to be of research value for scholars and health professionals and are published at the national or international level. The [Library of Congress](#) takes primary collecting responsibility for religion and theology.

Reproductive Medicine

Updated: December 15, 2003.

Definition

A branch of medicine concerned with the morphology, physiology, biochemistry, and pathology of reproduction in humans and other animals, and on the biological, medical, and veterinary problems of fertility and lactation. It includes ovulation induction, diagnosis of infertility and recurrent pregnancy loss, and assisted reproductive technologies such as embryo transfer, in vitro fertilization, and intrafallopian transfer of zygotes (from Infertility and Reproductive Medicine Clinics of North America, Foreword 1990; Journal of Reproduction and Fertility, Notice to Contributors, Jan 1979) ([MeSH](#)).

Scope and emphasis

Collected comprehensively.

Rheumatology

Updated: December 15, 2003.

Definition

The branch of medicine concerned with the diseases and disorders of the musculoskeletal system, particularly inflammatory or degenerative processes of the joints and connective tissue.

Scope and emphasis

Collected comprehensively.

Space Life Sciences

Updated: November 26, 2003.

Definition

The study of the effects of the reduced-gravity environment of space flight and of outer space on living organisms. Space life sciences may also be called exobiology or astrobiology.

Scope and emphasis

The Library's primary interest is in the study of fundamental biological processes in space - for example, in the origin of life; the development of DNA, cells and early life forms; and changes to cellular mechanisms and physiological functions.

Sports Medicine

Updated: December 15, 2003.

Definition

The branch of medicine concerned with physical fitness, the underlying science of function and performance in sport and exercise, and the prevention, diagnosis and treatment of injuries or illnesses affecting the athlete.

Scope and emphasis

Collected comprehensively.

Surgery

Updated: July 6, 2018.

Definition

The branch of medicine in which manual or operative procedures are used in the diagnosis and treatment of disease, injuries, or deformities.

Discussion

Specialties include neurological, orthopaedic, plastic, thoracic, and colon and rectal surgery.

Scope and emphasis

Collected comprehensively.

Special considerations

Still and moving images depicting surgical techniques are of particular interest. NLM has an extensive historical collection in surgery and holds the papers of several key surgical organizations.

Therapeutics

Updated: November 12, 2003.

Definition

The plan of treatment of a disease or disorder as administered by a health care practitioner.

Scope and emphasis

NLM collects works on current and historical systems of therapeutics. Preference is given to works prepared for health care professionals including practitioners of complementary and alternative health care systems. Works that provide a detailed description of the therapeutics system or include a critical history or analysis of the system also may be selected.

Toxicology

Updated: June 23, 2020.

Definition

Toxicology is the study of the adverse effects of chemical, physical and biological agents on living organisms and the ecosystem.

Discussion

Toxicology studies the agents responsible for adverse effects, the mechanisms involved, the damage that may ensue, testing methodologies to determine the extent of damage, and ways to avoid or repair it. Toxicology is traditionally associated with chemical exposures, such as the effects of drugs, industrial chemicals, pesticides, food additives, household products, and personal care items. Toxinology, a subdiscipline of toxicology, studies biological exposures, such as insect stings, poisonous mushrooms and plants, venomous snakes and aquatic life. The third category of toxicology is concerned with physical hazards, such as radiation and noise.

Test methodology for determining the toxicity or safety of chemicals is an important emphasis of toxicology. With increased attention to alternatives to whole animal testing, important tools in toxicology include in vivo and in vitro methods, analysis of structure-activity relationships, modeling and computational toxicology.

Scope and emphasis

NLM collects all aspects of toxicology involving human health and works of potential application to biomedical research such as studies on the biochemical and molecular basis of toxicity. The collection places special emphasis on emerging disciplines, such as toxicogenomics and toxicoproteomics, and topics of public health concern, such as endocrine disruptors and the toxicology of chemical and other disasters.

Because of the relevance of extrapolating animal study results to humans, toxicological assays involving both traditional laboratory animals and wildlife are collected. In the area of food toxicology, NLM collects toxicological studies on plants in the human food chain and works on nutritional toxicology of potential interest to researchers in biomedicine and public health, but generally excludes works primarily intended for agricultural or food industry research. The Library collects works on environmental pollution and ecotoxicology if they have biomedical application or public health content, but otherwise does not collect in the area of ecotoxicology.

Special considerations

Technical reports, criteria documents, and standards are important publication types in toxicology. The focus of the NLM collection is on documents of U.S. and global interest.

Urology

Updated: November 9, 2018.

Definition

The branch of medicine concerned with the study, diagnosis, and treatment of diseases of the urinary tract in both sexes, and the genital tract in the male (adapted from [MeSH](#)).

Discussion

Urology includes andrology, the study of male genital diseases and male fertility.

Scope and emphasis

Collected comprehensively.

Veterinary Medicine

Updated: June 23, 2020.

Definition

Veterinary medicine is the science that specializes in the prevention, diagnosis, and treatment of disease or injury in animals.

Discussion

The field of veterinary medicine correlates with broader disease prevention and control, particularly diseases that are transmissible between animals and humans or affecting human welfare ([American Veterinary Medical Association](#)).

Scope and emphasis

The Library's collecting emphasis is on veterinary medicine as it relates to human health, biomedical research, and advances in biomedicine. The Library collects works on comparative medicine and comparative pathology, zoonoses, veterinary pharmacology, veterinary clinical sciences, primatology, and laboratory animal science and welfare.

Because of the Library's interest in research at the cellular, molecular and biochemical level and its potential application to humans and human health, the Library also collects animal research literature in such fields as immunology, microbiology, parasitology and toxicology.

NLM collects major publications that are likely to be widely used in U.S. veterinary practice on the health care of any species including exotic animals. NLM also collects works on veterinary medicine as a health profession and the history of veterinary medicine.

NLM generally excludes works concerned with animal breeding and training, animal husbandry, pets, recreational and show animals, dietary management, production efficiency, or ecology except when these topics expressly relate to human health or laboratory animal science.

Selection Guidelines by Format and Literature Type

The Library's goal is to assemble a collection that insofar as possible contains all significant professional and research literature of biomedical practice, research and scholarship. This effort has resulted in the world's richest collection of scientific and scholarly publications in biomedicine and public health, including works from every region of the world and in virtually every written language.

However, NLM recognizes that it is impossible and impractical to achieve the same level of comprehensiveness in all categories of publications, such as manuscripts, pamphlets and annual reports. Nor is it desirable to assemble comprehensive collections of some categories of materials, such as textbooks or examination review guides. Consequently, the Library collects certain categories selectively, according to guidelines in this section. It is important to note that at NLM, such "selective" collections may be quite extensive, even by research library standards. This designation indicates only that the Library does not intend to acquire every example of the literature.

In most cases, the Library's selective collecting strategy emphasizes the intentional selection of a wide range of influential, representative and distinctive resources in order to illustrate a diversity of philosophical, cultural, and political perspectives from around the world.

In a small number of categories, the Library focuses on collecting works that document U.S. practice and education. Typically, these are educational and working materials such as examination review guides, continuing education publications, and laboratory manuals.

Within some categories, NLM collects selectively in order to avoid redundancy. This is particularly true in the case of works which synthesize information from other sources. Examples include textbooks, directories, and newsletters. Although the Library collects broadly in these areas, there is no intent to acquire every iteration of similar intellectual content.

The question of redundancy has become more of a challenge as content increasingly is available in multiple formats. A single work may be available in print, physical media, and online versions. NLM may select one format over another -- or select multiple formats -- based on considerations such as ability to preserve and archive, and added value due to searchability or multimedia content. The amount of support required by staff to make the resources available must be considered. The decision to collect resources requiring significant amounts of staff time to preserve, including migration to new formats, must be weighed against the current and future scholarly value of the resources.

The following guidelines offer guidance for the selection of many categories of publications. It is not an exhaustive list but includes types of publications most commonly encountered in the scientific, technical, medical and public health bibliography.

Academic Dissertations

Updated: March 9, 2004.

This category includes master's theses, doctoral and post-doctoral dissertations, inauguraldissertationen and habilitationschriften.

Academic dissertations, including theses and postdoctoral dissertations, played an important role in communicating results of original biomedical research before the rise of commercial scientific publishing. The Library's historical collections are rich in dissertation literature, and NLM continues to collect historical dissertations.

Although most present-day Western clinical and scientific dissertation research is reported elsewhere in the scientific literature or provides secondary review of research literature, the dissertation literature remains an important source of original research in some fields, such as the history of medicine, medical anthropology, and paleopathology. Dissertations from less developed countries also are of interest, not only because they report research not documented elsewhere, but also because they may contain unique cultural and regional perspectives. NLM selectively collects modern dissertations, with emphasis on those that contain significant primary research not likely to be reported in other literature held at the Library and those from countries that produce little biomedical literature.

Alumni and Student Publications

Updated: April 5, 2004.

Publications written by and for alumni and students often provide information concerning developments in medical education, trace the development of a school, chronicle its history, and report the accomplishments of its alumni, students and staff. To document the history of education in the health professions, NLM very selectively collects alumni and student publications from a range of U.S. institutions, seeking to represent not only the publications of prominent medical schools but also those of culturally and geographically diverse institutions. Selection criteria include the presence of signed original articles, biographical information, and other material of potential historical value.

Annual Reports

Updated: April 23, 2021.

Organizations publish annual reports to document activities to members or the public, to satisfy organizational or government mandates, to promote orderly progress toward organizational goals, or to enhance public relations. They may provide an illustration of events over time, show the changes and trends in the delivery of health care or reflect the concerns of organizations that help shape the progress of health in the U.S. and abroad. Some reports focus on social, political, or economic issues that contribute to understanding the overall picture of medicine and health. Annual reports can be a useful source for policy makers, historians and scholars.

Annual reports of relevance to biomedicine and health care include those from centers of medical education and research, private foundations providing support for medical research, medical centers and hospitals, health-related societies, disease related associations, and international, federal and state agencies.

NLM selectively collects annual reports to document the history and progress of significant institutions and organizations. The collection emphasis is on annual reports that are issued by international research, development or reporting organizations; national-level research institutes of any country; the department of health of any country; or influential or historically important health organizations in the United States.

The nature and quality of content is the most critical factor in selecting titles for the NLM collection. Collection emphasis is on annual reports that contain significant statistics or research results not reported elsewhere, photographs, biographical and historical information, and unique cultural, political or social information.

Since maintaining a comprehensive collection of annual reports is beyond the reach of NLM, the goal is to achieve a balance which includes reports from important institutions and diverse types of organizations, and to follow these over time. Annual reports from institutions of more regional and local interest should be the responsibility of states or the [Network of the National Library of Medicine](#).

Atlases

Updated: March 9, 2004.

Atlases are works consisting of collections of images, usually with explanatory text or captions. In medicine, atlases usually contain drawings, radiological images, diagrams, or photographs of the body, various health conditions, surgical procedures, etc. They are used for the education of health professionals, and as practical references for clinical diagnosis and treatment. Atlases also document the level of knowledge about anatomy during a historical period, and sometimes reflect the medical philosophy of a culture.

NLM selectively collects medical and anatomical atlases likely to be of interest to U.S. health professionals and to historians of medicine and science. Selection criteria include quality of graphics, current research value, and potential historical importance. For the historical record, atlases produced or translated in non-Western countries are of particular interest, as are any works that document national differences in the portrayal of anatomical subjects. Because of their visual nature, atlases increasingly appear in audiovisual and electronic format; NLM collects according to the guidelines in those sections.

Audiovisual Materials

Updated: July 6, 2018.

This category includes works such as film, video, sound recordings, and projected images, whether produced in analog or digital format.

NLM selects audiovisuals which are important to the research needs of scholars and historians in medicine and public health, as well as selected examples of audiovisual works produced for use by health professionals in continuing medical education, patient instruction, or health education. The collection focuses on works which provide valuable historical insight to health care of the period and those in which audiovisual presentation significantly enhances the communication of the subject matter.

For current research and practice, NLM selectively collects works that document contemporary practices and procedures in medicine, health care, and biomedical research. Emphasis is on works which demonstrate innovative techniques or new medical devices, and those which introduce new health policies and guidelines.

For the historical record, NLM collects materials that provide audiovisual documentation of discoveries in biomedical research; trends in medical and health education; health care issues, viewpoints and controversies; innovations in instruments, equipment and procedures; health facilities (e.g., hospitals, institutions, and laboratories); health personnel in action; and noted persons in medicine and public health. The Library is particularly interested in audiovisual documentation of authentic health care practices, situations or events, and healthcare workers in practice. Examples include surgical demonstrations, actual case studies of communication between patients and health professionals, and oral history interviews with noted health professionals.

NLM selectively acquires lectures, with emphasis on those delivered by noted persons and others in which audiovisual presentation significantly enhances communication of the topic. Lectures sponsored by NLM, other NIH Institutes and Centers, and authoritative societies and institutions are of particular interest.

Conference publications in audiovisual format are selectively acquired when no print counterpart exists. Emphasis is on the conference publications of government agencies and other major national and international organizations, in which the audiovisual presentation significantly enhances the communication of important trends, innovations, or discoveries.

In general, NLM does not select consumer health audiovisuals intended for independent patient use, except for historical purposes. To document the history of public health, the Library selectively collects consumer health videos which are produced by or on behalf of authoritative health organizations and present public health issues of the day, such as those focusing on health disparities or emerging diseases. The Library collects other audiovisuals produced for a broad audience, such as televised documentaries and public service announcements, when they are likely to be of historical interest.

The audiovisual collection emphasizes English language audiovisuals produced in the United States. Audiovisuals in foreign languages and non-U.S. works are collected when they contain unique information (e.g., a public health film targeted specifically to U.S. speakers of a foreign language) or are of historical importance.

NLM generally acquires audiovisual materials produced in currently accepted U.S. formats, although other formats may be considered for the historical collection. When a title is available in more than one format, preference generally is given to an archival format or to the format most readily transferable to an archival format.

Bibliographic Works

Updated: October 5, 2012.

This category includes abstracts, indexes, and national, subject, and personal bibliographies, both recurring and monographic.

NLM attempts to acquire bibliographic works sufficient to provide access to biomedical and public health literature from around the world. The Library bases its selection decisions on criteria such as comprehensiveness, uniqueness, and usefulness for research and scholarship.

NLM generally does not collect subsets or abridgements of bibliographic works. The Library does not collect national bibliographies (except for selected titles required for historical research), as the [Library of Congress](#) takes national responsibility for collecting and preserving such works.

Biographical Works

Updated: March 26, 2003.

This category includes biographies, autobiographies, personal narratives, memoirs, and published oral history transcripts.

Biographical works generally are written for a broad audience and are important chronicles of the course of biomedicine. First hand accounts, such as autobiographies and personal narratives, may be especially valuable as primary source materials.

NLM collects medical histories of famous persons and biographical works about individuals who have contributed significantly to biomedicine.

NLM selects other biographical works about prominent or lesser known individuals if they characterize the health care environment, practice or attitudes of a given time or place; influence public perceptions about health; document medical innovations; or contain significant biomedical information.

Personal narratives (such as an account of an illness written by a patient or family member) generally are not collected, except for historical interest.

Catalogs

Updated: March 1, 2004.

This category includes sales and trade catalogs, academic catalogs, and exhibit catalogs.

Sales and trade catalogs present descriptions, prices, and intended uses of medical equipment, drugs, preparations and devices. NLM collects examples of these catalogs for historical purposes.

Catalogs of academic health science institutions provide a record of the development of those institutions, and changes in health science curricula. NLM collects representative examples of catalogs from a range of academic health science institutions - the prominent and influential, as well as some lesser known but culturally unique institutions.

NLM also collects catalogs of biomedical exhibits from any country, with emphasis upon works that provide valuable illustrative and descriptive material.

Collected Works

Updated: September 30, 2004.

NLM selects collected works when the original works are not in the collection, when the compilation contains additional information or commentary, or when presentation of the material as a unit is of value for scholarship.

Conference Publications

Updated: August 25, 2004.

NLM strives to assemble a comprehensive collection of the proceedings of significant national and international biomedical and public health conferences, congresses and symposia.

Conference programs containing abstracts may also be collected if the abstracts do not appear in the journal literature or if publication of complete conference proceedings is not anticipated.

Conference programs are collected only if they are of historical interest, or if they document important research not otherwise represented in the traditional scholarly literature.

NLM collects the proceedings of other meetings, such as local and regional workshops, as well as single lectures not issued as part of proceedings, when they are likely to be of widespread contemporary interest to scholars and health professionals, provide a unique cultural perspective, and/or are likely to have historical importance.

Consumer Health

Updated: July 6, 2018.

This category includes materials designed for direct use by consumers, as well as those intended to be used by health professionals to educate patients.

Dissemination of consumer education information is an important strategy in the practice of public health and preventive medicine. NLM has taken an increasingly prominent role in the dissemination of consumer health information by the creation of online resources such as [MedlinePlus](#). MedlinePlus is designed to provide consumers with immediate access to authoritative information that helps them to research health-related questions and increase their understanding of health topics.

NLM selectively acquires consumer health publications for its collection, with emphasis on works likely to be of historical value, i.e., those that influence perceptions about health or health behaviors, chronicle changing viewpoints about health and illness, or provide perspectives not found in conventional medical literature. NLM also selectively acquires instructional materials produced for use by health providers in patient care, with emphasis on authoritative U.S. materials.

The NLM collecting mission complements that of the Library of Congress, which supports public and state library services for consumers (such as the management of the [National Library Service for the Blind and Physically Handicapped](#)), and accordingly assumes principal responsibility for the collection, cataloging and archiving of consumer health publications for the nation.

Continuing Education Publications

Updated: April 1, 2004.

Continuing education materials provide evidence of the content, instructional techniques and educational philosophies found in formal education for the health professions. These materials typically contain information collected from other sources and reorganized into forms suitable for instructional purposes. NLM collects this category very selectively, primarily for historical purposes. Continuing education materials that describe new concepts, demonstrate new techniques, or document contemporary concerns of the U.S. health professional are of particular collecting interest.

Datasets

Updated: September 10, 2021.

This category includes structured collections of related digital files.

The Library produces, makes available, and serves as a permanent repository of datasets such as [GenBank](#), the [Visible Human](#), the [Unified Medical Language System \(UMLS\)](#), and many other resources created or maintained by the [NLM National Center for Biotechnology Information](#), [Lister Hill National Center for Biomedical Communications](#), and the [National Information Center on Health Services Research and Health Care Technology](#).

NLM also may acquire selected datasets that are germane to research initiatives at the Library.

The [NLM Strategic Plan 2017-2027](#) noted that "[c]reating efficient ways to link the literature with associated datasets enables knowledge generation and discovery." To this end, PubMed Central (PMC) and Bookshelf contain datasets that are published as supplemental materials or otherwise linked to full-text articles. Additionally, PMC, Bookshelf, and PubMed records may include data links to datasets held in other repositories. These data links may be to records in other NLM databases (e.g., GenBank) or external data repositories (e.g., figshare, Dryad). NIH-funded authors may also deposit datasets to PMC via the NIH Manuscript Submission (NIHMS) system with a peer-reviewed author manuscript.

Since many datasets of potential use to biomedical researchers and health professionals are archived by institutional repositories, such as government agencies and major research institutions, NLM may provide access to this data, as noted above.

Developing Countries Publications

Updated: April 22, 2004.

In some countries, publishing is characterized by an unorganized book trade, volatility in publishing patterns, limited press runs, poor quality paper, and inadequate support for scientific research. NLM recognizes that it has a unique role to play in the collection of biomedical and public health literature from countries with limited resources, as few other Western research libraries collect such publications. To ensure the documentation of scientific activity and public health issues from these countries, the Library may select works that might otherwise be excluded (such as works with unique but nominal health content, introductory textbooks, miscellaneous government publications, and ephemera).

Dictionaries and Encyclopedias

Updated: February 19, 2004.

NLM collects subject-relevant dictionaries and glossaries of terms, names, subjects, phrases, abbreviations, acronyms and symbols in all languages.

Bilingual and polyglot reference tools are collected more selectively, with emphasis on those containing English terminology or otherwise of value to U.S. researchers (for example, a dictionary that contains medical terminology from a less widely read language to a more commonly read language).

NLM collects encyclopedias that support biomedical and health research and scholarship. The collection emphasizes English language works, but other languages are selected if they are of scholarly importance.

NLM very selectively collects examples of medical dictionaries and encyclopedias written for U.S. consumers to document the dissemination of public health information. Collecting emphasis is on works edited by leading experts or endorsed by major professional organizations.

Digital Images

Updated: July 6, 2018.

The Library maintains several collections of digital images.

The [Visible Human Project](#) has produced high resolution cryosectional color images (cross-sections or slices) of human anatomy. The [Lister Hill National Center for Biomedical Communications](#) has created a database for this image dataset as well as for 3D rendered images of anatomic objects created from cryosectional images.

[Images from the History of Medicine \(IHM\)](#), the National Library of Medicine's database of almost 72,000 historical images, documents social and historical aspects of medicine from the Middle Ages to the present. Pictures in the database come from the Library's collection of caricatures, photographs, fine prints, ephemera and portraits and from illustrations drawn from books and journals held by NLM. IHM covers a large range of medically related topics, past and present, from medieval astrology to nineteenth century slum conditions, from the international fight against drug abuse to AIDS. The strength of the collection lies in the earlier periods, although it does contain twentieth century images, most dating from before World War II. IHM generally is not a source of modern clinical images.

Other collections of images include [Profiles in Science](#), digitized archival collections of leaders in biomedical research and public health; and [Historical Anatomies on the Web](#), which provides access to digitized images from important anatomical atlases in the Library's collection.

For modern clinical images from the open source literature, NLM has developed an experimental multimedia search engine, [Open-i](#).

Directories

Updated: July 6, 2018.

This category includes lists of persons, places, organizations, government agencies, health facilities, laboratories and research institutes, corporations, products, services, and educational programs.

Directories are useful as current reference tools and may also be of historical interest, especially those that provide information regarding an organization's history and influence on biomedicine and public health, include biographical information and photographs, contain details about the structure and governance of significant institutions, or capture trends in health services, education, marketing, or manufacturing. Chronological runs of directories are especially important for historical research.

Collecting emphasis is on U.S. national, U.S. state, international and foreign national directories of physicians and hospitals, and on U.S. national and international directories of other health professionals, health associations, research facilities, corporations, products, services, and programs.

A primary selection criterion is the inclusion of details beyond contact information. Membership rosters without biographical information generally are not collected.

Drafts

Updated: April 1, 2004.

A draft is a preliminary version of a written work, often written for comment, approval or clearance by others. NLM generally does not add drafts to the General Collection. Exceptions are drafts of significant content for which the publication of a final version is not assured (e.g., those from developing countries) and those that have historical importance.

Electronic Resources

Updated: February 19, 2019.

In cooperation with other U.S. and international institutions with archival missions, NLM endeavors to ensure permanent public access to scholarly and professional electronic works in the fields of biomedicine and health care.

When considering electronic resources for selection, the Library's intent is to apply the same criteria for scope, depth of coverage, and authoritativeness as for publications in other formats.

NLM databases

NLM creates, or collects and makes permanently accessible, an expanding body of electronic and digital works, such as:

- journal literature deposited in [PubMed Central](#);
- books and technical reports deposited in the [Bookshelf](#);
- digital collections which originally were issued in print or issued as born digital and reside in the [NLM Digital Collections](#) repository; and

the Library's own electronic publishing output, including its many other databases, publications, news items, and other works considered to be part of the NLM archives.

Access to electronic content

NLM also provides access to published electronic content. If content is licensed, the terms must allow efficient support of NLM operations, onsite services, and [interlibrary loan](#).

An electronic resource must provide at least one of the following means of institutional access:

- 1 access to full text with no requirement for user registration; or
- 2 licensed institutional access, including IP authentication and compliance with interlibrary loan provisions and other NLM requirements.

For licensed content, NLM requires post-cancellation access, meaning continued access to all years for any subscribed content, in the event the Library cancels a title. Access may be at the publisher web site, or third party trusted archive or collaborative archiving organization, as defined under the next section on preservation.

Preservation

Given the current licensing and publishing environment, and the evolution of digital preservation techniques, the Library continues to develop strategies for ensuring permanent access to content that is selected for the NLM collection and published in electronic format.

In addition to NLM managed repositories and databases for preservation, NLM collaborates with third-party trusted organizations and repositories to preserve electronic content. A trusted repository is a library, archive, government agency, or educational institution which has made a commitment to archiving electronic resources and maintaining a reputation for technical capability and institutional stability which provides assurance that it will be able to fulfill its commitment. NLM considers repositories which have been certified by the [Center for Research Libraries Certification Advisory Panel](#) to be trusted digital repositories.

Electronic resources on physical media

NLM selectively collects electronic works issued on physical media. Collection emphasis is on works which are valuable for research and which contain unique information, or information which is significantly enhanced by electronic presentation.

NLM collects instructional works on physical media highly selectively, emphasizing those that illustrate contemporary instructional techniques, such as simulations, decision making models, or computer graphics.

The Library selects works which exhibit good technical quality and which are produced in currently acceptable formats. NLM generally does not collect electronic media that require additional proprietary software, or software designed to be modified by the user.

Ephemera

Updated: April 5, 2004.

Materials designed for short term use are considered ephemera. They vary greatly in size (from broadsides to patent medicine cards), sophistication (from finely designed posters to comic book illustrations), and format (from pamphlets to matchbooks).

Ephemeral materials provide a glimpse into the everyday life of a certain time period. By capturing information not available in the formal written record, ephemera allow the scholar to reconstruct the past with a precision of detail not otherwise possible. Medical ephemera may deal with conventional medicine or alternative medicine. Examples of both are desirable in the collection.

NLM collects selected examples of ephemera of particular interest such as posters, pamphlets and fact sheets. Other types of ephemera are collected more selectively based on their relevance to health care and historical value.

Examination Review Guides

Updated: April 1, 2004.

This category includes publications that assist students preparing for entrance, board certification, recertification, or licensing examinations.

Examination review guides provide information concerning generally recognized standards, requirements and prerequisites for formal education and licensure in the health professions, and hence may be valuable for historical research as well as current use. However, since this category is characterized by a high volume of publishing and many competing, redundant titles, the Library does not intend to maintain a comprehensive collection. NLM selectively collects examples of guides to U.S. examinations, with emphasis on widely disseminated titles that have substantive content and that are produced by major U.S. medical publishers or recognized professional organizations. The Library also collects guides for disciplines for which the majority of publishing is in this format (e.g., allied health professions). NLM generally does not collect foreign examination review guides or guides that assist students to prepare for examinations based upon specific textbooks.

Fact Sheets

Updated: March 1, 2004.

Fact sheets provide health information in an economical, easily distributed form. NLM may collect compilations of fact sheets issued by influential agencies or societies, or of potential interest to historians. The Library generally does not collect individual fact sheets for the General Collection.

Fiction and Poetry

Updated: March 1, 2004.

The Library of Congress takes national collecting and preservation responsibility for literature; therefore, NLM does not maintain a research collection of fiction or poetry.

The Library's collection does include selected literary works of historical value. Since there is such a large volume of literary works with medical themes, and since it rarely is possible to ascertain at the time of publication whether a new title will be of historical interest, the Library identifies and selects such works retrospectively. In addition, the modern collection includes examples of anthologies of fiction and poetry used in U.S. professional health education, and selected humorous and satirical works. The Library has a significant collection of scholarly works about medicine and literature, in areas such as the history of medicine in literature, psychoanalytic interpretations of literature, and bibliographic works on the subject.

Government Publications

Updated: October 5, 2012.

Government agencies are a significant source of information about public health policy, health economics, epidemiology, statistics, standards, guidelines, and other topics important to the Library's collecting mission. NLM collects government publications as follows:

U.S. Executive Branch: NLM collects U.S. federal agency documents and reports issued by the executive branch pertaining to health care and health issues, with particular emphasis on the documents produced by the health agencies within the [U.S. Department of Health and Human Services](#).

U.S. Legislative Branch: NLM generally does not collect [Congressional legislative documents](#), as the Library of Congress takes collection responsibility for such publications.

U.S. Judicial Branch: NLM generally does not collect the publications of the [Judicial Branch](#), as the Library of Congress collects these documents comprehensively.

U.S. State and local: Since the Library of Congress acquires a comprehensive collection of publications issued by state and inter-state offices and agencies, with the exception of works in the field of clinical medicine and technical agriculture, the National Library of Medicine generally restricts its collecting effort to compilations of state vital and health statistics, works on health care for epidemiologically important populations, reports on health policy issues of broad national interest, and compendia of health policies and regulations.

International: NLM collects the substantive publications of international non-governmental health organizations, such as the [World Health Organization](#) and the [Pan American Health Organization](#). NLM may collect important compendia of health laws and regulations and major health policy reports from other countries when they are likely to be of interest to U.S. health professionals or to scholars generally.

The Library participates in the [Federal Depository Library Program](#) as a selective depository library.

Grey Literature

Updated: July 14, 2004.

Grey literature is "that which is produced on all levels of government, academics, business and industry in print and electronic formats, but which is not controlled by commercial publishers," according to the Luxembourg Convention.

This category includes reports, memoranda, conference proceedings, standards, technical documentation, and government documents.

NLM recognizes the impossibility of collecting all of the grey literature with potential relevance to health. The Library's collecting intent is to collect a wide range of works representing diverse cultural and political perspectives. The collecting effort is particularly strong in health services research, health policy and economics, toxicology, and public health. Emphasis is on the publications of major national and international associations, institutes, and agencies. Publications of other organizations (such as regional, state and local associations) are collected more selectively, with emphasis on publications of broad interest to U.S. health professionals, those representing unique viewpoints, and others likely to be of historical interest.

Handbooks and Manuals

Updated: March 2, 2004.

Handbooks and manuals that summarize and document procedures and standard practices are important not only for current clinical practice, but also for historical documentation of the practice of medicine and delivery of health care of an era. The Library collects handbooks and manuals likely to be of interest to U.S. health professionals. Much of the literature is targeted to practitioners and is purely of local interest. Hence the Library generally collects only those international resources likely to be of historical interest, for example, those that depict culturally or geographically diverse practices and procedures.

Humorous and Satirical Works

Updated: February 1, 2004.

Humorous and satirical works, including caricatures, provide unique insight into controversies and opinions in health care, depict health care professionals as seen through the eyes of their contemporaries, and illuminate the political and social setting of health care and the health professions.

NLM collects these works selectively with emphasis on those that deal with historically important issues, events and personalities, or that address topics of current concern to U.S. health professionals.

Journals

Updated: December 10, 2019.

The American Library Association Glossary of Library and Information Science (2013) defines journal as "a periodical, especially one containing scholarly articles and/or disseminating current information on research and development in a particular subject."

NLM uses the following guidelines to determine whether a publication is a journal eligible for the collection:

- Publication must have an ISSN;
- Publication content is issued over time under a common title;
- Publication is a collection of articles by different authors;
- Publication is intended to be published indefinitely; and
- Publication shows evidence of a regular publication schedule.

In addition, structure, such as presence of volumes, issues, and citable pagination or unique article identifiers, is taken into consideration.

Journal Type and Scope Considerations

The Library's objective is to support important discoveries in health, medicine and the life sciences by assembling a comprehensive collection of the world's most significant research journals, in all subjects collected by NLM and without regard to country of origin or language of publication. Therefore, NLM's first collecting priority is the original research journal, containing papers by credentialed researchers who possess expertise in the subject which they investigate.

NLM also collects a variety of other types of journals with an emphasis on those of interest to U.S. health professionals, though NLM selectively collects journals from other countries to document diverse approaches. These types include:

- Clinical practice journals, which describe practical approaches, tools and techniques for practitioners.
- Review journals, which consist of substantive summaries and analysis of recent research in a field.
- Clinical case reports, which describe a patient's medical symptoms, diagnosis and treatment for scientific or educational purposes. To be considered for the collection, reports should include substantial discussion about relevance to clinical practice and research. Journals that cover clinical and surgical procedures should provide a detailed explanation of the procedure and its impact on patient care.
- Data journals, which provide descriptions of biomedical research datasets, including genome sequences. These journals should detail the methods used to create or collect the data, describe validation of the data and facilitate the sharing and reuse of the data by other researchers. Datasets should be in publicly accessible repositories and fully referenced in the articles.

NLM collects more selectively:

- "Current awareness" periodicals, which provide cursory summaries of a topic.
- Journals whose aims and scope are local, regional, or institutional in nature. Such journals may have local significance, but usually do not have broader applicability to the international research or clinical community. NLM may select a local, regional, or institutional journal that contributes noteworthy, specialized scientific knowledge.

Generally, NLM does not collect periodicals that duplicate journal literature already in the collection.

When selecting scholarly and scientific journals, NLM expects, as a benchmark, at least 20% of the articles to be "in scope" - i.e., to fall within the subject collection parameters outlined in the Collection Development Guidelines. The Library may make exceptions to this rule to ensure that the collection provides sufficient

geographic heterogeneity. For example, NLM may select basic science or social science journals from developing countries, which often have little or no medical publishing per se.

Additional Considerations

To be considered for the collection, a journal should demonstrate:

- good editorial quality;
- evidence of scientific rigor;
- elements that contribute to the objectivity, credibility, and scientific quality of its content, such as transparent information about
 - the methods for selecting articles,
 - the peer review process,
 - author and editor conflicts of interest, and
 - ethical policies, as well as article-level statements indicating adherence to these policies;
- editorial independence from the sponsor when commercial funding is received; and
- diversity in the authorship of articles including a low proportion of articles authored by editors and editorial board members. Exceptions may be made for more unique fields of study.

NLM expects journals to demonstrate conformance with established industry guidelines and best practices promoted by professional scholarly publishing organizations such as:

- [Committee on Publication Ethics \(COPE\)](#)
 - [Principles of Transparency and Best Practice in Scholarly Publishing](#) (joint statement by COPE, DOAJ, WAME, and OASPA)
- [International Committee of Medical Journal Editors \(ICMJE\)](#)
 - [Recommendations for the Conduct, Reporting, Editing, and Publication of Scholarly Work in Medical Journals](#)
- [Council of Science Editors \(CSE\)](#)
- [National Information Standards Organization \(NISO\)](#)
 - [Recommended Practices for the Presentation and Identification of E-Journals \(PIE-J\)](#)

NLM also considers the publisher's and/or sponsoring organization's longevity, business practices, corporate structure, and record of performance regarding such issues as:

- quality of publications,
- experience in scholarly publishing,
- involvement with the scientific community,
- disclosure of and adherence to print and online publication standards, and
- promotion of editorial integrity and independence.

Selection of journals for specific NLM resources are dependent on the above, but may have other resource-level considerations, as outlined on their respective pages:

- [Fact Sheet: MEDLINE Journal Selection](#)
- [Journal Selection for PMC](#)

Juvenile Literature

Updated: April 5, 2004.

The Library generally does not collect literature intended for children or young adults. The collection contains some examples of educational materials written for children or young adults, typically selected for the historical documentation of notable public health campaigns.

The Library of Congress has an extensive collection of juvenile literature.

Laboratory Manuals

Updated: March 26, 2003.

Laboratory manuals contain descriptions of standard laboratory procedures, current techniques and safety measures, as well as formulae and other technical information. NLM selectively collects laboratory manuals, with emphasis on those which are widely disseminated in the United States, i.e., those issued by major U.S. and international scientific publishers and agencies.

Limited Distribution Materials

Updated: April 5, 2004.

NLM collects publications designated for limited distribution and proprietary use only when they are available to the Library without restrictions on access.

Looseleaf Service Publications

Updated: March 2, 2004.

Looseleaf subscription services are generally designed to be updated by means of interfiled or replacement pages. They typically provide information compiled from other sources. NLM collects looseleaf services only when they compile information not readily accessible or available in other formats.

Manuscripts

Updated: July 27, 2004.

Manuscripts are important to the scholarly biomedical record as primary source materials.

NLM divides its manuscript collections into early Western (pre-1601) manuscripts, Oriental (primarily Arabic and Persian) manuscripts, and modern manuscripts. Early Western and Oriental manuscripts are collected selectively, taking into account their historical significance, their value for scholarship, and the price of the work.

Modern manuscripts are collected selectively with an emphasis on U.S. medicine, public health, and health care advocacy. Manuscripts and collections of papers written by or about individuals who have contributed significantly to the health sciences, and those that contain other information important to the history of medicine receive priority. Materials selected for the modern manuscript collection include unique handwritten or typed documents and papers, associated printed or near print materials, and oral history transcripts and tapes. Areas of special collecting interest include: molecular biology and cellular regulation; surgery, transplantation, and artificial organs; biotechnology; fraud and quackery; human psychosocial development, especially child development; medical informatics; international and global health; health services research; marginalized groups in health and medicine; and the history of medicine.

For more information and guides to the manuscript collections, see the [NLM Archives and Modern Manuscripts Program](#) Web site.

Market Research Reports

Updated: March 26, 2003.

Market research reports assess the likely demand for a product or a service, describe potential commercial opportunities and barriers, recommend marketing strategies, and provide competitive business intelligence information. Although NLM does not maintain a research collection of such works, the General Collection includes examples of market research reports, collected primarily for potential historical value, rather than for current reference.

Monographs

Updated: August 26, 2004.

Within the subject parameters of these guidelines, NLM strives to assemble an exhaustive collection of significant published monographic works that contain original thought or research and that potentially are of international interest, regardless of language or country of origin. The Library also maintains an extensive collection of other monographic works that support U.S. clinical practice and education of U.S. health professionals; and those that uniquely characterize the medical thought and practice of a particular country, culture, or movement. In some disciplines, such as the history of medicine, bioethics, medical humanities and many interdisciplinary fields, the monograph is especially important as a vehicle of scholarly communication, and NLM accordingly collects monographic works at the highest level of intensity. In the basic sciences, which place greater emphasis on the scientific journal as the primary means of communication, the Library's monographic collection is very extensive, with collecting emphasis on works of research and educational value to U.S. health professionals and biomedical researchers. The Library of Congress maintains a comprehensive collection of monographic literature in science and technology, excluding clinical medicine.

Newsletters and Newspapers

Updated: March 10, 2004.

Newsletters and newspapers may represent a unique historical chronicle of health related issues. They often contain the most current information on health topics, research and policy. Newsletters may focus on emerging areas of research or health care before such fields are adequately represented in the primary journal literature.

NLM collects selected newsletters with an emphasis on those issued by major U.S. and international professional health organizations. Of particular collecting interest are those that focus on contemporary health issues and concerns, represent emerging health areas, or document health outreach efforts to populations at risk. NLM collects newsletters with original content or commentary rather than those that contain digests of articles reprinted or abridged from other publications. Newsletters that represent non-traditional treatment philosophies or specific health issues of topical interest to scholars or U.S. health professionals are collected selectively.

Foreign newsletters are collected very selectively with an emphasis on those published by major organizations on topics of particular concern to U.S. health professionals.

Medical newspapers written for a national audience are collected if they contain substantive health related information that is probably not duplicated elsewhere or are published in a country for which little medical information is available.

In collecting newsletters and newspapers, NLM takes into account the availability of comparable information in the journal literature.

Pamphlets

Updated: February 1, 2004.

Pamphlets are short, unbound, printed works which generally deal with subjects of current interest. They are an efficient means for the distribution of health care standards, guidelines, and capsule summaries of a biomedical topic. Pamphlets are also an effective medium for public health outreach, patient instruction, consumer health information, and commercial advertising literature.

NLM collects representative examples of the pamphlet literature to provide a balanced collection of typical, influential, authoritative and unique items dealing with health issues of particular interest. Collecting emphasis is on publications of U.S. national health organizations, health agencies, and authoritative or widely influential institutions. Examples of pamphlets produced by influential international health organizations and those that present unique health care strategies and concerns also are selected. Other items that present health outreach efforts, conflicting opinion, and alternative practice are also of collecting interest.

Patents

Updated: February 1, 2004.

NLM does not collect patents, which fall under the responsibility of the [U.S. Patent and Trademark Office](#).

Pharmacopoeias and Formularies

Updated: December 4, 2003.

Pharmacopoeias are authoritative treatises on drugs and preparations, their description, formulation, analytic composition, physical constants, main chemical properties used in identification, standards for strength, purity, and dosage, chemical tests for determining identity and purity, etc. They are usually published under governmental jurisdiction. They differ from formularies in that they are far more complete; formularies simply list drugs or collections of formulas for the compounding of medicinal preparations. However, sometimes the terms "pharmacopoeia" and "formulary" are used interchangeably.

In addition to serving as current reference sources, pharmacopoeias and formularies provide an historical record of pharmacy practice, drug use, and drug availability.

NLM collects the national pharmacopoeias of the world insofar as possible. Other formularies are more selectively acquired, with emphasis on those likely to be of historical interest. Hospital formularies, which list all drugs commonly stocked in a hospital pharmacy, generally are not collected.

Popular Literature

Updated: June 21, 2004.

Popular health literature is aimed at a wide audience and does not presuppose subject expertise on the part of the reader. Popular literature typically is written by journalists or science writers, but sometimes also by scientists, medical experts, or scholars in non-medical fields. In addition to works that explain scientific and health issues to general readers, popular literature includes genres such as investigative journalism, essays, personal narratives, and polemical works. Popular literature has research value for historians, medical sociologists and medical anthropologists, since it may influence health behaviors and viewpoints, and capture dissenting viewpoints not found in scientific, technical and medical publications. The Library collects popular literature highly selectively, with emphasis on works noted for their impact on individual behavior or public policy, publications written by noted experts, or those with content or perspective not found elsewhere in the literature.

Posters

Updated: September 30, 2004.

Posters are designed to be displayed publicly to communicate a message or to advertise a product or service. Posters provide historically valuable visual evidence of developments in health care, public health outreach campaigns, and official responses to health crises.

NLM collects representative examples of historical and contemporary posters. Of particular collecting interest are posters concerning the spread of infectious diseases (e.g., tuberculosis, AIDS, measles), smoking, alcohol and other substance abuse, preventive medicine, maternal and child health, and occupational health. Posters of any origin and language are selected. Collecting emphasis is on posters issued by professional health associations, and medical or public health organizations.

Practice Management Tools

Updated: July 12, 2004.

This category includes practical business aids and systems intended to assist health care providers with financial management, file management, marketing, and human resource management.

These materials are supplementary to the general professional practice management journal and monograph literature that is collected by NLM. They are often issued in looseleaf, unbound, electronic, or audiovisual format. Typically, they are only useful when integrated into a hospital or office setting. NLM selectively acquires practice management tools if they are of general interest to U.S. health professionals, contain information not captured elsewhere in the literature, and are issued in a format appropriate for a library collection. NLM also collects materials that assist practitioners with the application of classification and coding systems. Collection emphasis is on publications of major U.S. professional associations and trade publishers.

Prints and Photographs

Updated: September 30, 2004.

Prints and photographs document visually the history and development of medicine from early times to recent decades. The NLM collection includes fine prints, historical and contemporary photographic processes, posters, and ephemera such as patent medicine trade cards. Collecting emphasis is on works that depict health personnel at work; portraits of health professionals and biomedical scientists who have contributed to the development of medicine; images of health institutions such as hospitals and medical schools; fine prints with medically related themes; and public health posters. International images and images of marginalized groups are actively sought. Images reproduced from existing works are also selectively added to the prints and photographs collection.

Reprints and Facsimiles

Updated: December 4, 2003.

A reprint may refer to a new printing of an item made from the original type image, commonly by photographic methods, or to a new edition with substantially unchanged text. A facsimile reproduction simulates the physical appearance of the original in addition to reproducing its content exactly. Reprints and facsimiles are collected when they provide useful information such as a commentary or bibliography which did not appear in previous printings, when NLM lacks the original, when the original copy in the collection is in poor condition or was issued on alkaline paper, or when they represent important scholarly initiatives or are historically significant in some way.

Self-Published or Independently Sponsored Works

Updated: April 8, 2019.

The American Library Association Glossary of Library and Information Science (2013) defines private or self-publishing as publishing “by a person or firm who assumes the expense of having a book or other document manufactured and the responsibility for distributing it by public sale in order to ensure its issue and/or to oversee the quality of its production.” Related terms include independent publishing and vanity publishing.

Self-published or independently sponsored works are those where the author and/or an organization assume responsibility for all aspects of publication and distribution.

NLM very selectively collects self-published works that meet one or more of the following criteria:

- Works from notable authors, societies, universities, or research institutions.
- Works endorsed by a reputable professional health care organization with a record of scientific achievement.
- Memoirs with unique historical or thematic value, such as experiences delivering war zone medical treatment, or first-hand accounts of health epidemics.
- Works written by authors or organizations that have at least one traditional commercially published work, or those that have attracted significant readership.
- Works by authors who convey unique, in-depth knowledge of medicine in a specific geographic area.
- Narratives with a unique perspective on health care thought and practice in the 21st century.

Independently sponsored content should have a clearly stated peer review process, transparent editorial practices and policies, and demonstrate features that contribute to the objectivity, credibility, and quality of its contents.

Standards and Guidelines

Updated: February 1, 2004.

Institutions, associations, and government agencies issue health related standards and guidelines which are widely used and recognized in the U.S. Standards are authoritative statements that articulate minimal, acceptable or excellent levels of performance or that describe expected outcomes in health care delivery, biomedical research and development, health care technology, or professional health care. Guidelines are statements of principles or procedures that assist professionals in ensuring quality in such areas as clinical practice, biomedical research, and health services. Practice guidelines assist the health care practitioner with patient care decisions about appropriate diagnostic, therapeutic, or other clinical procedures for specific clinical circumstances.

NLM collects comprehensively the following types of standards and guidelines:

- Practice guidelines
- Official U.S. national standards in health care technology, biomedical research and development, and health care
- Standards of conduct and professional competence for U.S. health care professionals
- Standards and guidelines issued by the World Health Organization

Other influential or widely recognized standards and guidelines also are collected.

Statistical Works

Updated: April 19, 2004.

This category includes works that tabulate and summarize data.

NLM collects significant statistical works in all areas of health and biomedicine. Of particular interest are works that report vital statistics, disease incidence, health status indicators, health outcomes, and factors that have a direct impact on health and medical research. Emphasis is on cumulated works that are national or international in scope, cumulations of U.S. state health and vital statistics, statistical works that describe populations of special epidemiological interest, and statistical works from any jurisdiction that include substantial scholarly interpretation and analysis.

Technical Reports

Updated: October 5, 2012.

Technical reports detail the progress or results of scientific, technical, or policy research. Typically, technical reports are produced in response to a relatively narrow research need, and serve as a report of accountability to the sponsoring organization. They generally are not peer reviewed, but often document detailed methodology and data information in order to facilitate review of research by others. Technical reports play a unique role in scientific communication, in that they sometimes are the only source of information on a specific topic, and often report on unsuccessful research results. Technical reports generally are not commercially published, but are issued using techniques that permit rapid, inexpensive, and limited distribution methods. Long-range archiving of these materials generally is accomplished through microformat, and, increasingly, electronic publishing.

Although it is not feasible for the Library to maintain a comprehensive collection of technical reports, the collection does include a great volume of technical report literature. NLM is particularly interested in acquiring technical reports that provide information in emerging fields. Collecting emphasis is on reports published by U.S. federal agencies and eminent international research organizations. NLM also collects less widely disseminated technical reports (e.g., from developing countries) when such reports document scientific activity of international interest, or describe findings unique to the country or culture of origin.

The Library of Congress maintains an extensive collection of [technical reports in the sciences and engineering](#), but generally excludes clinical medicine.

Tests

Updated: March 2, 2004.

NLM generally does not collect individual tests which measure, diagnose, or evaluate psychological or physical processes or status. The NLM collection includes an extensive collection of literature about tests and testing.

Textbooks

Updated: March 2, 2004.

Textbooks primarily are intended for the instruction of students, but they also may document the history of education for the health professions or chronicle societal viewpoints toward health. Advanced, widely recognized textbooks summarize the state of knowledge in a single field and serve as generally accepted reference tools in many disciplines.

Although NLM does not collect this category comprehensively, the Library does have an extensive collection of the principal textbooks produced for use in the education of U.S. health professionals. The collection is especially rich in advanced textbooks notable for their comprehensiveness, authority, and presentation, but the Library also collects less advanced works (such as those for allied health education, or other areas for which textbooks represent the bulk of publishing in the field), selected non-U.S. works that contain information unique to a country or culture, and others likely to have historical value.

The Library generally does not collect accompanying ancillary material, such as study guides, instructors' manuals, and workbooks, even when the main text has been selected.

Translations

Updated: March 26, 2003.

NLM collects works in the original language, and also acquires translations from foreign languages into English.

Translations from one foreign language into another, or from English into another language, are rarely acquired. They may be selected if they have important scholarly apparatus such as extensive commentary, represent a significant work that the Library does not possess in its original language; are the only known medical work available in that language; or are translated from a language that is not well known in the United States to a language that is clearly better known (e.g., Vietnamese to French) provided that no English translation is available.

When works are issued simultaneously in several languages, NLM generally collects the English version only. There are exceptions. For example, the Library occasionally collects examples of works intended for international public health outreach in several languages, especially languages where few medical works appear (e.g., Pashto).

Web Content

Updated: February 1, 2016.

Web sites, blogs, social media and other web content are born digital materials that play an increasingly important role in documenting the scholarly biomedical record and illustrating a diversity of philosophical and cultural perspectives in health and medicine. NLM selectively aggregates and maintains for permanent access web content that:

- Records challenges and progress in research in biomedicine,
- Documents the practice and teaching of medicine,
- Demonstrates how health services are organized, delivered and financed,
- Chronicles the development and implementation of policy that affects health services,
- Illustrates the public perception of medical practice and public health, and
- Contributes to the understanding and impact of global health events.

NLM's web collecting and archiving are primarily collection-based activities. Multiple web sites are collected as part of a broader theme, event or topic. NLM gives highest priority to content that is at-risk of loss or that is believed to be of vital interest to current and future NLM audiences and unlikely to be preserved elsewhere. The Library's goal is to collect and preserve selected web content at a particular point in time (i.e., snapshots) or over a period of time (e.g., daily, monthly, quarterly, etc.).

NLM collaborates with other organizations and libraries to collect and preserve web content which crosses collecting boundaries.

NLM engages in several types of collecting, including:

Event-based

In response to a health crisis, such as a deadly epidemic, NLM selects web sites and social media documenting the government and non-government responses; early responders; news; perspectives of those experiencing the disaster first-hand as patients, victims or caregivers; and/or political debates surrounding the disaster. Content in this type of collection is crawled frequently for a specified period of time.

NLM may collect web content related to events where the NLM Emergency Access Initiative (EAI) is activated. NLM also collects web content related to events where the World Health Organization has declared a Public Health Emergency of International Concern (PHEIC).

Examples of event-based collecting are: "[Avian Influenza A \(H7N9\) Virus](#)" and "[Global Health Events](#)".

NLM uses other triggers for determining whether and for how long to collect content documenting an event, including:

- Dominance in the news media,
- Frequency of new or changing content, and
- Social media tracking.

Thematic

Curated collections around a particular theme or topic are gathered and could complement a major physical exhibition or symposium. Examples of thematic collecting are "[Disorders of the Developing and Aging Brain: Autism and Alzheimer's on the Web](#)" and "[Health and Medicine Blogs](#)".

NLM institutional web archive

NLM periodically captures and archives large portions of its own web domain, including NLM blogs and social media.

Working Papers

Updated: June 20, 2003.

Working papers, discussion papers, and occasional papers report original research in a narrow area of study. They sometimes are used to communicate new approaches or ideas, or to solicit comment from other scholars. NLM selectively acquires working papers, emphasizing notable series in health economics, health services research, and health policy.