COLLECTION DEVELOPMENT MANUAL

OF THE

NATIONAL LIBRARY OF MEDICINE

Third edition
1993

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PREFACE

The *Collection Development Manual of the National Library of Medicine,* third edition (1993), supersedes the 1985 edition.[1] It is the most recent in a series of manuals developed to guide staff in the selection of literature for the NLM collection. Because the collection affects many NLM services, the *Manual* also is designed to explain NLM's collecting practices to its users including the staffs of other health sciences and research libraries.

Establishing reasonable borders for the NLM collection is a difficult task complicated by the increasingly 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 research; and the proliferation of information sources and formats. The Library's goal is to meet the information needs of health science professionals by focusing on the biomedical literature broadly defined.

The *Manual* provides a conceptual and philosophical framework for the selection of biomedical materials. Like its predecessors, it attempts to define the range of subjects to be acquired and the extent of NLM's collecting effort within these subjects. The third edition attempts to clarify and improve selection guidelines in a number of areas and also addresses topics of growing interest to health professionals such as health services research, environmental medicine, health care technology and molecular biology. The importance of a variety of literature and format types is recognized in new or expanded sections covering standards and guidelines, electronic publications and technical reports.

Over the past two years a number of individuals made significant contributions to the production of the new *Manual*. Former Collection Development Officer Daniel T. Richards developed the plan for the revision effort and directed much of the work assisted by former Collection Development Librarian Brenda Whittaker Lucas. An Internal NLM Working Group wrote and edited the *Manual*. Members of that group included: Duane Arenales, Chief, Technical Services Division; Margaret Byrnes, Head, Preservation Section; Judith Eannarino, Head, Selection Unit; Margaret Kaiser, librarian, History of Medicine Division; Carol Krueger, librarian, Serial Records Section; Ms. Lucas and Mr. Richards. The Collection Development Discussion Group, comprised of all NLM selectors, tested the application of the new edition and made many useful suggestions. Minhchau Nguyen provided clerical support.

NLM is indebted to the following consultants and members of the NLM senior staff for their expert advice on the content and format of the *Manual*:

- Faye Abdellah, Ed.D., Deputy Surgeon General and Chief Nurse Officer, U.S. Public Health Service (retired);
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NLM is committed to the continuing evaluation of its selection policies and its collection as part of its overall mission to improve the delivery of biomedical information in support of medicine and health care. The production of this edition of the *Collection Development Manual* is a significant accomplishment, but its real value is dependent on how successfully it reflects and anticipates the information needs of health professionals and how effectively its concepts and guidelines are used and interpreted.

Donald A. B. Lindberg, M.D.
Director, National Library of Medicine

INTRODUCTION

PURPOSE

The *Collection Development Manual of the National Library of Medicine* (NLM) is intended primarily to guide NLM staff in the selection of biomedical materials appropriate for the Library's permanent collection. The document describes NLM's collections and presents NLM's current collecting policies and selection principles. This *Manual* does not present principles for the selection of materials temporarily retained for the use of on-site users; nor is the intent of the *Manual* to describe the full range of information resources, including databases, to which NLM provides access.

NLM has produced written guidelines to assist library staff in the selection of biomedical literature since 1944. Periodic revisions are made to ensure that the selection process continues to reflect the full scope of the biomedical literature.

The structure and emphasis of the present edition has been strongly influenced by the nature of contemporary biomedicine: interdisciplinary trends in research and health care; the increasing focus on the cellular and molecular basis of medicine; the interdependence of research and practice; and the growing influence of social, political and economic issues on medical practice and biomedical research.

The goal of this document is to ensure that today's selection efforts will result in a collection which supports contemporary medical and health care practice and research as well as future scholarship.

COLLECTION DEVELOPMENT POLICY

The National Library of Medicine (NLM) is one of three national libraries in the United States and is the world's largest research library in a single scientific and professional field. NLM's primary mission, as mandated by the Congress, is service to the health professional. To support this mission, the Library comprehensively collects materials in biomedical subjects. NLM holdings include more than 4.9 million items in over 70 languages from virtually every country of the world.

The authority for NLM to determine which materials shall be collected is implicit in the National Library of Medicine Act of 1956, which empowers it to "acquire and preserve books, periodicals, prints, films, recordings and other library materials pertinent to medicine." [2] Building on this mandate, the National Library of Medicine's Board of Regents, an advisory body to the Secretary of Health and Human Services (HHS) on matters affecting the Library, adopted a collecting policy in June 1976. This policy was subsequently updated in 1983 and most recently in October 1992 as follows:

> This *Collection Development Policy* is established for the National Library of Medicine (NLM) pursuant to the authority contained in the National Library of Medicine Act of 1956. (P.L. 84-941).
>
> Since every area of human activity may affect or be affected by the health of the human community, NLM cannot presume to collect all literature that has some relevance, however remote, to health. In its collecting practices, NLM shall concentrate on the biomedical literature without being limited by present perceptions, recognizing that the boundaries of that literature are constantly changing.

The National Library of Medicine has the responsibility for acquiring the biomedical literature in any format deemed appropriate to the fulfillment of its mission.

Coverage of the scholarly biomedical literature shall be comprehensive; coverage of other biomedical literature may be more selective. The intent is to ensure that the collection represents the intellectual content and diversity of the world's biomedical literature. In determining coverage, NLM will take into consideration its role as the national resource for the provision of biomedical literature not otherwise readily available, and as the national bibliographic center for biomedical literature for the health professions.

The healing arts can only be understood in their cultural context; therefore, collection development criteria will be interpreted with flexibility in acquiring literature relating to the history of medicine.

NLM is aware of the acquisitions policies and collection emphases of the Library of Congress and the National Agricultural Library. While a certain amount of duplication of collections among the three national libraries is inevitable, and indeed necessary, NLM recognizes the ultimate interdependence of these libraries, and its collecting policies will reflect this.

Nothing in this policy statement should be construed to require the disposal of any literature previously acquired by NLM that would not be eligible for acquisition under this policy or under any present or future collection development document, nor should this policy statement be construed to limit the acquisition by NLM of literature that may be needed by NLM staff in the fulfillment of their duties, or that may reasonably be provided for the reference convenience of NLM reading room users.

Guidelines for the scope and coverage of acquisitions for the NLM collection shall be detailed for operational purposes in a document to be developed and amended from time to time in a manner to be determined by the Director. A group of senior NLM staff should be designated by the Director for the purpose of meeting regularly to consider the need for changes and to recommend appropriate changes to the Director.

Definitions

Biomedical: pertaining to health care, to the practice of the science and art of medicine broadly conceived, and to those branches of the life sciences which are fundamental to that science and art.

Collect: to acquire for inclusion in the literature holdings of NLM.

Coverage: the extent of NLM's collecting effort within the biomedical subjects.

Health Professions: includes persons engaged in health policy and health services research, the administration of health activities, the provision of health services, or in research, education, or information dissemination concerned with the advancement or history of medicine or with other health related sciences.

Literature: organized information in the form of written, printed, or non-print works, including audiovisual materials, computer files, and other electronic formats.

Scholarly: resulting from professional study or research.

Scope: the range of subjects which NLM collects.

SCOPE OF THE COLLECTION

The Board of Regents statement on scope and coverage directs NLM to concentrate its collecting efforts on the biomedical literature without being limited by present perceptions and recognizing that the boundaries of that literature are constantly changing. As the Nation's premier biomedical information resource for the health professions, NLM seeks to assemble a collection which reflects the dynamic field of biomedicine. Describing the field of biomedicine is therefore equivalent to defining the scope of the collection.

COVERAGE OF THE COLLECTION

NLM's coverage of the biomedical literature is defined primarily by its responsibility to collect materials for individuals engaged in the health professions. The collection of the National Library of Medicine is developed to meet the present and future information needs of six broad professional groups primarily concerned with the science and art of medicine:

* Health care providers;

* Administrators and staff of health care services, organizations and institutions;

* Researchers whose goal is the improvement of patient care, the expansion of biomedical knowledge, or the development of biomedical technology;

* Educators in professional health sciences programs and in health care settings, as well as librarians and information professionals in medicine and the health sciences;

* Scholars, historians and writers concerned with the practice of medicine and health related issues;

* Policy makers, health economists, and health care insurers, as well as corporate entities, including commercial enterprises, foundations, societies, government agencies, and others which have as their focus biomedical research or the provision of health care.

In order to fulfill its mandate to its defined user community, NLM attempts to assemble a comprehensive collection of the research and professional biomedical literature, broadly defined. NLM's concept of comprehensive collecting is compatible with the Comprehensive level defined by the Research Libraries Group (RLG).[3]

> *Comprehensive Level: A collection in which a library endeavors, so far as reasonably possible, to include all significant works of recorded knowledge (publications, manuscripts, other forms) in all applicable languages, for a necessarily defined and limited field. This level of collecting intensity is one that maintains a "special collection"; the aim, if not the achievement, is exhaustiveness. Older material is retained for historical research.*

The scope of the NLM collection, encompassing as it does all of biomedicine, is significantly broader than is generally understood for the "special collection" referred to in the RLG definition.
NLM recognizes that while it is possible to assemble a collection which addresses all topics in biomedicine, it is impossible even for a national library to gather a complete, worldwide collection of all biomedical materials in all formats. The section, "*Special Considerations in Selection*", presents strategies for identifying and selecting particular types of materials in order to allow NLM to approach, insofar as possible, the ideal of a comprehensive collection in biomedicine.

PRESERVATION POLICY

In order to fulfill the mandate to maintain and preserve the biomedical literature, the National Library of Medicine carries out an extensive preservation program. The decision to select a title for the NLM generally also implies a responsibility to preserve the material. The following Preservation Policy was adopted in February 1986 by the Board of Regents:[4]

PRESERVATION OF THE BIOMEDICAL LITERATURE

> In accordance with the terms of the NLM Act and the clearly expressed intent of Congress, the fundamental responsibility of the National Library of Medicine is to preserve permanently the content of books, periodicals, and other library materials pertinent to medicine. The determination of what is pertinent to medicine shall be based on the guidelines for selection of literature for the NLM collection as described in the Collection Development Manual of the National Library of Medicine, which is revised periodically to reflect the information needs of the biomedical community. NLM's principal responsibility is to ensure the preservation of the core biomedical literature as defined in that document.
>
> Means of preservation may include: (1) preservation of the original; (2) acquisition of materials in archival formats; and (3) replication of materials in archival formats. NLM staff shall monitor developments in preservation techniques to ensure the use of the most effective methods available and shall participate in research, development, testing and evaluation of preservation technology. Operational guidelines and procedures for selecting items to be preserved and choosing preservation techniques shall be developed, reviewed and if necessary amended, from time to time in a manner to be determined by the Director.
>
> While the preservation of NLM's own collection is a major step toward the preservation of the entire scholarly biomedical record, NLM also has a responsibility to assist the preservation of important biomedical literature held by other U.S. institutions. NLM's preservation efforts are to be coordinated with those of other national libraries, research libraries, and biomedical libraries.
>
> Much of the preservation problem can be stopped at its source if the scholarly record is published on archival media that are not predisposed to rapid deterioration. To lessen the need for preservation treatment of prospective publications, NLM shall actively encourage the publishing industry to use more durable materials in the production of the biomedical literature.

NLM AS A NATIONAL LIBRARY

The three national libraries - the Library of Congress, the National Agricultural Library and NLM - strive to keep collecting duplication to the minimum necessary to serve their diverse user populations. A dialogue is maintained among the national libraries, and joint collecting statements are developed to define areas of mutual collecting interest. Over the past several years, cooperative statements on Veterinary Science, Human Nutrition, Biotechnology, and the AIDS literature have been developed.

The principal areas of mutual collecting interest between the NLM and the Library of Congress (LC) 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 for the use of the health professional; 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 considerable cultural, social, and economic scholarly interest.[5] As the broadest in scope of the three national libraries, it assumes responsibility for maintaining a comprehensive collection in the physical and natural sciences, the social sciences, and the humanities.[6] The medical literature collecting policy of the Library of Congress appears in the appendix.

The principal areas of significant overlap between NLM and the National Agricultural Library (NAL) collections are in Biotechnology, Human Nutrition, Laboratory Animal Science, and Veterinary Medicine. NLM's collecting emphasis in these areas centers on those topics which comparatively, experimentally, theoretically, or directly impact or advance either human health care or biomedical research. NAL, on the other hand, focuses collecting effort on those materials which 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.[7]

NLM AND OTHER BIOMEDICAL LIBRARIES

Beyond the three national libraries are important and rich collections in other federal agencies, academic institutions, public libraries, special libraries, museums, archives, and research centers. Although no national inventory has been attempted, it is clear that many of these collections are important in their own right and 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 1986 Long Range Plan[8] 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, therefore, is not limited to the holdings of a single national library, nor is it simply the sum of all titles within 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 COLLECTION

The National Library of Medicine evolved from a small collection of books and journals in the Office of the Surgeon General in the Medical Department of the Army. 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.

> In 1842 Congress, apparently alarmed at the growth of government libraries... laid down guidelines for the purchase of books through a provision in the appropriations act. During fiscal year 1842-1843 the Surgeon General had to affirm to the Secretary of War that such works as he ordered were "necessary and proper to carry on the business" [of his office.] The Secretary approved subscriptions to several medical journals and other strictly medical works, but not to Audubon's Birds of America....[9]

Although the medical advances and concerns of the Civil War stimulated use of the Library, its collection had grown to only 1800 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. In addition to medical works, books accessioned during this period covered such diverse subjects as navigation, astronomy, geology and agriculture. 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."[10]

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. In a form letter written in 1872, he states "We are trying to make the files of medical journals (American) in our Library complete, so that there may be one complete collection of that sort to refer to, which at present is not the case."[11] By that time, the collection had grown to include 73,475 books, 39,412 volumes of journals and transactions, and over 200,000 individual pamphlets and theses. 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.

Over the course of the twentieth century the collection continued to expand. However, by World War II, the collection's growth rate, which had been the most rapid in the country under Billings, had declined due to low appropriations, low staffing levels and insufficient space until it was the slowest among America's large research libraries.[12] Wartime demand for increased medical information stimulated a survey to suggest ways of improving the Library's operations and management. The resulting report recommended an aggressive acquisition program including an increased book budget and an active gift and exchange program.[13]

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."[14] The Committee, chaired by Estelle Brodman, used the Library of Congress classification as an outline to define and establish which medical and nonmedical subjects (such as physics, chemistry and technology) the Library should acquire. It also defined four degrees of coverage for all subjects: skeletal, reference, research and exhaustive. Finally, it recommended collecting policies for specialized areas within the Library such as a History of Medicine Division. The Committee's 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.

In 1956, Billings' dream of a true national library was realized 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."[15] 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 expansion in the area of non-print materials has been especially notable. A collection of audiovisual and electronic materials has been established and a program to acquire posters important to the history of medicine begun. In 1976, NLM was officially designated a U.S. Government Partial Depository for biomedical information.

In 1986, the Library established a Preservation Section to oversee and implement the National Plan for the Preservation of the Biomedical Literature. A series of collection assessment projects was initiated in 1989, the goals of which include the identification of lacunae in the collection and the refinement of collection development policy.

OVERVIEW OF THE COLLECTION

The collection of the National Library of Medicine numbered more than 4.8 million items by the end of the 1992 fiscal year. The collection of printed materials totaled approximately 648,000 monographs, over 950,000 bound serial volumes, 172,000 pamphlets and 282,000 dissertations. There were also 57,000 prints and photographs and 2.4 million manuscript pieces in the Library's historical collection. The collection of non-print materials included approximately 54,000 audiovisuals, 600 items in electronic format, and 323,000 microforms.

NLM's extensive collection is intended to serve the present and future information needs of U.S. health science professionals, scholars and researchers. Biomedical materials may be consulted on-site or requested on interlibrary loan through libraries, incuding the more than 3,600 libraries which constitute the National Network of Libraries of Medicine.

POST - 1913 MATERIALS

The majority of post-1913 materials including monographs and serials are held in the general collection. Interactive and electronic materials and audiovisuals produced since 1970 also are housed in the general collection.

HISTORICAL AND SPECIAL MATERIALS

John Shaw Billings' collection of important medical works formed the nucleus of what has grown through judicious and careful selection of materials to be one of the world's finest research collections of rare books, manuscripts, and materials related to the history of medicine in the world.

Selection decisions for an historical collection reflect an understanding of the course of medical history and require a broad interpretation and understanding of medical thought and practice. The selection of the primary source literature of medicine reflects medicine as it has been practiced from antiquity to the present. Through the ages, the literature of man's attempts to cure, alleviate and prevent disease covers a wide spectrum of subjects as diverse as meteorology and wine-making. Subjects such as botany, chemistry and meteorology, though distinct from medicine today, were closely related to medicine in the 15th through the 18th centuries. The inclusion of materials in seemingly unrelated subjects is based on the importance of those subjects to medicine historically, rather than the relation of those subjects to medicine today.

Printed works

The Library's earliest printed works are two volumes dating from 1467. The Library holds over 500 incunabula, almost 6,000 volumes printed in the sixteenth century, and about 67,000 works (including serials and theses) printed in the seventeenth and eighteenth centuries. 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.

Many factors are taken into account when making selection decisions in rare and historical materials: the presence of other editions of the same work in the collection, comparison with editions already in the collection, availability of the work through other libraries, and price. Although NLM cannot presume to collect comprehensively in all areas of knowledge, the Library casts a wider net in developing the historical collections than for contemporary collecting.

Manuscripts

The Library divides its manuscript collections into early Western (pre-1601) manuscripts, Oriental (especially Arabic and Persian) manuscripts, and modern manuscripts.

The library holds 90 early western manuscripts (before 1600) and microfilm copies of about 600 manuscripts held by European libraries.

The modern manuscript collection comprises over 2,000,000 items in over 900 collections. These range in size from single items to several thousand documents, and were acquired over the past century as part of the general collection of historical materials. These unique handwritten or typed documents, papers and other materials include associated printed, near-print and some non-print pieces having a common source in areas of core scholarship in the history of medicine. The modern manuscript collection is particularly rich in eighteenth and ninteenth 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).

The Library seeks personal papers of those individuals who have made significant contributions to contemporary medicine or whose personal papers contribute to an understanding of modern medicine. Particularly noteworthy acquisitions have included the papers of such medical figures as Stanhope Bayne-Jones, Henry Nelson Harkins, Alan Gregg, Chauncey Leake, John Shaw Billings, William S. Middleton and C. Everett Koop.

Oral History

The oral history collection consists of about 200 memoirs of important figures in the health sciences. The collection is comprised of 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

A special collection of materials published by NLM is maintained in an NLM Publications Archive. It may, to some extent, duplicate materials in the other NLM collections.

Prints and Photographs

The print and photograph collection consists of some 57,000 items ranging from 15th century woodcuts to twentieth 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 Daumier, Gillray, Hogarth and Rowlandson.

Audiovisuals

In addition to current audiovisuals, the Library's collection includes approximately 4,000 audiovisual titles ranging in date from circa 1910 through 1969. Post-1969 productions of particular historical importance also are housed with this older material.

ON-SITE USE COLLECTIONS

The library maintains two reading room collections and a learning resource center for the use of on-site clientele:

> The main reading room contains a collection of commonly used medical journals, the principal indexes and abstracting resources, a collection of reference works representing all areas of biomedicine, and some general reference works.
>
> The History of Medicine Division also maintains a reading room for use by health professionals, historians and researchers. This reading room houses a reference collection containing the major bibliographic resources necessary for historical research, as well as standard works in the history of medicine.
>
> The learning resource center contains a collection of current audiovisuals, computer assisted instruction materials, interactive video programs, and information in other electronic formats.

SELECTION GUIDELINES BY SUBJECT

This section contains guidance for the selection of contemporary materials by subject. Subject descriptions are based on a current understanding of the trends in biomedical research, medical practice, and associated issues. It is organized alphabetically according to subject category and applies to selection of post-1913 materials. Selection decisions for historical materials are based more broadly on the importance of a certain discipline to the historical practice of medicine. Selection guidance for some specific literature types is found in the section entitled *Special Considerations in Selection*.

NLM collects all aspects of biomedicine, broadly defined. This section of the *Manual* is not intended to be an exhaustive description of every subject collected. Instead, this section focuses on subjects which represent emerging disciplines, present complex selection challenges, require additional elaboration as to NLM's collecting interest, or constitute an especially large body of literature. No attempt has been made to establish mutually exclusive subject categories.

Most terms are consistent with *Medical Subject Headings* (MeSH®), NLM's controlled vocabulary, which is used in indexing journal articles for *Index Medicus®* and MEDLINE® as well as for subject cataloging. In some instances non-MeSH terms have been included because of their usefulness in the selection process. Additional terms are included in the index.

Each subject category begins with the major term, followed by a definition reflecting NLM's usage in the selection process. Definitions are derived from a variety of authoritative sources including: *Dorland's Illustrated Medical Dictionary*, 27th edition. Philadelphia, Saunders, 1988; National Library of Medicine. *MeSH Scope Notes*. Bethesda, National Library of Medicine, 1991; and standard works in each discipline.

The descriptive matter in each category is intended as a conceptual foundation for selection. Where broad categories, such as Anatomy, are addressed, NLM's collecting focus or emphasis is stated. Categories in the subject section are often described in terms of illustrative subtopics, especially in those subjects that may present selection problems. These are intended as guides rather than lists designed to limit subject scope. If a subtopic is not mentioned, it does not imply that NLM will not collect in that area. Rather, works that fall within the subject category must be judged within the framework of overall collection development guidelines. Only a definition is provided for those subjects which do not appear to require clarification for selection purposes. Notes are used to provide additional information as required. "See also" references direct the reader to other topics which offer additional selection guidance.

Following are some additional general principles which apply to many subjects in this section.

Natural Sciences

The natural sciences have historically provided the scientific basis for medical knowledge, observation and inquiry. Today, modern biomedicine has evolved into specialized disciplines distinct from their parent natural science fields; however, techniques, advances and discoveries in natural science disciplines continue to influence the course of modern biomedical specialties.

With this edition, only the biomedical aspects of broad natural science subjects (Chemistry, Physics, Botany, etc.) have been included to reflect NLM's specific interest in collecting biomedical works. For example, while Botany does not appear as a subject classification, Medical Botany is listed as a collecting category. Also, NLM collects many biomedical topics which derive their scientific basis from natural science disciplines; e.g., biophysics, toxicology. Works in the natural sciences which have little or no relationship to biomedicine usually are not collected.

Life Sciences: NLM's collecting emphasis in the life sciences is on works related to humans, other primates, and laboratory animals; works which compare humans to animals; and other works in which the subject is related to biomedical research. NLM places particular importance on research at the cellular and subcellular level because of its comparative potential. Of particular collecting interest are works about physiological and biochemical mechanisms within the cell such as response to drugs, chemical and physical agents, the immune response, metabolic mechanisms, and the genetic regulation of protein synthesis.

Chemistry: The science of chemistry is historically and conceptually fundamental to many disciplines in the physical, biological and medical sciences. Chemistry as a discipline is concerned with the structure and behavior of atoms; the composition and properties of compounds; the reactions that occur between substances; and the laws that govern these phenomena. NLM collects works in the biomedical disciplines such as biochemistry, biotechnology and toxicology which have evolved from chemistry.

Biomedical research draws on techniques which were developed using principles from analytical chemistry, organic chemistry, and physical chemistry; and chemical principles are useful in virtually every biomedical science. The literature of these non-biomedical disciplines is not collected at NLM, except for historically valuable materials which influenced medicine before the rise of the modern chemically-based biomedical sciences.

Religion

NLM's interest in collecting works with religious themes is limited to the contemporary or historical influences of religion on health care policy and practice, or on biomedical research. The Library collects medical works in which religion is an integral topic and also collects materials on aspects of medicine viewed from a religious perspective. A scholarly work entitled *Healing Herbs of the Bible*, for example, would be collected because of NLM's interest in Medical Botany; similarly, a book on religious factors in psychiatric practice would be appropriate because of its focus on Psychiatry. The collecting policy for such materials is found under those specific medical topics, especially Biomedical Ethics, History of Medicine, Medical Anthropology, Medical Sociology, Psychology, and Therapeutics.

Social Sciences

Social science and behavioral science disciplines such as sociology, psychology, anthropology, political science, and economics have long influenced the medical philosophy and the practice of medicine. Principles and techniques from the social sciences often guide the observations and investigations which expand mankind's knowledge of the biomedical sciences.

Today, the influence of social science research on medicine and health related subjects is particularly strong. Interdisciplinary fields such as HEALTH SERVICES RESEARCH, which combine knowledge and techniques of the social sciences with those from the health sciences, are increasingly important in determining the future of health services, medical practice, and biomedical research.

With this edition, broad social sciences such as Political Science/Law, Economics, Sociology, etc. have been omitted. Core biomedical aspects of these disciplines will be found under such new categories as HEALTH POLICY, HEALTH ECONOMICS, and MEDICAL SOCIOLOGY.

ADDICTION MEDICINE

Definition: The branch of medicine concerned with the study, prevention and treatment of addictive diseases; the physiological and psychological disorders associated with substance dependence.

Includes:
- Alcoholism
- Drug addiction
- Fetal, neonatal, infant or child health disorders associated with maternal substance dependence
- Smoking

See also:
- MEDICAL SOCIOLOGY
- PSYCHOLOGY
- PHYSICAL MEDICINE AND REHABILITATION
- PUBLIC HEALTH

AEROSPACE MEDICINE

Definition: The field of medicine concerned with the health effects of air and space flight.

Includes: Biomedical research in space

See also: ENVIRONMENTAL HEALTH

AIDS: ACQUIRED IMMUNODEFICIENCY SYNDROME

Definition: An acquired defect of cellular immunity typically associated with infection by the human immunodeficiency virus (HIV) and increased susceptibility to opportunistic infections and malignant neoplasms.

Includes:
- AIDS pharmaceuticals
- Diagnosis, treatment, epidemiology of AIDS and AIDS related disorders
- Psychological aspects of AIDS/HIV

Note: Though NLM's interest in AIDS/HIV literature centers on works concerned with research, health care, and health policy, other substantive AIDS-related literature which chronicles health related developments or trends associated with the AIDS/HIV crisis is also broadly collected.

See also: PUBLIC HEALTH

ANATOMY

Definition: The study of the structure of the body and the relations of its parts.

NLM's collecting emphasis is on human anatomy and the following core aspects of anatomy:

Anatomy of primates and laboratory animals
Comparative studies which involve humans, primates or laboratory animals

See also: VETERINARY MEDICINE

ANDROLOGY

Definition: The branch of medicine concerned with the male reproductive system and gametes.

Includes:
Circumcision
Contraception
Fertility and infertility
Impotence

ANESTHESIOLOGY

Definition: The branch of medicine concerned with the pharmacological, physiological, and clinical basis of anesthesia, including any agent or procedure which renders the subject insensible to pain for the purpose of treatment or surgery.

BIOCHEMISTRY

Definition: The chemistry of living organisms and of vital processes; physiological chemistry.

Note: NLM's collecting emphasis is on all aspects of biochemistry that apply to biomedical research with particular focus on physiological, cellular and metabolic mechanisms.

NLM generally does not collect biochemical aspects of plant physiology.

See also:
CLINICAL LABORATORY SCIENCE
NUTRITION
MOLECULAR BIOLOGY

BIOMEDICAL COMMUNICATION

Definition: The transmission of information related to health care, biomedical research, or health issues. The term encompasses the development and implementation of policy affecting the dissemination of biomedical information as well as all mechanisms for communicating such information.

Includes:
- Biomedical telecommunications and computer networks
- Medical illustration
- Medical writing and publishing
- Production of biomedical media

See also:
- MEDICAL INFORMATICS
- MEDICAL LIBRARIANSHIP

BIOMEDICAL ENGINEERING

Definition: The application of engineering principles to obtain solutions to biomedical problems; usually involves collaboration of engineers and biomedical scientists.

Includes:
- Bionics
- Medical devices
- Prosthetics

See also:
- BIOPHYSICS
- HEALTH CARE TECHNOLOGY
- PHYSICAL MEDICINE AND REHABILITATION

BIOMEDICAL ETHICS

Definition: The moral and philosophical principles which guide the professional actions and decisions of those engaged in the health professions and those who form policies which govern the conduct of medical care and biomedical research.

See also:
- BIOMEDICAL RESEARCH
- HEALTH PROFESSIONS
- LABORATORY ANIMAL SCIENCE

BIOMEDICAL RESEARCH

Definition: Basic, applied and clinical investigation and the issues associated with such activity in biomedicine.

Includes the following when the focus is on biomedical research and observations:

- Animal testing alternatives
- Biometry, biostatistics, and biomathematics
- Case studies, longitudinal studies, and cohort studies
- Clinical trials
- Epidemiologic methods
- Experimental testing procedures
- Relationship between the biomedical research community and the government or other organizations concerned with research outcomes and public policy
- Research administration, including management, funding and program development
- Research design, algorithms, protocols and technical methods
- Research ethics and scientific fraud
- Research models including human, animal and molecular in vivo and in vitro models as well as mathematical, mechanical and electronic simulations
- Risk factor analysis
- Statistical modeling

See also:

- BIOMEDICAL ETHICS
- EPIDEMIOLOGY
- HEALTH POLICY
- LABORATORY ANIMAL SCIENCE
- MEDICAL INFORMATICS
- VETERINARY MEDICINE

BIOPHYSICS

Definition: The science that deals with the application of physical methods, techniques and theories in biology.

NLM's collecting emphasis is on biophysics applied to the practice of medicine, biomedical engineering or biomedical research, including:

- Bioenergetics
- Biophysical chemistry
- Biomechanics
- Biorheology
- Health physics
- Structural analysis of biological matter, especially the study of biological macromolecules

See also:

- BIOMEDICAL ENGINEERING
- ENVIRONMENTAL HEALTH
- HEALTH CARE TECHNOLOGY
- PHYSICAL MEDICINE AND REHABILITATION
- SPORTS MEDICINE

BIOTECHNOLOGY

Definition: The application of the techniques of molecular biology to the creation of useful products, the improvement of plants or animals, or the development of microorganisms for specific use.

Note: NLM's collecting focus is on works in all areas of biotechnology with potential application to human health care, disease prevention, and the advancement of medical knowledge.

In areas of structural analysis of macromolecules and molecular genetics, (e.g., recombinant DNA and sequence information) NLM's collecting interest potentially extends to all organisms including both plant and animal kingdoms.

Includes:
Cloning technologies
Computer assisted modeling techniques in biotechnology research
Drug delivery systems
Genetically engineered vaccines
Gene therapy
Recombinant DNA and sequence information from all organisms
Restriction endonucleases
Structural biology
Transgenic organism development
Transfection

See also:
GENETICS
MOLECULAR BIOLOGY

CARDIOLOGY

Definition: The branch of medicine concerned with the heart and cardiovascular system.

CLINICAL LABORATORY SCIENCE

Definition: The application of scientific laboratory methods to diagnostic and therapeutic problems of clinical medicine for the purpose of enhancing diagnostic accuracy, ensuring effective use of therapeutic drugs and other agents, and monitoring the patient's response to therapy.

Clinical laboratory science encompasses the selection, performance and interpretation of laboratory tests for patient care; and the testing and analysis of drugs or chemical agents used in medical treatment.

Includes:
Analysis of specimens of tissues and body fluids
Interpretation of laboratory tests
Medical laboratory technology
Monitoring of dose response

Testing and analysis of drugs
Tests of organ function

See also: BIOCHEMISTRY
BIOMEDICAL RESEARCH
PATHOLOGY
PHARMACOLOGY

COMMUNICABLE DISEASES

Definition: Diseases capable of being transmitted from one individual or species to another.

Note: NLM's collecting emphasis is on diseases capable of being transmitted to humans.

Includes: Disease vectors
Medical entomology
Sexually transmitted diseases
Zoonoses

See also: PUBLIC HEALTH

COMMUNICATIVE DISORDERS

Definition: Disorders characterized by the impairment of speech, language and hearing.

Note: NLM's collecting emphasis is on works on the anatomic, physiologic and cognitive basis of communication, and the diagnosis and treatment of communicative disorders. NLM does not collect works in pedagogy, skill development, linguistics or psycholinguistics unless they are directly related to the cognitive process.

Includes: Audiology
Language development disorders
Oral motor and pharyngeal disorders
Speech-language pathology

COMPARATIVE MEDICINE

Definition: The comparative study of morphology, function, behavior and disease between species.

Note: NLM's collecting emphasis is on studies between humans and animals or comparative studies involving animals in biomedical research.

Includes:
- Animal disease models
- Comparative pathology
- Studies of physiological mechanisms and pathologies which mimic human function and disease
- Studies in structural analysis and molecular genetics which serve as a basis for comparison with similar human phenomena

See also:
- BIOMEDICAL RESEARCH
- LABORATORY ANIMAL SCIENCE
- PRIMATOLOGY
- VETERINARY MEDICINE

CYTOLOGY

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

NLM's collecting emphasis is on the following core aspects of cytology:

- Cytological studies related to human disease
- Biomedical research or comparative studies involving the cell
- Structural biology of the cell and cellular components

See also:
- HISTOLOGY
- MOLECULAR BIOLOGY

DENTISTRY

Definition: The science and art of preventing, diagnosing, and treating diseases, injuries, and malformations of the teeth, jaws and mouth.

Includes:
- Dental hygiene
- Dental instruments, materials and appliances
- Forensic dentistry
- Paleodontology

See also:
- MEDICAL INFORMATICS

DERMATOLOGY

Definition: The branch of medicine concerned with the skin, including the relationship of the skin to systemic disease.

DIAGNOSIS

Definition: The identification of an illness, disorder or defect.

Includes: Diagnostic procedures, (e.g., x-ray, imaging, ultrasound, echocardiography, electroencephalography, thermography, biopsy, laparoscopy, psychological testing, and any other invasive or non-invasive technique)
Patient interview techniques
Patient medical history techiques
Physical examination
Symptomatology

See also: CLINICAL LABORATORY SCIENCE

EMBRYOLOGY

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

NLM's collecting emphasis is on human embryology, and the following core aspects of embryology:

Comparative embryology
Embryological aspects of human diseases
Embryology of animals in biomedical research
Human fetal development
Teratology

EMERGENCY MEDICINE

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

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

Includes: Emergency medical technicians
Emergency or trauma units
Rescue and ambulance service
Resuscitation
Trauma medicine
Wounds and injuries

See also: HEALTH SERVICES
HEALTH CARE FACILITIES

ENDOCRINOLOGY

Definition: The branch of medicine and the science concerned with the endocrine system.

See also: COMPARATIVE MEDICINE

ENVIRONMENTAL HEALTH

Definition: The study and management of health effects attributable to extrinsic factors, with particular emphasis on the effects of chemical and physical agents on human health.

Note: Environmental health is concerned with the effects of such factors as pollution, chemical exposure, physical forces, crowding, and radiation.

Includes:
Geomedicine
Health physics

See also:
AEROSPACE MEDICINE
OCCUPATIONAL HEALTH
PSYCHOLOGY
PUBLIC HEALTH
TOXICOLOGY

EPIDEMIOLOGY

Definition: The study of the distribution and determinants of health related states or events in specified human populations.

Includes:
Disease vectors
Fertility
Morbidity and mortality
Health in populations at risk
Methods of data collection, statistical analysis, and interpretation adapted to epidemiology
Population health assessment
Risk factor analysis

See also:
BIOMEDICAL RESEARCH
HEALTH SERVICES RESEARCH
PUBLIC HEALTH

FAMILY PRACTICE

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

FORENSIC MEDICINE

Definition: The application of medical knowledge to questions of law.

Includes:
Forensic dentistry
Forensic psychiatry
Legal chemistry related to health or medicine
Malpractice
Medical jurisprudence
Post mortem examination

See also:
CLINICAL LABORATORY SCIENCE
PATHOLOGY

GASTROENTEROLOGY

Definition: The branch of medicine concerned with the digestive system.

Includes: Hepatology

GENETICS

Definition: The study of genes and heredity.

Note: NLM collects studies related to human and animal heredity and works in molecular genetics in any species. Of particular collecting interest are works concerned with the genetic basis of physiological mechanisms, the immune response, and disease.

NLM generally does not collect works concerned with animal culture or agronomy.

See also:
BIOTECHNOLOGY
LABORATORY ANIMAL SCIENCE
MOLECULAR BIOLOGY

GERIATRICS

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

See also: MEDICAL SOCIOLOGY
PSYCHOLOGY

GYNECOLOGY

Definition: The branch of medicine concerned with the female genital tract.

Includes: Contraception
Fertility and infertility

See also: ANDROLOGY
OBSTETRICS

HEALTH CARE TECHNOLOGY

Definition: The application of scientific techniques and instrumentation in diagnosis, patient care, or medical research.

Includes: Biomedical instrumentation
Imaging equipment and techniques
Medical devices and supplies
Surgical equipment
Technology assessment

See also: BIOMEDICAL ENGINEERING
BIOMEDICAL RESEARCH
HEALTH SERVICES RESEARCH

HEALTH ECONOMICS

Definition: The economics of health and health care practice, delivery and administration.

Includes: Economics of health care technology
Economics of the health related industries
Health care consumer behavior
Health care cost benefit and cost factor analysis
Health care financing
Health care advertising and marketing
Health insurance
Medical indigence
Practice management
Reimbursement for health care

See also: HEALTH SERVICES

HEALTH SERVICES RESEARCH
PUBLIC HEALTH

HEALTH FACILITIES

Definition: Hospitals and other facilities or organizations providing health services.

Includes:
- Blood, organ, and tissue banks
- Community health centers and clinics
- Emergency medical and trauma centers
- Health care facility services management (e.g., food service, and housekeeping)
- Health maintenance organizations
- Hospices
- Long term care and other residential health facilities
- Medical laboratories and research facilities
- Mobile health facilities
- Outpatient surgical centers
- Physical plant management including architectural planning, design, and functional use of health related facilities
- Poison control centers
- Rehabilitation centers
- Wellness centers

See also:
HEALTH CARE TECHNOLOGY
HEALTH ECONOMICS
HEALTH SERVICES

HEALTH POLICY

Definition: Health legislation, regulations and professional guidelines, standards, and protocols which regulate health services.

Includes:
- Public health policy and policy making
- Health advocacy
- Legislation related to health facilities

See also:
BIOMEDICAL ETHICS
HEALTH ECONOMICS
HEALTH FACILITIES
HEALTH PROFESSIONS
HEALTH SERVICES
HEALTH SERVICES RESEARCH

HEALTH PROFESSIONS

Definition: All health and allied health occupations, and the professional issues related to these occupations.

Includes:
- Health care personnel issues: recruitment, selection, training, evaluation, performance, supply and demand
- Characteristics of health care professionals: demographics, statistics, type of practice, etc.
- Dress and uniforms
- Education, certification, and continuing education for the health professions
- Malpractice
- Patient-provider relations
- Practice management
- Professional associations, societies and organizations
- Professional standards, guidelines and ethics
- Psychology, attitudes and behavior of health professionals
- Quackery
- Salaries and compensation

Note: The health professions encompass persons engaged in the administration of health activities, the provision of conventional and alternative health services, and research, management, scholarship, or education in the health sciences. Included are professions concerned with the advancement of medicine or other sciences contributing directly to human health. The health professions include allied health professionals, dentists, medical and health science educators and historians, nurses, pharmacists, physicians, psychologists, researchers, veterinarians, laboratory technicians, medical assistants, medical illustrators, editors and publishers as well as health policy makers, administrators of health care facilities and services, and providers of health care information resources, knowledge or technology.

See also:
- BIOMEDICAL COMMUNICATION
- BIOMEDICAL ETHICS
- MEDICAL SOCIOLOGY

<u>HEALTH SERVICES</u>

Definition: The provision and management of health care.

Includes:
- Health care delivery
- Health care administrative and management concerns including fiscal and human resource management, legal concerns, program planning and administration, organizational management, staffing, safety, medical records, governance, information, and communication facility management
- Health care utilization
- Quality assurance

See also:
- HEALTH ECONOMICS
- HEALTH FACILITIES
- HEALTH POLICY

HEALTH SERVICES RESEARCH
PUBLIC HEALTH

HEALTH SERVICES RESEARCH

Definition: The scientific study of the effect of health care delivery and management on health care access, quality, and cost.

Includes:
Analysis of health care costs, insurance, utilization, availability, and accessibility
Assessment of health status, health care need and demand
Assessment of health care technology and effectiveness of quality assurance techniques
Assessment of patient and health outcomes
Assessment of the effectiveness of health education and patient instruction
Development of clinical practice guidelines and health standards, and analysis of their effectiveness
Evaluation of the impact of health care and administrative management strategies on health care delivery
Health planning and forecasting

Note: Health services research uses statistical and epidemiological techniques to plan, assess, and evaluate the effect or impact of various factors on health outcomes and effective health care delivery. Health services research also utilizes a variety of social and behavioral research techniques.

See also:
EPIDEMIOLOGY
HEALTH CARE TECHNOLOGY
HEALTH ECONOMICS
HEALTH SERVICES
MEDICAL SOCIOLOGY

HEMATOLOGY

Definition: The branch of medicine and the science concerned with blood and blood-forming tissues.

HISTOLOGY

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

NLM's collecting emphasis is on histological studies of human tissue and on the following core aspects of histology:

Biomedical research involving the tissues, including studies in structural biology
Histological studies related to human health and disease
Comparative histology.

See also: CYTOLOGY
PATHOLOGY

HISTORY OF MEDICINE

Definition: The history of medical thought and practice from the earliest times to the recent past.

Note: The selection of the secondary source literature of the history of medicine requires a broad interpretation of the practice of medicine. Medicine has been greatly influenced by social, political, economic, and religious factors; and the history of medicine cannot be studied without consideration of these factors. Material illuminating the social setting of medical practice is crucial to a full understanding of the history of that practice. Consequently, source materials from a variety of non-medical fields may be selected to support research in the history of medicine.

Includes: Historiographies of medicine
Histories of medical institutions
Medical museums
Medical numismatics
Medical philately
Medicine as depicted in art
Medicine in literature, including medical humor

IMMUNOLOGY

Definition: The branch of medicine and the science concerned with allergy, mechanisms of immune response, and related phenomena.

See also: AIDS
COMMUNICABLE DISEASES
COMPARATIVE MEDICINE

INTERNAL MEDICINE

Definition: The branch of medicine concerned with the study, prevention, diagnosis, and non-surgical treatment of the diseases of the body's organ systems. Both primary care and specialty care are subsumed by the term.

LABORATORY ANIMAL SCIENCE

Definition: The breeding, care, selection, and use of animals in biomedical research and testing.

Includes:
- Housing, nutrition and care
- Experimental techniques using animal models
- Laws, regulations, and guidelines concerning laboratory animals

See also:
- BIOMEDICAL ETHICS
- COMPARATIVE MEDICINE
- PRIMATOLOGY
- VETERINARY MEDICINE

MEDICAL ANTHROPOLOGY

Definition: The study of health and health care systems with emphasis on the influence of culture, including culture-specific health conditions and behaviors, as well as systems of medical treatment based on culture-specific beliefs and traditions.

Includes:
- Birth, death, sexual, and dietary customs and practices
- Medical astrology
- Medical folklore
- Medical superstition
- Physical anthropology; i.e., the biology of human evolution

See also:
- MEDICAL SOCIOLOGY
- THERAPEUTICS

MEDICAL BOTANY

Definition: The study and use of plants in biomedicine.

Includes:
- Medical ethnobotany
- Medicinal, injurious, and psychoactive plants

See also:
- PHARMACOLOGY
- THERAPEUTICS
- TOXICOLOGY

MEDICAL INFORMATICS

Definition: The application of computer and information technology to all branches of medicine and health care.

Includes:
- Computer assisted diagnosis and decision making
- Computer based analytical algorithms in biomedical research

Computer based systems and analytical resources in such areas as medical records, medical economics, and health information
Dental informatics
Expert systems
Integrated Academic Information Management System development (IAIMS)
Medical databanks
Nursing informatics

Note: NLM's collecting interest is in materials which describe and provide information concerning the use of systems rather than the system itself.

See also: BIOMEDICAL COMMUNICATION
MEDICAL LIBRARIANSHIP

MEDICAL LIBRARIANSHIP

Definition: Library and information science principles and applications in academic health centers, hospitals, clinics, health care associations, or any library primarily serving the needs of health care professionals.

Includes: Classification systems, thesauri in the health sciences
Health science information networks, consortia, interlibrary cooperation

See also: BIOMEDICAL COMMUNICATION
MEDICAL INFORMATICS

MEDICAL SOCIOLOGY

Definition: The study of social determinants and their effects on health, and of the social aspects of medical organization and practice.

Includes: Aged and the aging process
Death and dying
Medical aspects of social deviance

Note: NLM collects works which relate social and cultural factors (e.g. the family, childcare, and poverty) to health, illness, health care seeking behavior, etc.
Social implications of medical innovations (e.g., contraceptive techniques)
Sociology of interactions between patients and health care providers

See also: ADDICTION MEDICINE
HEALTH POLICY
MEDICAL ANTHROPOLOGY
PSYCHOLOGY

MEDICINE

Definition: The healing arts and sciences, including the diagnosis, prevention, and treatment of human disease and injury, and the maintenance of health.

Includes: Philosophy of medicine.

See also: HISTORY OF MEDICINE

MICROBIOLOGY

Definition: The study of microorganisms, including bacteria, fungi, rickettsia, protozoa and viruses.

NLM's collecting emphasis is on microbial studies related to human disease and on the following core aspects of microbiology:

Clinical bacteriology
Clinical protozoology
Medical mycology
Microbial genetics
Virology

Note: NLM also collects veterinary works dealing with the physiological and cellular aspects of diseases caused by microorganisms.

See also: BIOCHEMISTRY
PARASITOLOGY
TOXICOLOGY
VETERINARY MEDICINE

MILITARY MEDICINE

Definition: The practice of medicine and health care in the military and other uniformed services.

See also: OCCUPATIONAL HEALTH
EMERGENCY MEDICINE

MOLECULAR BIOLOGY

Definition: The study of subcellular structures and events underlying biological processes, including the relation between genes and the functional characteristics they determine.

Note: Of particular collecting interest are works concerned with the structural analysis of biological matter and the genetic basis of physiological mechanisms, the immune response, and disease.

Includes: Structural biology
Sequence information from all organisms including plants and animals

See also: BIOTECHNOLOGY
CYTOLOGY
GENETICS

<u>NEUROLOGY</u>

Definition: The branch of medicine and the science concerned with the nervous system.

<u>NUCLEAR MEDICINE</u>

Definition: The branch of medicine concerned with the use of radionuclides in the diagnosis and treatment of disease.

<u>NURSING</u>

Definition: The health profession concerned with the diagnosis and treatment of human responses to actual or potential health problems.

Includes: Nursing diagnosis
Nursing outcomes research
Palliative care

See also: HEALTH SERVICES
HEALTH PROFESSIONS
MEDICAL INFORMATICS

<u>NUTRITION</u>

Definition: The study of nutrients and their assimilation, metabolism, interaction and balance in relation to human health and disease.

NLM's collecting emphasis is on human nutrition, metabolism, and metabolic disorders; and on the following core aspects of nutrition:

Biomedical research in nutrition
Dietetics and nutritional management of disease

Nutritional disorders
Food additives
Food chemistry
Food fortification and supplementation

Note: NLM places collecting emphasis on the biochemical, cellular or molecular aspects of metabolism, and nutrient toxicity regardless of animal species.

Materials related to the culture, production, manufacture or storage of food, or to the marketing of food commodities are not collected at NLM.

See also: BIOCHEMISTRY
THERAPEUTICS
TOXICOLOGY

OBSTETRICS

Definition: The branch of medicine concerned with pregnancy, parturition and puerperium.

Includes: Abortion
Assisted conception

OCCUPATIONAL HEALTH

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

Includes: Measurement, assessment and management of occupational risk factors

See also: ENVIRONMENTAL HEALTH
PSYCHOLOGY
TOXICOLOGY

ONCOLOGY

Definition: The branch of medicine and the science concerned with neoplasms.

OPHTHALMOLOGY

Definition: The branch of medicine concerned with the medical and surgical care of the eye and its appendages.

OPTOMETRY

Definition: The profession and applied science concerned with the preservation, maintenance, protection, improvement, and enhancement of visual performance.

ORTHOPEDICS

Definition: The branch of medicine concerned with the skeletal system, its articulations, and associated structures.

See also: PHYSICAL MEDICINE AND REHABILITATION
SPORTS MEDICINE

OTOLARYNGOLOGY

Definition: The branch of medicine concerned with the ear, larynx, nose, upper respiratory tract, soft tissue of the head and neck, and the tracheobronchial tree.

See also: COMMUNICATIVE DISORDERS

PARASITOLOGY

Definition: The study of parasites.

NLM's collecting emphasis is on studies of parasites which cause human disease and on the following core aspects of parasitology:

Biomedical research involving parasites
Comparative works in parasitology
Parasitic diseases transmissible to humans

Note: NLM also collects veterinary works concerned with the physiological and cellular effects of parasitic disease.

See also: MICROBIOLOGY

PATHOLOGY

Definition: The branch of medicine concerned with the nature and cause of human disease.

Includes: Autopsy
Comparative pathology
Paleopathology

See also: CLINICAL LABORATORY SCIENCE
COMPARATIVE MEDICINE
FORENSIC MEDICINE
MEDICAL ANTHROPOLOGY

PEDIATRICS

Definition: The branch of medicine concerned with the child from birth through adolescence.

PHARMACOLOGY

Definition: The study of the chemistry and actions of drugs, their origin and nature, their effects and uses.

Includes: Drugs in medical treatment
Biomedical research in pharmacology
Medicinal chemistry
Pharmacognosy

See also: BIOCHEMISTRY
CLINICAL LABORATORY SCIENCE
MEDICAL BOTANY
THERAPEUTICS
TOXICOLOGY

PHARMACY

Definition: The branch of health sciences concerned with the preparation, dispensing, and proper utilization of drugs.

See also: PHARMACOLOGY

PHYSICAL MEDICINE AND REHABILITATION

Definition: The branch of medicine concerned with the restoration of normal psychological and physiological function, or the correction of physical, special education, or emotional impairment.

Includes: Art therapy
Music therapy
Occupational therapy
Physical medicine or physiatry
Physical therapy
Recreational therapy
Speech therapy

Note: NLM generally does not collect works on rehabilitation techniques not related to mental or physical health, i.e., rehabilitation and special education designed to improve vocational, social and educational skills.

See also:
ADDICTION MEDICINE
COMMUNICATIVE DISORDERS
PSYCHOLOGY
SPEECH-LANGUAGE-HEARING PATHOLOGY
SPORTS MEDICINE
THERAPEUTICS

PHYSIOLOGY

Definition: The study of the processes and functions of living things, including birth and death.

NLM's collecting emphasis is on human physiology and the following core aspects of physiology:

Physiology of primates and laboratory animals
Comparative studies which involve humans, primates or laboratory animals
Physiology in biomedical research

See also:
COMPARATIVE MEDICINE
VETERINARY MEDICINE

PODIATRY

Definition: The health profession concerned with the study and care of the foot.

PREVENTIVE MEDICINE

Definition: The branch of medicine concerned with prevention of disease and the promotion of health.

See also:
HEALTH POLICY
HEALTH SERVICES
NUTRITION
PUBLIC HEALTH

PRIMATOLOGY

Definition: The study of primates.

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

See also: COMPARATIVE MEDICINE
LABORATORY ANIMAL SCIENCE
VETERINARY MEDICINE

PSYCHIATRY

Definition: The branch of medicine concerned with mental and emotional illness.

Includes: Psychiatric interpretations of works in the arts and humanities
Psychoanalysis

See also: NEUROLOGY
PSYCHOLOGY

PSYCHOLOGY

Definition: The study of mental processes and behavior.

NLM's collecting emphasis is on human psychology, specifically on the following core aspects of psychology:

- Abnormal psychology
- Biomedical research in psychology
- Clinical psychology
- Developmental psychology
- Environmental psychology
- Experimental psychology, including study of the sensory, motor and cognitive processes: e.g., perception, response, memory, etc.
- Health behavior
- Individual behavior
- Psychotherapy

Note: NLM generally does not collect works on educational or organizational psychology except those dealing with health care organizations. NLM collects works on human-animal bonding and studies in animal behavior which serve as a basis for comparison with similar behavior in humans or other primates, or which involve animals in biomedical research.

See also: ADDICTION MEDICINE
MEDICAL SOCIOLOGY
PSYCHIATRY

PUBLIC HEALTH

Definition: The branch of medicine concerned with the prevention, detection, and control of disease, and the promotion of health in a defined population.

Note: NLM collects comprehensively scholarly and professional biomedical works on public health issues and crises. Works on the public health response to medical crises, and on issues affecting health policy, economics, services, attitudes, and research, are of particular collecting importance.

Public health issues (e.g., substance dependence and birth control) and crises (e.g., the AIDS epidemic) often engender a large body of literature, not completely biomedical in content nor specifically addressed to the health professional. NLM collects selectively materials of these types, emphasizing those which characterize diverse viewpoints toward health crises and issues, chronicle the public health response of health professionals and policymakers, or document the information disseminated to patients and society at large. NLM's collecting focus is on works endorsed by health care associations, important patient advocacy groups, and other influential organizations. See specific format and literature type categories for additional guidance.

NLM collects very selectively works dealing with societal trends which may have public health implications. Emphasis is on significant works likely to be influential among U.S. health care professionals.

Those materials on public health issues and crises which are limited to topics such as civil rights, political issues, religion, pedagogy, or criminal behavior, generally are not collected.

Includes:
Medical and health care response to disasters
Health care needs assessment
Minority health issues
Environmental, economic and social factors in public health
Women's health issues

See also:
COMMUNICABLE DISEASES
ENVIRONMENTAL HEALTH
EPIDEMIOLOGY
HEALTH POLICY
HEALTH SERVICES
OCCUPATIONAL HEALTH
PREVENTIVE MEDICINE
VETERINARY MEDICINE

<u>PULMONARY MEDICINE</u>

Definition: The branch of medicine concerned with the lung and the respiratory system.

<u>RADIOLOGY</u>:

Definition: The branch of medicine concerned with the use of radioactive substances and radiant energy in diagnosis and treatment.

See also: BIOPHYSICS
HEALTH CARE TECHNOLOGY

RHEUMATOLOGY

Definition: The branch of medicine concerned with the diseases of connective tissue, joints, and related structures.

SPORTS MEDICINE

Definition: The branch of medicine concerned with physical fitness and the prevention, diagnosis and treatment of sports related injuries.

Includes: Exercise physiology
Sports kinesiology

See also: PHYSICAL MEDICINE AND REHABILITATION

SURGERY

Definition: The branch of medicine concerned with the treatment of diseases, injuries, and deformities by operative or manual methods.

Includes: Experimental surgery
Plastic and reconstructive surgery
Transplantation

See also: ANESTHESIOLOGY
THERAPEUTICS
VETERINARY MEDICINE

THERAPEUTICS

Definition: The plan of treatment of a disease or disorder.

Note: Therapeutics, broadly defined, embraces medical treatment as administered by a health care practitioner. Therapeutics encompasses treatment which may be experimental or based on the recognized procedures or philosophic orientation of the particular health profession. The state of medical knowledge, available medical technology, advances in molecular research and pharmacology, together with prevailing cultural, religious and social beliefs exert a powerful influence on therapeutic theory and practice. Works on conventional and alternative therapeutic systems are appropriate for the NLM collection.

Therapeutic systems can be categorized as follows:

Therapeutic techniques and protocols developed from research and subsequent clinical trials, such as drug therapy, the use of chemical and physical agents, immunotherapy, gene therapy, and other developing techniques based on an understanding of molecular targets of disease.

Therapeutic systems which specialize in treatment protocols based on the specific type of disorder (e.g., surgery, physical therapy, respiratory therapy, behavioral therapy, dietotherapy, and hemodialysis).

Therapeutic systems which developed from a certain theoretical or philosophical orientation (e.g., homeopathy, chiropractic, orthomolecular therapy, osteopathy, and naturopathy).

Therapeutic systems which are based on historical, cultural, or religious traditions and beliefs (e.g., ayurvedic medicine, balneotherapy, acupuncture, herbalism, spiritual healing, and Christian Science).

See also: HISTORY OF MEDICINE
MEDICAL ANTHROPOLOGY
PHARMACOLOGY
PHYSICAL MEDICINE AND REHABILITATION
PSYCHOLOGY

TOXICOLOGY

Definition: The study of the nature and adverse effects of physical or chemical agents.

NLM's collecting emphasis is on the following core aspects of toxicology:

Detection methods
Adverse effects of radiation
Environmental risk factors related to human health
Physiological and genetic effects of toxic agents
Risk assessment and risk management techniques
Toxic dose levels in the human diet

See also: BIOCHEMISTRY
ENVIRONMENTAL HEALTH
MEDICAL BOTANY
NUTRITION
OCCUPATIONAL HEALTH
PHARMACOLOGY

TROPICAL MEDICINE

Definition: The branch of medicine concerned with diseases common in tropical and subtropical regions.

See also: COMMUNICABLE DISEASES
ENVIRONMENTAL HEALTH
PARASITOLOGY

UROLOGY

Definition: The branch of medicine concerned with the urinary tract.

See also: ANDROLOGY

VETERINARY MEDICINE

Definition: The medical science concerned with the prevention, diagnosis, and treatment of diseases in animals.

NLM's collecting emphasis is on Veterinary Medicine as it relates to human health, biomedical research, and advances in biomedicine, including the following core aspects of veterinary medicine:

Comparative medicine and comparative pathology
Diseases transmissible from animals to man (e.g., zoonoses)
Experimental surgery
Veterinary pharmacology
Veterinary clinical sciences (e.g., veterinary cardiology, surgery, anesthesiology, radiology, endocrinology, etc).
Veterinary research at the cellular, molecular and biochemical level

Note: NLM collects the veterinary research literature in such fields as microbiology, parasitology and toxicology. See specific subject categories for additional guidance.

NLM also collects standard veterinary works which are likely to be widely used in U.S. veterinary practice. These include general works on health care, therapeutics, anatomy, physiology and preventive medicine.

NLM does not collect veterinary works concerned with animal breeding and training, animal husbandry, animal culture, dietary management, production efficiency, or ecology except when these topics expressly relate to human health.

See also: COMPARATIVE MEDICINE

LABORATORY ANIMAL SCIENCE
PARASITOLOGY
PRIMATOLOGY

SPECIAL CONSIDERATIONS IN SELECTION:

FORMATS AND LITERATURE TYPES

The National Library of Medicine concentrates its collecting effort on assembling a comprehensive, collection in the professional and research literature of biomedicine, maintaining an international focus; however, NLM recognizes the impossibility and impracticality of achieving comprehensiveness in all formats and literature types. When exhaustive collecting is not feasible or desirable, NLM collects certain categories of biomedical materials selectively. The Library's goal is to assemble a collection which contains those works most essential for present and future medical practice, research and scholarship. This section contains guidance for the consideration of these selectively acquired materials.

The universe of scholarly biomedical literature includes a wide variety of formats and literature types such as manuscripts, pamphlets and annual reports. In considering these materials, NLM concentrates on selecting a range of important and unique works which will be most useful to the biomedical professional or scholar. In some categories, the Library's collecting emphasis is on materials which characterize or influence U.S. health care thought, practice, research and policy.

NLM's selective collecting strategy implies the inclusion of those materials which best represent major or influential sources, typify or characterize the whole, or illustrate a unique aspect or approach. These works may include both important and minor items. Selective collecting may also be done to achieve balance within a format or literature type based on such criteria as geography or language, or to insure that the collection contains materials which illustrate a variety of philosophical, cultural, or political perspectives on medical topics. In some cases, NLM collects representative examples of materials in order to provide a balanced literature complement to the scholarly biomedical record.

Special collecting effort is directed at those materials that present information not found elsewhere in the scholarly literature. In building its collection, NLM seeks to avoid unnecessary duplication and redundancy. The decision to acquire materials in one format as opposed to another is an internal decision which may be based on practical considerations such as access, preservation or bibliographic control.

The formats and literature types addressed in the following section may present special problems for the selector. In making selection decisions, NLM takes into consideration the characteristics of each category and its relative importance to the completeness of the biomedical record. Since source of publication may have a direct bearing on an item's importance to the collection, certain major publication source categories such as association and government publications, are also discussed in this section. In collecting materials in any literature type or format, NLM generally emphasizes the publications of leading institutions which significantly influence U.S. health care and research. Categories are arranged in alphabetical order. Some categories cannot be considered in isolation. In these cases "see also" references have been provided to identify other format and literature type categories which may offer the selector guidance.

ABSTRACTS, INDEXES AND BIBLIOGRAPHIES

Biomedical abstracts, indexes and bibliographies are an integral part of the scholarly record.

NLM collects those bibliographic works which are essential to provide access to the biomedical literature. Selection decisions are made based on their comprehensiveness, uniqueness, and usefulness for research and scholarship. To avoid redundant collecting, subsets or abridgements of a single work are not collected; however, bibliographic resources which combine information from a number of other works may be collected.

NLM also collects and maintains general bibliographic resources sufficient to provide access to the world's biomedical literature. These resources include national bibliographies, as well as general indexes and abstracts, which provide access to core literature which is not available through biomedical bibliographic resources.

See also *TRANSLATIONS*

ACADEMIC DISSERTATIONS

Academic dissertations, including theses and post-doctoral dissertations, played an important role in communicating results of original biomedical research before the rise of commercial scientific publishing. NLM therefore collects historical biomedical dissertations.

The dissertation literature remains an important source of original research in some fields, such as the history of medicine and paleopathology. In most cases, original dissertation research subsequently is reported elsewhere in the scientific literature. Other biomedical dissertations provide secondary review and analysis of research literature, but little primary research. NLM generally does not collect modern biomedical dissertations unless they contain significant primary research not likely to be reported in other literature held at the Library.

ALUMNI AND STUDENT PUBLICATIONS

Alumni and student publications 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.

NLM collects selected publications directed toward the students and alumni of U.S. health related institutions. Collecting emphasis is on the publications of influential institutions, though publications of unique or distinctive institutions may also be selected. NLM selects those publications which contain signed original articles, biographical information, or other material of potential historical value.

See also *CATALOGS, DIRECTORIES, NEWSLETTERS AND NEWSPAPERS*

ANNUAL REPORTS

Health related government agencies, professional societies, institutions, corporations and foundations issue annual reports which may provide valuable information concerning their purposes and activities. NLM collects selected annual reports with an emphasis on those of influential U.S. national organizations. Reports of international and foreign organizations which significantly influence U.S. health care thought and practice, and reports of lesser known but unique organizations may also be selected. NLM selects materials published by U.S. state and local governments and agencies when they are especially important to the U.S. scholarly biomedical record.

NLM also collects a diverse sample of the annual reports of U.S. health care institutions.

ASSOCIATION PUBLICATIONS

NLM collects biomedical literature issued by a wide variety of health related associations. Collecting emphasis is on the publications of major national and international associations which influence health policy, medical practice, and professional education. Official specialty journals, standards and guidelines, conference proceedings, and monographs of these associations are collected comprehensively. Other materials, such as membership directories, annual reports, and pamphlets are also selected.

Publications of less influential organizations (e.g. regional, state and local associations, and international and national groups of less prominence) are collected selectively. Collecting emphasis is on publications which are of broad interest to U.S. health professionals, which represent alternative viewpoints, or which characterize health issues in a unique context.

See also individual format or literature type categories.

AUDIOVISUAL MATERIALS

NLM collects audiovisual materials less broadly than print formats. Materials are considered for selection if the information is considerably enhanced by audiovisual presentation. NLM's collecting interest is in audiovisuals produced for use by health professionals or those that are of potential interest to historians. Especially important to the NLM collection are works which document innovations, procedures, attitudes, issues or policies concerning or affecting health care and biomedical science as well as those which document significant events or the life and work of individuals important in biomedicine. Audiovisuals of historical interest may include those on health related topics produced for a broad audience.

Contemporary examples of authoritative audiovisuals intended for professional use in continuing medical education, patient instruction, patient treatment, or health education are also selected. Materials intended for independent patient use usually are not selected, except for historical purposes.

Audiovisuals in standard U.S. formats are collected for the general collection, though other formats may be selected if necessary for the historical collection. Audiovisuals in foreign languages, including those produced in the U.S., and audiovisuals produced outside the U.S., even in English, are collected only when they contain unique information and are of special historical importance.

See also *HEALTH EDUCATION AND PATIENT INSTRUCTION MATERIALS, INSTRUCTIONAL MATERIALS FOR THE HEALTH PROFESSIONS*

BIOGRAPHICAL WORKS

Biographical works include biographies, autobiographies, personal narratives, memoirs, and published oral history transcripts. They 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 accounts of an illness generally are not collected, except for historical interest.

See also *MANUSCRIPTS*

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 influential academic health science institutions as well as those of some lesser known but unique institutions.

NLM collects catalogs of biomedical exhibits which provide valuable illustrative and descriptive material.

COLLECTED WORKS

NLM acquires collected works, including anthologies, 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 useful.

See also: *REPRINTS AND FACSIMILES, TEXTBOOKS*

CONFERENCE PUBLICATIONS

NLM collects comprehensively the proceedings of national and international biomedical 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. If neither complete proceedings nor abstracts are available, conference programs may be collected if they are of historical interest or when they document important biomedical research activity not represented in the scholarly literature.

NLM collects very selectively the proceedings of other meetings as well as single papers and lectures not issued as part of proceedings. Collecting emphasis is on those of historical importance or of widespread topical interest to health professionals.

Recordings of significant conference proceedings may be acquired if a print version is not available or when the recording itself is historically important.

DICTIONARIES

NLM collects dictionaries of biomedical terms, names, subjects, phrases, abbreviations, acronyms and symbols which are useful to health professionals and scholars. Biomedical dictionaries in any language may be selected in order to meet scholarly or research needs. Bilingual dictionaries are collected more selectively, with collecting emphasis on works which contain English or other languages important to U.S. health professionals and scholars.

DIRECTORIES

Directories of professional health organizations may provide information regarding the association's history, purpose, activities, and influence on biomedicine. They may also contain biographical information. NLM's collecting emphasis is on directories of U.S. national professional organizations, particularly those which issue standards, have authority to certify, or assume responsibility for professional education.

Directories of health facilities, products and services, health related institutions, corporations, research laboratories, educational programs and facilities may contain useful specific information. NLM collects representative examples of such directories with an emphasis on national sources widely used in the U.S.

Foreign and multi-national directories containing information important to the U.S. health professional also are selected.

ELECTRONIC FORMATS

The variety of biomedical literature offered in electronic format is rapidly expanding. Electronic materials may appear as distinct units such as data files, computer files, interactive video programs, or as transmitted information which may be accessed online, captured, and stored on another medium. Examples of the transmitted electronic literature include electronic journals and conferences.

NLM collects materials in electronic format selectively, taking into account their availability in other media. NLM also considers the utility of an electronic work and its implications for NLM's existing collection. Electronic materials produced for access in the U.S., using standard, widely available equipment and protocols are selected. Selection preference is given to materials in the format most practical to retain, preserve and make available to the U.S. biomedical community.

An electronic work is considered for selection if the content is original or is significantly enhanced by electronic presentation. The item should also be accompanied by adequate documentation, present authoritative information, and be of good technical quality. Selection preference is given to electronic literature issued by major U.S. professional associations. Collecting emphasis is on those materials which are of particular topical interest to U.S. health professionals, are appropriate as library materials, and are important to the U.S. scholarly biomedical record.

NLM selects contemporary examples of instructional materials in interactive video and computer file format very selectively. Collecting emphasis is on those which are particularly effective in demonstrating contemporary techniques in medical education through simulations, decision making models, or computer graphics.

Electronic indexes and bibliographies normally are selected for the general collection only if they contain information which is not available in other media or if they are deemed of historical interest.

Some health instruction materials are intentionally designed to be altered by the user. Other electronic materials are systems or databases containing raw information useful only in a health science setting or with additional equipment, programs and documentation. NLM does not collect these materials.

See also *EXAMINATION REVIEW GUIDES*, *INSTRUCTIONAL MATERIALS FOR THE HEALTH PROFESSIONS*

ENCYCLOPEDIAS

Medical encyclopedias present a review of biomedical thought and practice in summary form. NLM collects medical encyclopedias in any language to support biomedical research and scholarship.

In order to document the status of health information disseminated to the public, NLM also collects selected examples of widely used medical encyclopedias written for a general audience. Collecting emphasis is on those that are written by leading experts or endorsed by major professional organizations, and appropriate for a U.S. audience.

EPHEMERA

Materials designed for short term use are considered ephemera. They vary greatly in size (from broadsides to patent medicine cards), sophistication (from fine art prints 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 orthodox 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. For additional explanation, see the entries for particular types of ephemera, such as fact sheets, pamphlets and posters.

EXAMINATION REVIEW GUIDES

Examination review guides in the health sciences which are published as aids in preparing for entrance, board certification or recertification examinations, provide both contemporary and historical information concerning the generally recognized standards, requirements and prerequisites for formal education and licensure in the health professions.

NLM collects examination review guides selectively with an emphasis on materials produced by major commercial publishers or recognized professional organizations. Selection is generally limited to works widely used to prepare for U.S. professional health examinations.

FACT SHEETS

Health related agencies and professional associations produce fact sheets and leaflets in order to disseminate health information to the general public in an economical, easily distributed form. Their value to historians is in providing, in capsule form, authoritative information concerning current health topics.

NLM collects selected fact sheets for historical purposes. Collecting emphasis is on those published by the U.S. Public Health Service agencies, particularly the National Institutes of Health, and other authoritative or widely influential sources.

See also *EPHEMERA*

GOVERNMENT PUBLICATIONS

Governments influence the course of biomedicine and health care practice by establishing and enforcing health related standards, laws and regulations; and by funding health research, health care programs and services.

NLM collects U.S. federal agency documents and reports issued by the executive branch pertaining to health care and health issues. Of particular collecting importance are federal health agency policies, practice guidelines, studies of health care issues, regulations, and health and vital statistics. Collecting emphasis is on the publications of the health agencies of the Department of Health and Human Services. NLM also collects representative examples of health education materials, fact sheets, pamphlets and posters issued by U.S. federal health agencies. For additional explanation, see entries for those categories.

The Library of Congress assumes national collecting responsibility for U.S. congressional documents. NLM may select health related congressional publications; including committee reports, hearings, and final legislation; with emphasis on those of importance to the scholarly biomedical record. In collecting these materials, NLM takes into account their availability and accessibility in various formats.

International quasi-governmental health agencies, such as the World Health Organization and the Pan American Health Organization, exert major influence on health care and biomedicine throughout the world. Their publications are of particular collecting interest.

NLM selects materials published by foreign national, U.S. state and local governments and agencies when they are of broad interest to U.S. health professionals and scholars.

See also: *STATISTICAL WORKS, TECHNICAL REPORTS*

HEALTH EDUCATION AND PATIENT INSTRUCTION MATERIALS

The distribution of health education materials is an important strategy in the practice of public health and preventive medicine. NLM collects selected examples of these materials in order to chronicle preventive medicine and public health outreach efforts. Collecting emphasis is on unique, influential or authoritative works which address major health issues.

Instructional materials produced for the patient are often used by health providers as a technique in direct patient care. NLM collects materials for patient instruction very selectively. Collecting emphasis is on authoritative materials widely used in U.S. health care.

See also *AUDIOVISUAL MATERIALS, PAMPHLETS*

HUMOROUS AND SATIRICAL WORKS

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 which deal with historically important issues, events and personalities, or which address topics of current concern to U.S. health professionals.

INSTRUCTIONAL MATERIALS FOR THE HEALTH PROFESSIONS

Instructional materials provide evidence of the intellectual content, instructional techniques, and educational philosophies found in formal education for the health professions. These materials generally contain information collected from other sources and reorganized into forms more suitable for a didactic purpose. NLM collects representative examples of such materials used in the U.S. to provide insight into educational trends in the health sciences.

Continuing education materials which describe new concepts, demonstrate new techniques, or document contemporary concerns of the U.S. health professional are of particular collecting interest.

Supplemental instructional aids typically intended for classroom use such as instructor's manuals, student laboratory manuals, syllabi, course outlines, student workbooks, charts, and realia generally are not collected unless they provide essential insight into important trends in professional health science education.

See also *AUDIOVISUAL MATERIALS, ELECTRONIC FORMAT MATERIALS, EXAMINATION REVIEW GUIDES, TEXTBOOKS*

INTERIM REPORTS

Interim reports generally are issued for studies conducted over a considerable period of time. Such reports show the development of data, concepts or consensus, and present timely information about the status of projects and other work in progress.

Published interim reports on topics of major concern to U.S. health professionals are collected with an emphasis on publications of the U.S. Department of Health and Human Services and the World Health Organization.

LABORATORY MANUALS

Laboratory manuals contain descriptions of standard laboratory procedures, current techniques and safety measures, as well as formulae and other technical information. NLM collects representative examples of laboratory manuals written for the biomedical professional. Selection is limited to authoritative manuals widely used in U.S. clinical and biomedical research laboratories.

LIMITED DISTRIBUTION MATERIALS

NLM collects publications intended for limited distribution and proprietary use when they are available to NLM without restrictions on access.

LOOSELEAF SERVICE PUBLICATIONS

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 very selectively. Collecting emphasis is on those which compile information not readily accessible or available in other formats.

MANUSCRIPTS

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 twentieth century U.S. medicine. Priority is given to manuscripts and collections of papers written by or about individuals who have contributed significantly to the health sciences, and those which contain other information important to the history of medicine. 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: biochemistry, biotechnology and molecular biology, surgery, pediatrics and child development, medical informatics, the history of medicine, military medicine, and the U.S. Public Health Service, including the National Institutes of Health.

See also *BIOGRAPHICAL WORKS*

MARKET SURVEYS

Biomedical market surveys are specialized reports describing specific commercial opportunities and produced exclusively for managers in health related industries. These surveys assess the specific need for a product in a particular environment, describe potential commercial gain, and recommend marketing strategies.

NLM collects market surveys very selectively as resources for the future study of health economics rather than to provide current information. Selection is limited to those which illustrate important developments or trends in the health marketplace relating to equipment, products or services. Reports which describe specific markets for name brand items or specialized consulting services generally are not collected.

NEWSLETTERS AND NEWSPAPERS

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 which 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 which contain digests of articles reprinted or abridged from other publications. Newsletters which 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

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 which present unique health care strategies and concerns also are selected. Other items which present health outreach efforts, conflicting opinion, and alternative practice are also of collecting interest.

See also *STANDARDS AND GUIDELINES, EPHEMERA*

PHARMACOPOEIAS AND FORMULARIES

Pharmacopoeias and formularies are authoritative treatises on drug standards and preparation. They may contain descriptions of pharmaceutical products, tests for determining their identity or purity, preparation formulas, or dispensing and dosage information. These works provide an historical record of pharmacy practice, drug use, and drug availability.

NLM collects selected pharmacopoeias and formularies which are widely used or which present unique information. Collecting emphasis is on national formularies and pharmacopoeias.

POSTERS

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, substance abuse, preventive medicine, and maternal and child 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 MATERIALS

Practice management materials include a wide variety of practical business aids and systems intended to assist health care providers and administrators with accounting, billing, contracts, file management, marketing, etc. These materials are considered supplementary to the general professional practice management literature and are often issued in looseleaf, unbound, electronic, or audiovisual format. The majority of these aids and systems are only useful when integrated into a hospital or office setting, and are not appropriate for library collections.

NLM selects practice management resources (such as a compendium of medical form letters or a litigation manual) only if they are of general interest to U.S. health professionals and contain information not captured elsewhere in the literature. Selection emphasis is on resources issued by major U.S. professional associations.

PRINTS AND PHOTOGRAPHS

Prints and photographs document visually the history and development of medicine from early times to recent decades. NLM's collection includes fine prints, historical and contemporary photographic processes, posters, and ephemera such as patent medicine trade cards. Collecting emphasis is on 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. Images reproduced from existing works are also added to the prints and photographs collection.

REPRINTS AND FACSIMILES

Reprints and facsimiles are collected when they provide useful information such as a commentary or bibliography which did not appear in previous printings. They are also selected when NLM lacks the original, when NLM's copy is in poor condition, or when they are historically significant single items.

See also *COLLECTED WORKS*

STANDARDS AND GUIDELINES

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 which articulate minimal, acceptable or excellent levels of performance or which 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 which 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 US 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

Statistical works are important resources in biomedical research, health care practice, and health policy making.

NLM collects selected statistical works in biomedicine. Of particular interest are works which report vital statistics, disease incidence, health status indicators (e.g., smoking or nutrition), population variables which influence health expectations (e.g., fertility, age, sex, ethnic groups), factors which have direct impact on health care research (e.g., government funding for health care), and health outcomes (e.g., disabilities). Non-medical statistical works (e.g., accidents, demographic characteristics) are considered for the collection when they relate to the cause or effect of a disease or disorder.

NLM's collecting emphasis is on cumulated works which are national or international in scope, and on those which describe populations of special epidemiological interest. Compendia of U.S. state health and vital statistics are also collected. In addition, NLM selectively acquires compilations of health related statistics issued by other jurisdictions of particular interest. Other U.S. state and local statistical works are collected when they provide data or data analysis on important topics.

Statistics in the form of raw data files, whether in electronic format or in print, are not collected.

TECHNICAL REPORTS

Technical reports are valuable sources of research based information on specific scientific, technical, management, or policy problems in biomedicine.

In selecting technical reports, NLM's focus is on those which provide unique information in emerging fields of biomedical research and other areas of widespread interest among U.S. health professionals (e.g., health services research, environmental health, biotechnology, health care technology assessment, and risk management). NLM's collecting emphasis is on health related reports published by U.S. federal agencies and eminent research organizations.

See also *INTERIM REPORTS*

TESTS

Specific tests are used as instruments to measure, diagnose, or evaluate psychological conditions and mental processes, or to assess physical status. NLM selects examples of those published tests and assessments which are widely used in the U.S. to enhance its existing collection of works on diagnostic and evaluative procedures.

TEXTBOOKS

A textbook, although primarily intended for student instruction, may also be of interest to the biomedical professional and historian as a reference source, an historical record of medical education, a chronicle of societal attitudes toward health and disease, or a synthesis of knowledge in a subject.

NLM collects textbooks intended for the education of U.S. health professionals. Other textbooks also may be selected. These include U.S. texts in pre-clinical subjects such as biochemistry, cytology, or abnormal psychology; U.S. college level texts on health issues; and foreign texts. Collecting emphasis is on advanced textbooks notable for their comprehensiveness, authority, or presentation; and on texts which contain unique information or have historical value.

See also *INSTRUCTIONAL MATERIALS FOR THE HEALTH PROFESSIONS*

TRANSLATIONS

NLM collects foreign biomedical works in their original language. When available, an English translation is also acquired.

If a work is published in a language not widely understood in the U.S. and no English language translation is available, the work may also be acquired in a language more likely to be familiar to a U.S. audience.

Translations from English to a foreign language generally are not collected. When works are issued simultaneously in several languages, NLM generally collects the English version only. Excepted in both cases are works of specific historical interest, those with significant added material, and those which characterize the dissemination of health information to populations whose primary language is not English.

See also *MANUSCRIPTS*

APPENDIX

LIBRARY OF CONGRESS POLICY: THE MEDICAL LITERATURE

The Library of Congress (LC) collection policy for medical literature is as follows:[16]

I. The Library of Congress will endeavor to acquire for its permanent collections books, serials, films, videotapes, and other library materials which contribute to a knowledge of the social, economic, historical, political and legal aspects of medicine; one copy of basic English-language textbooks in medicine and other substantial monographs received by copyright deposit; basic reference tools, e.g. bibliographies, medical dictionaries, and official directories of national medical associations; popular works in the United States addressed to the layman; works on traditional non-Western systems of medicine in all languages; tropical medicine as it relates to public health and socio-economic structure; the official organs of international and national medical associations throughout the world; and official organs of regional medical associations of the United States.

II. The Library will not acquire works relating to the actual practice of medicine (including dentistry, podiatry, osteopathy, chiropractic, nursing, pharmacology, or hospital administration) addressed primarily to professional practitioners. While an exception to this statement shall be made in the case of works in English in the general field of psychiatry, the Library will not acquire works confined solely to techniques in the clinical diagnosis and treatment of mental disorders.

III. Copyrighted serials relating solely to the practice of medicine, as described in Section II, will not be retained. Except as noted in Section I, monographic copyright deposits will be transferred to the National Library of Medicine. Selected titles, however, may be retained for temporary use.

IV. The above policy shall not preclude the acquisition of selected rare materials for their bibliographic interest or their relationship to other materials in the Library's collections.

NOTES

1. National Library of Medicine (U.S), Technical Services Division. *Collection development manual of the National Library of Medicine.* Bethesda, (MD): U.S. Department of Health and Human Services, Public Health Service, National Institutes of Health; 1985. 110p.

2. National Library of Medicine Act of 1956. 84th Congress. PL 84-941.

3. *RLG Collection Development Manual* Stanford, CA, Research Libraries Group, 1981, p.18.

4. Preservation of the biomedical literature. Revision to the Preservation Policy. Approved, Board of Regents February 6-7,1986.

5. Library of Congress acquisition policy statement no. 22-b. Medicine. Adopted March 4,1982.

6. Library of Congress acquisitions policy statement no.3: Scholarly publications. Approved April 19, 1956.

7. National Agricultural Library. United States Department of Agriculture. *Collection development policy of the National Agricultural Library* (Beltsville, MD: 1988).

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9. Wyndham D. Miles. *A History of the National Library of Medicine, the Nation's Treasury of Medical Knowledge*, Washington, D.C., Government Printing Office, 1982, p.5.

10. Ibid., p.36. Letter, Surg. Gen. Barnes to Rep. J.A. Garfield, Jan. 6,1872; also letter, Barnes to Sen. L.M. Morrill, Feb. 9,1872: NA.

11. Ibid., p.42. Quote from a Billings letter to "Dear Doctor," Jan.23,1872: MS/C/81.

12. Miles, op.cit., p. 293.

13. *The National Medical Library: Report of a Survey of the Army Medical Library,* Chicago: American Library Association, 1944.

14. *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 Committee.

15. 84th Congress. 2d sess. bill S.3430. 1955

16. Library of Congress, op.cit.

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