

# The Merck Manual: A Century of Medical Publishing and Practice

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The year 1999 marks a milestone in medical publishing—the 100th anniversary of *The Merck Manual*, the oldest continuously published general medical text in the English language. What a century for advances in medicine! The history of the Manual provides a wonderful overview of how medical practice has changed, as well as how the book's editing has evolved.

## The Early Editions

The first edition of *The Merck Manual*, titled *Merck's Manual of the Materia Medica*, consisted of 3 parts: Part I ("Materia Medica") listed in alphabetical order every agent thought to be of therapeutic value. Part II ("Therapeutic Indications") listed symptoms, signs, and diseases in alphabetical order and gave a list of all known treatments. Part III classified drugs "according to their physiologic actions", which included now-archaic categories such as "emmenagogues" and "discutients".

In 1899 the Manual cost \$1, about as much as a week's groceries: 2 dozen eggs, 3 pounds of flour, one pound of bacon, 10 pounds of potatoes, and a 1-pound round steak. The book now costs \$35, about the cost of dinner for 2 at a Chinese restaurant. The low price derives from a 100-year-old Merck policy of selling all its books on a not-for-profit basis as a service to the medical community.

The first edition reveals a remarkable reliance on poisons, such as strychnine and arsenic. Arsenic was listed as a medication for more than 100 diseases, including jaundice, hydrophobia, elephantiasis, and

impotence. Occasionally, agents that defy explanation were mentioned, such as *Aletris cordial*, which allegedly was "prepared from *Aletris farinosa* or True Unicorn". Surprisingly, tobacco was recommended to treat asthma and nymphomania ("so as to cause nausea; effectual but depressing"). A large number of treatments were recommended for each symptom or disorder; for example, 102 treatments were listed for bronchitis. Some drugs mentioned in the first edition (such as cocaine, codeine, colchicine, digitalis, and atropine) are still of value, as is the use of poisons (such as some cancer

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chemotherapy agents).

The first edition was an instant success. A book reviewer in the *Chicago Medical Recorder* commented: "Although this little book is gotten out by a manufacturing firm and with some view towards its advertising value, it nonetheless is of such merit that it is deserving of mention in this column." Distribution of the first edition and of many later editions was limited to members of the medical, pharmaceutical, or allied-health professions—a restriction that was not always well received by the general public.

The first edition was followed by the second in 1901, the third in 1905, and the fourth in 1911. Wartime paper shortages delayed the fifth edition to 1923. The sixth edition (1934) was also delayed, this time by the stock-market crash.

## Beginnings of the Modern Manual

The *Merck Manual* followed the same general outline and format until the sixth edition. The Manual had by then grown to 1379 pages and begun to resemble modern manuals, with definitions of diseases followed by full descriptions of diagnosis and therapy. The editor (Dr M R Dinkelspiel) noted that therapy was approached "not as a science,

but as an art." He looked for the practical application of what has been emphasized so frequently, namely that the patient should be treated as well as the disease. This feature of combining *savoir-faire* with medication and accessory regimens represented, he said, a "refreshing departure from stereotyped therapeutics". For example, for the treatment of insomnia, the Manual discussed psychotherapy, physical measures, diet, and relief of distressing symptoms before sedatives, hypnotics, or opiates.

The sixth edition acknowledged the work of Bernard Fantus, the founder of blood-banking and professor of therapeutics at the College of Medicine, University of Illinois, for his oversight of therapeutics, and thanked the authors and publishers of 11 other works "from which much has been gleaned to add to the value of this edition."

The seventh edition (1940) took into account considerable advances in medical progress. Dr Dinkelspiel wrote, "Avitaminosis, endocrine disturbances, and other conditions have assumed definite and fundamental importance. . . . The menacing spectre of the menopause no longer stalks undefeated during middle life. Typhoid fever has ceased to be ubiquitous. Pneumococcal pneumonia is confronted by its formidable antagonist, sulfapyridine. . . ." For the first time, circulatory failure, granulocytopenia, impotence, hypoglycemia, obesity, and roentgen-ray sickness appear, with many other new subjects. To establish *The Merck Manual* as indispensable and authoritative, Dr Dinkelspiel had each chapter approved by leading specialists.

Delayed by World War II, the eighth edition appeared in 1950; it sold 350,000 copies. A 4-man editorial board, an editor, 6 assistant editors—all physicians—and 8 editorial assistants, with the cooperation of more than 100 noted clinicians throughout the United States, spent almost 3 years planning and preparing the eighth edition. This was the first edition to be divided into specialties, as the Manual is today, and to have the characteristic thumb tabs.

### Swift Advances in Medicine

The ninth edition (1956) reflected the growing list of corticosteroids and new drugs for pain and the acceptance of psychoanalytic theory. The editor (Charles Lyght) and 4 editorial-board members were listed on the title page for the first time. The 10th edition (1961) saw the advent of newer antibiotics and vaccines, metric quantities in dosage statements, and the advance of radioisotope diagnosis. The 11th edition (1966) covered more than 1000 subjects, including a chapter on the growing importance of family planning, and reflected a new understanding of the etiology of many diseases.

The 12th edition (1972) contained many new chapters, for example, on coronary care units, cardiovascular and malignant diseases, immunology and genetics, and the chemotherapy of psychiatric disorders. The 13th edition (1977) was the first for Robert Berkow, who is still the editor-in-chief. Rapid advances in such fields as immunology and pediatrics indicated that major changes were needed. The book was reorganized, and about 80% of the chapters were rewritten.

Dr Berkow's editorial standards have influenced the book for 25 years. His goal was to have almost every manuscript rewritten and reduced by at least 15% to conform to house style. To this day, no manuscript receives final approval until each word has been scrutinized and the manuscript has been reviewed by at least one outside expert. The average manuscript is edited about 10 times, rarely fewer than 6 times; and 20 times is not uncommon. Two distinguishing and seemingly contradictory characteristics of The Merck Manual are its brevity and its completeness. Both are achieved through careful manipulation of manuscripts—the work of almost 300 specialists—into a distinctive Manual style.

### How the Manual Is Produced

There is no documented history of the production of The Merck Manual before

the early 1970s. The 12th edition (1972) was typed (yes, on a typewriter) by one person (!) in the days when a few changes in a 60-page manuscript required retyping every word. The 13th edition was a bit easier thanks to the advent of IBM mag cards and mag tape, which were welcome enhancements because the content of the book was doubled in that edition. Since then computers have been used, although for the 16th edition (1992) the in-house editors were still editing on hard copy with red pens and then giving manuscripts to a word processor to incor-

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porate changes.

The 17th (centennial) edition was edited by 4 physician editors, an executive editor, and 4 staff (lay) editors. The physician editors are responsible for evaluating manuscripts received from outside authors and making content or line changes as necessary. These editors scour the medical literature for all advances in medicine, especially those in diagnosis and treatment. Staff editors are responsible for editing manuscripts for style, organization, and content. Both physician and staff editors work on computers, using the redlining feature of Microsoft Word to track changes. Manuscripts are sent first to outside reviewers (including a pharmacist reviewer), then to the author for initial review, and finally to the author for final approval. Each time a manuscript arrives, it is reviewed and edited by at least one physician editor and at least one staff editor. That is why 15 to 20 revisions is not at all unusual.

### Challenges for the Editors

The most difficult task for the editors is to capture new information on an extraordinary range of subjects and contain it all within the boundaries of a handbook. Despite all that

is new in medicine, the premise behind The Merck Manual has remained constant—to help clinicians achieve the best care for patients by providing information that is current, concise, and complete, because, as stated in the first edition, “Memory is treacherous. . . . But a mere reminder is all . . . [the doctor] needs . . . to prescribe exactly what his judgment tells him is needed for the occasion.” Despite technologic advances in information processing, communication, typesetting, and book manufacturing, the intellectual processes of evaluating the quality of information—especially for completeness and accuracy—and providing it in clear, readable language have not changed.

The Merck Manual has a long tradition to uphold. The book was used by Albert Schweitzer in Africa, and it accompanied Admiral Byrd when he discovered Antarctica. The Manual continues to be well received and is the most widely used medical text in the world—almost 2 million copies of the 16th edition were sold, and it has been translated into 16 languages and is available in several electronic formats.

Distribution of the Manual is no longer restricted to those in the medical and pharmaceutical professions, although the book is not intended for laypeople. To provide laypeople with the same quality of information, the editors of The Merck Manual “translated” the book into lay language and published The Merck Manual of Medical Information—Home Edition in 1997.

As an interesting endnote, all people who purchase the 17th edition of The Merck Manual during its centennial year will receive a facsimile copy of the first edition. Readers can then see for themselves how much medicine has changed during this century. 