

# THE SCOPE OF PHYSICAL MEDICINE AND REHABILITATION

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## DEFINITION

Physical medicine has been defined as that branch of medicine using physical agents, such as light, heat, water and electricity, and mechanical agents in the management of disease. Rehabilitation involves treatment and training of the patient to the end that he may attain his maximal potential for normal living physically, psychologically, socially and vocationally. Another definition commonly employed states that rehabilitation is "the restoration through personal health services of handicapped individuals to the fullest physical, mental, social, and economic usefulness of which they are capable, including ordinary treatment and treatment in special rehabilitation centers."

Rehabilitation is a creative procedure which includes the cooperative efforts of various medical specialists and their associates in other health fields to improve the physical, mental, social and vocational aptitudes of persons who are handicapped, with the objective of preserving their ability to live happily and productively on the same level and with the same opportunities as their neighbors.

The Community Health Services of San Francisco have defined rehabilitation as "the process of decreasing dependence of the handicapped or disabled person by developing to the greatest extent possible the abilities needed for adequate functioning in his individual situation."<sup>7</sup>

In this handbook Yesner has defined rehabilitation as "*a treatment process designed to help physically handicapped individuals make maximal use of residual capacities and to enable them to obtain optimal satisfaction and usefulness in terms of themselves, their families and their community.*" Likewise, Fordyce has defined rehabilitation in this handbook as being "concerned typically with people who have disabilities with enduring and pervasive effects. The essence of the rehabilitation process is recognition that what has happened to the patient affects, and will continue to affect, many aspects of his life extending beyond the limits of bodily function."

A physician who specializes in physical medicine and rehabilitation combines his skills in the application of physical agents in the restoration of the handicapped with a concern for the evaluation and treatment of the physical, mental, social and vocational problems of his patient. The designation *Physiatrist* is now commonly applied to the specialist in this field. This term derives from the Greek words *physikos* (physical) and *iatros* (physician). The term signifies that the specialist is a physician who employs physical agents for the evaluation of the extent of disability and for the rehabilitation of his patients.

The practice of physical medicine and rehabilitation involves the medical examination and evaluation of the disabilities of handicapped patients, the prescription and medical supervision of physical and occupational therapy and other forms of therapy, the training of the handicapped person in ambulation and self-care and medical supervision and coordination of other rehabilitation procedures. Frequently the supervision of the use of devices for artificial respiration is provided by the physiatrist and many physiatrists are concerned with the electrical tests for the study of neuromuscular disorders. Oscillometry, skin temperature studies, oximetry, fever therapy and a wide variety of miscellaneous uses of physical agents for diagnosis and therapy are usually considered to be the specific responsibility of the physiatrist.

In this chapter the term "scope" will be used according to that portion of the definition of scope appearing in the Oxford Universal Dictionary,<sup>20</sup> which designates it as "the sphere or area over which any activity operates or is effective."

It now becomes ever more apparent that the team providing physical medicine and rehabilitation is operating in a continually widening sphere and is becoming increasingly effective in the evaluation and management of a growing number of problems of disadvantaged persons.

## **THE INCREASING IMPORTANCE OF PHYSICAL MEDICINE AND REHABILITATION**

The practice of physical medicine and rehabilitation is growing rapidly in importance because of the changing concepts with regard to the approach that the modern physician should take toward the management of his patients. We know today that in the care of the sick and the disabled we should go beyond the antiquated approach in which the physician concerned himself simply with the diagnosis of a static pathologic process, provided the necessary surgical procedures for elimination of the pathologic lesion, or administered the necessary drugs to cure a specific disease, and then dismissed his patient with the conclusion that his responsibilities to the patient had ended. Today the physician realizes that he must take a dynamic approach to the study of disorders of physiologic processes which are constantly changing and that he must concern himself not only with the physical disability but also with the psychologic, social and vocational problems of his patient. Instead of providing episodic care for specific diseases, the modern physician should take a holistic approach in which he makes every effort to maintain his patient in the best possible health physically and mentally even though the patient may have extensive disability. It is a dynamic rather than a passive approach to the health needs of each patient.

Recently Dr. John B. Youmans, Professor Emeritus of Medicine at Vanderbilt University School of Medicine, stated, "To the public, the doctor has become a super-scientist. To the doctor, the patient is too often a biological unit that he manipulates objectively but with little subjective feeling." <sup>28</sup> The modern physician must strive at all costs to avoid this impersonal approach and he must make every effort to take the broad approach with a deep personal interest, not so much in the specific disease as in the patient as a person with emotional, social and vocational problems as well as physical disease or disability.

In World Health (the magazine of the World Health Organization), which deals with hospitals throughout the world, in December, 1970, two leading health authorities, Dr. F. Bauhofer, Director-General of Public Health, Austrian Ministry for Social Affairs, and Dr. R. F. Bridgman, Inspector General, Ministry of Health, France, stressed the importance of rehabilitation medicine in the newer hospitals.

Dr. Bauhofer stated: "Rehabilitation in hospitals will play a more important role, and will be associated not only with the treatment of the physically handicapped but with all branches of medicine." <sup>4</sup>

Dr. Bridgman wrote: "The basic hospital of the type we are considering is something entirely different from the traditional general hospital. The inclusion of dispensaries providing preventive, curative and rehabilitation services . . . are all features which give it a new character. . . ."

## **THE DEVELOPMENT OF MEDICINE AS A SOCIAL SCIENCE**

Some years ago the distinguished medical educator, Dr. Raymond B. Allen, said, "Medicine is coming of age as a social science in the service of society." <sup>1</sup> And shortly thereafter, the president of the Rockefeller Foundation, Chester I. Barnard, in discussing medical care, commented: "The old idea that biophysics and biochemistry would eventually unravel all the problems of health and disease is less tenable today than was the case 40 or 50 years ago. There is a growing realization that interrelated social factors outside the physics and chemistry of the body also are involved. When research has accumulated and systematized the data into a scientific discipline, biosocial medicine may become an indispensable part of the school curriculum. We may expect medical schools then to introduce students to the practice of community medicine, with an emphasis on social diagnosis comparable to that on physical diagnosis." <sup>3</sup>

Today the physiatrist working with his associates in the allied health professions and with community health agencies is achieving the kind of practice of community medicine and emphasis on social diagnosis predicted by Dr. Barnard two decades ago.

## THE IMPORTANCE OF THE PSYCHOLOGIC SOCIAL AND VOCATIONAL ASPECTS OF DISABILITY

In a book entitled *When Doctors Are Patients*, edited by two physicians, Max Pinner and Benjamin Miller, a group of physicians have described their own personal experiences with various serious diseases. It is perhaps a revelation to some physicians to discover that almost every one of these seriously ill physicians, as he recited the problems that he faced in dealing with his own illness, stressed almost invariably the psychologic and social aspects of his disease. This led the late Dr. Pinner to conclude in his preface that "This collection of case reports can only emphasize again and, I believe, in a peculiarly urgent and moving way, how essential it is to treat the whole patient." Pinner added, "The need is not, in my opinion, diagnosis and specific treatment of so-called psychosomatic diseases, but the recognition—which is not new, but so frequently forgotten and ignored—that every disease is psycho-somatic, that is, that it affects both body and soul."<sup>22</sup>

Growing understanding of the ways in which the rehabilitation team in a comprehensive center for physical medicine and rehabilitation operates has led to an increasing awareness of the fact that the team must consider routinely the physical, psychologic, social and vocational problems of each handicapped patient or client.

Furthermore, it has become increasingly apparent that the development of *evaluation Procedures* (other than the usual diagnostic techniques) is an essential part of the routine practice of the physiatrist. Such evaluation lays the ground work for the provision of proper therapeutic management.

Finally the rehabilitation teams are becoming continually more expert in the skillful management of disabling conditions and of the reaction of their patients toward disability. Thus, Fordyce (Chapter 6) and his associates have found that *operant conditioning* is a very useful tool in expediting the management of the disabilities of certain patients.

## AGING OF THE POPULATION AND ADVANCE IN THE NUMBER OF SERIOUSLY DISABLING INJURIES IS INCREASING THE NEED FOR PHYSICAL MEDICINE AND REHABILITATION

The amount of chronic illness among aging and aged persons is constantly increasing. The medical problem of chronic illness is, therefore, a major one, and, because it IS increasing, it deserves as much consideration as the problem of acute illness, if not more. Until recently, and to a certain extent even now, physicians have devoted their major attention to the causes, diagnosis and cure of acute diseases. Efforts in this direction have been outstandingly successful and the life span of the average person has been extended from 49 years in 1900 to approximately 70 years today. In 1950 there were 11.27 million people over the age of 65 and by 1980 it is estimated that there will be 22 million. Because of the magnitude of this problem, we must abandon the traditional attitude of passive acceptance and neglect of chronic diseases of the aged and place the physical, psychologic, social and vocational rehabilitation of the chronically ill on the same level with medicine and surgery for the acutely ill.

Because of the increased tempo of modern living more and more persons are becoming disabled by accidents in the home, on the highways, in industry and on the farm. Each time the surgeon saves the life of a person having such extensive and seriously crippling injuries and each time the medical practitioner prevents the death of an extensively paralyzed patient, a triumph over death is achieved; but at the same time these physicians have created for themselves a new problem in management of chronic disability and in providing facilities for the rehabilitation of a living, but extensively disabled, chronically ill and often aged, patient. One of the major responsibilities of the modern physician is to restore such persons to self-respecting citizenship.<sup>15</sup>

## THE TEAM APPROACH EMPLOYED IN PHYSICAL MEDICINE AND REHABILITATION

It is estimated that there are approximately three million persons in the United States who could be rehabilitated and returned to useful lives provided we had the facilities and the personnel to serve them properly. Over the past three decades there has been an enormous expansion in the number of departments of physical medicine and rehabilitation or rehabilitation medicine in the hospitals of the United States, and

these departments have learned to develop under the direction of the specialist in physical medicine and rehabilitation a multispecialty and multidisciplinary approach to the management of serious disabilities.

In a monograph on *Concepts in Rehabilitation of the Handicapped*, I have indicated that "Rehabilitation as practiced in modern institutions has become very much a multidisciplinary effort directed by the specialist in physical medicine and rehabilitation, assisted by physicians in other specialties such as internal medicine, pediatrics, orthopedic surgery, neurology, neurosurgery, and plastic surgery. These physicians in turn are assisted in various aspects of the rehabilitation effort by a team of associates" in the allied health professions, "including physical therapists, occupational therapists, rehabilitation nurses, social workers, vocational counselors, clinical psychologists, and speech therapists."<sup>12</sup>

In the modern department of physical medicine and rehabilitation, when a handicapped person is admitted, he is first evaluated by each member of the team in order to determine his physical, mental, social and vocational abilities. The team takes a dynamic approach and concerns itself not so much with the negative aspects of the patient's disabilities as with the positive aspects of the patient's remaining abilities. When the evaluation has been made by the various members of the team, they join in a group conference to develop a comprehensive program to assist the patient in making the most of his remaining abilities.

Such a team working in a fully equipped department or institute of physical medicine and rehabilitation can *provide services* that it would be impossible to obtain in the hospital that has services only for the acutely ill. This team of experts in the various phases of rehabilitation and physical treatment not only employs all the skills of its own group but also seeks the collaboration of various voluntary and governmental health agencies in an effort to restore the handicapped person to the fullest possible self-sufficiency and self-respect. They take as their slogan that it is the responsibility of the modern health worker "not only to add years to life, but also to add life to years."

It is true that, as this growing field of medical practice develops, its perimeters are somewhat blurred without too sharp a definition of the limits of practice. This is true, however, of all medical specialties, especially the younger ones. For example, if we compare the surgeon, the internist and the physiatrist, we find that from the standpoint of the tools that are employed, in general the surgeon uses the scalpel and other surgical instruments; the internist uses drugs; and the physiatrist uses physical agents and procedures in the care of the sick and disabled. From the standpoint of the diseases with which we are concerned, in general the surgeon deals primarily with acute and chronic diseases in which surgical excision, surgical repair or some similar use of the instruments he employs may be helpful; the internist is concerned primarily with those diseases, acute and chronic, that will respond to the pharmaceutical and biologic agents that he commonly employs; and the physiatrist is concerned primarily with the acute and chronic diseases in which physical agents and procedures employed frequently by a team of medical and allied health workers will be of benefit.

As I have indicated, the perimeters of each of these specialties are somewhat blurred, and the surgeon may use physical agents or drugs in his practice; the internist may employ physical procedures and some surgical techniques in his work; and the physiatrist may use certain surgical or manipulative procedures and prescribe certain drugs in his practice. As "licensed physicians and surgeons" all three groups are privileged to utilize all of these procedures; but if there is a major surgical problem, such as an intercurrent acute appendicitis or the need for surgical revision of an amputation stump, the physiatrist will call in the surgeon; and if there is a major medical problem the physiatrist will call the internist in consultation. Conversely, the surgeon or the internist may call on the physiatrist to manage the problems in rehabilitation of an amputee or a hemiplegic.

There has been an unfortunate slogan which has great appeal but which at the same time is in serious error. This is the slogan that "Rehabilitation is everybody's business." My point is that rehabilitation can only be the "business" of highly skilled workers who have made it their business. I agree that "rehabilitation is everybody's interest," and everyone who has an interest in the welfare of his less fortunate neighbors should be interested in the rehabilitation of the handicapped. Not long ago I made the following statement:

Because of the tremendous national and international interest in rehabilitation as a mass humanitarian endeavor, there has been an unfortunate tendency for professional groups, and for many individuals, to assume that they know all there is to know about rehabilitation, to set themselves up as experts in rehabilitation, and to assume that the very small segment of rehabilitation with which they are concerned is the whole of rehabilitation.

Actually, however, each group which is really qualified to handle any one of the four major phases of rehabilitation— physical, psychological, social, or vocational— has developed a body of knowledge and programs for employing such knowledge, and has trained experts who have obtained such knowledge and can apply it properly. These are the qualified specialists who can carry on the business of rehabilitation in truly effective fashion. Good rehabilitation is not a field for tyros. While rehabilitation should be everybody's interest, it cannot be everybody's business.

Qualified teachers and well structured departments in our schools of medicine, and in our departments of psychology, social sciences, and education must first provide the training and develop the research in each of the four phases of rehabilitation. Once this has been accomplished, the personnel trained in such departments must carry on the business of rehabilitation in the physical, psychological, social, and vocational fields.<sup>16</sup>

This handbook deals with the special evaluation techniques used in physical medicine and rehabilitation, with the management techniques employed by the physiatrist and his associates and with the disorders commonly treated in physical medicine and rehabilitation, including hemiplegia, connective tissue disease, lesions of the spinal cord, fractures, lower motor neuron disorders, lesions of the central and peripheral nervous system, back disorders, respiratory disorders and cardiovascular diseases.

In the first edition of this handbook, published in 1965, I predicted that in future editions discussions of the rehabilitation of "the psychiatrically impaired, the mentally retarded, the blind and the deaf" might well be included.

It is interesting to note that as I write this, six years later, in 1971 we do have, in this second edition, new chapters on all of these conditions. There is also a discussion of the psychiatric problems of the physically disabled and their management.

Furthermore, there are new chapters dealing with engineering principles in rehabilitation medicine, with the general philosophy of education of physicians and allied health professionals in physical medicine and rehabilitation and with the newly developing field of the epidemiology of disability.

### **Psychiatric Rehabilitation**

With regard to psychiatry as related to rehabilitation, it is to be expected that every patient who has developed a serious physical disability will have associated psychiatric disturbances. Herman discusses these in Chapter 38. Then too there are patients who are primarily psychiatrically impaired and to whom rehabilitative procedures may be applied. These patients are also discussed in Chapter 38. Finally a special type of psychiatric management has been developed for the extensive group of patients who are mentally retarded. This subject is likewise discussed in Chapter 38.

As Herman has indicated: "It is not enough to be satisfied with symptom relief, emotional balance or insight into one's mental mechanisms. Rather, the ultimate goal of effective assimilation into the family and community becomes of equal prominence."

### **Rehabilitation of the Blind**

Even though centers for rehabilitation of the blind are usually organized as separate units, independent of the centers for the rehabilitation of a wide variety of other disabilities, all workers with the handicapped should know certain basic facts concerning special techniques employed in the rehabilitation of blind persons. Surprisingly, a study made by ophthalmologist consultants to the Federal Vocational Rehabilitation Administration several years ago revealed that the one group of physicians who knew the least about rehabilitation of the blind was the ophthalmologists! It was concluded that, since preservation of sight was a major objective of ophthalmologists, when sight was lost there was a tendency toward subconscious rejection of the patient who had lost his sight. A course dealing with travel training and other rehabilitative procedures for the blind was then offered for residents in ophthalmology at Georgetown University School of Medicine. A new chapter describing the essential developments in rehabilitation of the blind (Chapter 39) by Goodpasture will provide workers for the handicapped with basic general information concerning rehabilitation of blind persons.

### **Rehabilitation of the Deaf**

The rehabilitation of deaf persons is usually accomplished in special separate centers directed by otologists, specialists in speech and hearing and audiologists. The evaluation and management of auditory disorders is discussed by Gerstman in a new chapter (Chapter 37).

It is my opinion that in large medical centers it is often advisable to have the units for rehabilitation of the blind and the deaf combined with the units for rehabilitation of other types of physical disabilities and psychiatric illnesses. Although there must be special kinds of workers for each of these handicaps, still there are many advantages in having a large center where a variety of experts (social workers, counselors and engineers, for example) can be provided.

### **Engineering Principles in Rehabilitation Medicine**

I have long been convinced of the need for electronic, mechanical and design engineers as full-time members of the hospital rehabilitation center team. Such experts can be of tremendous assistance in designing, developing and providing the devices or equipment which will assist handicapped persons to make the most of their remaining but impaired abilities. While I was serving as senior consultant to the Moss Rehabilitation Hospital we were able to organize, right in the hospital, a center for research and engineering. Wirta and Taylor from that center have prepared a new chapter (Chapter 40) dealing with the engineering principles in rehabilitation with which all workers for the handicapped should be familiar. Further growth of these engineering activities can be expected to improve substantially the quality of medical rehabilitation.

### **The Epidemiology of Disability**

Epidemiology deals with the distribution of disease or disability and the factors which influence this distribution. It is concerned with various degrees of health, from minimal to optimal. Since an understanding of the modern principles of epidemiology is valuable to the health workers in rehabilitation, Itoh and Lee have provided a new chapter on this subject (Chapter 42).

### **Education of Physicians and Allied Health Professionals in Physical Medicine and Rehabilitation**

It is desirable, in a textbook of this sort, to present a broad philosophical discussion of the teaching of the subject which is being considered. Such a dissertation is within the scope of this presentation. No one is better qualified than Dr. Leonard Policoff, teacher, clinician and administrator, to discuss this subject, so he has prepared a new chapter (Chapter 41) which deals effectively with education,

### **Broadening Scope of Physical Medicine and Rehabilitation**

It has been necessary for me to expand, somewhat, this chapter on scope because (as indicated by the new chapters in this edition) the scope is rapidly increasing. Even after nearly a half century since its birth, the practice of physical medicine and rehabilitation is still in the developmental stages of its growth. I venture then to predict that in subsequent editions additional chapters will be added, indicating still further broadening of the scope.

## **THE ROLE OF THE PHYSICIAN IN PHYSICAL REHABILITATION OF THE HANDICAPPED**

Because of the fact that in most of our medical schools today major emphasis is placed on the diagnosis and treatment of specific diseases with specific remedies, the graduates of our medical schools are for the most part woefully unprepared to evaluate and to manage the problems of the chronically ill and seriously disabled. This situation led Sedgwick Mead to comment: "If the cause, prevention, and treatment is unknown; if the person is senile . . . today's young physician feels completely unprepared to deal with the problem and is somewhat annoyed that society places any responsibility on him for such a patient's care."

*The need for better teaching of physical medicine and rehabilitation in our medical schools* is demonstrated significantly in a study made by Charles M. Wylie of Baltimore on "The Participation of General Practitioners in a Rehabilitation Program." Wylie compared the utilization of a rehabilitation program by the general practitioners of Baltimore who had graduated from two Maryland schools of medicine. It became apparent that the graduates of School A who had no physiatrists on its teaching staff, were not sufficiently familiar with rehabilitation to give their patients the benefits that could be derived from the rehabilitation program. The graduates of School B, which did have physiatrists on its teaching staff, comprehended the advantages of the rehabilitation program for their patients and did participate in bringing these rehabilitation services to their patients. Wylie stated, "a significantly higher proportion of non-participants were graduates from Maryland School A." He added, "For example, of 2069 graduates of School A who have specialized, none had entered the field of physical medicine and rehabilitation; in contrast the 1844 specialist graduates of School B include 9 physiatrists. At the present time, School A has no full-time physiatrists on its staff; the staff of School B includes two full-time physiatrists."<sup>27</sup>

Recently I pointed out that only half of the nation's medical schools have physiatrists on their staffs. There is still a shortage of teachers in our medical schools and we need many more in order to keep the concept of rehabilitation in the foreground of medical education and general medical practice. The problem is the same now as it was in 1943 when I became director of the Baruch Committee on Physical Medicine and Rehabilitation. At that time Bernard Baruch listened patiently to a series of lengthy reports covering the needs of all areas of physical medicine and rehabilitation and then he turned to me and said: "Dr. Krusen, the whole problem is very simple—we have got to train teachers to teach!"

Since 1943, thanks largely to the efforts of the Baruch Committee, great gains have been made. Unfortunately, however, too few practitioners in other medical specialties are familiar with the advances constantly being made in physical medicine and rehabilitation. To solve this problem we must place sufficient emphasis on physical medicine and rehabilitation during the medical student's undergraduate and graduate years to familiarize him with the role of this specialized field.

## CONCLUSIONS

Sandler,<sup>24</sup> has pointed out that physical medicine and rehabilitation is a specialty still in its infancy. Owing to its youth and its lack of clearly delimited boundaries, many physicians are still relatively ignorant of its philosophy and scope. In fact, however, it is the breadth of this new specialty that sets it apart from other specialties. This breadth gives it strength and points the way to a shift in emphasis in medical school curricula.

There is hardly any demerit to the argument that undergraduate training emphasizes diagnosis. The patient is thought of as a pathologic organ system—a diseased heart or kidney or lung. No one questions the importance of diagnosis. We submit, however, that today medical management (as opposed to pharmacotherapy alone) of the total individual having acute or chronic disease or permanent disability in relation to his normal environment including family, community and vocational milieu is necessary.

The term "medical management" here refers to any and all types of medical care necessary to restore patients having disability to optimal function. This implies more than diagnosis and assessment of the pathologic processes involved. It implies in addition enhancement of physiologic and psychologic adaptation to disability by every possible means—pharmacologic, physical, psychologic (psychiatric), substitution of mechanical devices and alteration of the environment.

Atchley has pointed out that "The goal of medical education is to produce a scholar in the science of human biology who will practice his profession as a perceptive humanist."<sup>2</sup>

If this goal is to be realized, we must impart to the medical student, as my co-editor, Dr. Frederic Kottke, has said, "an understanding of the whole individual as he functions in his normal environment, of the mechanisms by which disease and disabilities impair functional performance, and of the mechanisms available for compensatory adaptation to minimize dysfunction."<sup>11</sup>

Recent advances in medical science have had the effect of reducing mortality owing to acute disease and increasing the number of patients having chronic disease or permanent disability. In a survey of physical disability in Minnesota, England and Lofquist<sup>9</sup> found that one person in 10 had a disability severe enough to interfere with self-care or with employment. There is every reason to believe that the problem is equally great nationwide. Kottke<sup>11</sup> pointed out that this group "although constituting only 10 per cent of the population requires more than 10 per cent of the entire medical effort." Since many medical students will become general practitioners, it is extremely important that they be taught proper management of chronic diseases in conjunction with their medical practice.

The role of the physician is to maintain his patient at an optimal level of performance. Unfortunately it is still the case that in most medical schools the student is not taught to fill this role. A study made by Payson, Gaenslen and Stargardter<sup>21</sup> indicates that even during the internship minimal time and attention are given to medical management in the sense previously described. Generally speaking, the medical student and intern are led to believe that medical management is not very important since it is not taught, or is barely taught, during the undergraduate years or during the internship. Problems of medical management differ from those of diagnosis. They are not made a part of the student's experience and when he is confronted with them, he avoids or tries to avoid them.

It is not surprising then that medical students believe that professors rate diagnostic ability higher than skill in comprehensive medical management.<sup>10</sup> They suffer from a lack of balance between their knowledge of medicine and their knowledge of diseased people. "They are inclined to relish cases of clearcut organic disease and to fight shy from the more difficult problems of dysfunction."<sup>8</sup> In short the medical student is often frightened away from consideration of the problems of the "whole man." He will

tend to seek out instead cases of clear-cut organic disease so that he can practice what he considers to be "scientific medicine."

To summarize then, physical medicine and rehabilitation has an important place to fill in the practice of medicine. The medical student must be trained to evaluate patients in new ways and he must learn new skills in the management of chronic illness and serious disability. He must be taught to differentiate between those problems that he can manage himself and those that require the services of a specialist. More important, he should obtain experience in the management of patients having multiple diseases or chronic disabilities requiring continuing need for medical services. We cannot expect him to develop a comprehensive synthesis of medical care from bits and pieces of experience with single diseases or acute episodes of diseases alone. It is to be hoped that this handbook will aid the undergraduate medical student, the intern, the resident and the practitioner of medicine to achieve these goals.

A short time ago, Howard Rusk concluded, "Rehabilitation of the chronically ill and the chronically disabled is not just a series of restorative techniques: It is a philosophy of medical responsibility. Failure to assume this responsibility means to guarantee the continued deterioration of many less-severely disabled persons until they, too, reach the severely disabled and totally dependent category. The neglect of disability in its early stages is far more costly than an early aggressive program of rehabilitation which will restore the individual to the highest level of physical, economic, social, and emotional self-sufficiency."<sup>23</sup>

### **The Broadening Scope of Physical Medicine and Rehabilitation in the Future**

I predict now that rehabilitation teams, in increasing numbers of rehabilitation centers, will lead the way in modern methods of medical care. In 1969 I wrote: "The representatives of our medical specialty are now in a position to make extremely significant contributions toward the provision of increasingly effective medical care in the future."<sup>13</sup> The Commission on Education in Physical Medicine and Rehabilitation has stated, "The dominant problems that have produced the widespread demand for change throughout the medical community relate directly to needs which rehabilitation medicine is uniquely fitted to fulfill."<sup>6</sup>

But if our scope is to expand, as mentioned by Dr. Stanley Olson, formerly Dean of Baylor University College of Medicine, "We must be in a position to furnish leadership to the rest of the medical faculty in development of broadly based programs of medical care."

Another trend in broadening our scope is the move toward providing "total rehabilitation" including the development of rehabilitation programs for persons who are primarily "socially disadvantaged" or "culturally deprived." "Nearly all such persons also have secondary physical, psychologic, and vocational problems. Despite this fact some physicians and health workers view with alarm this development because it seems to lead into fields which they believe are too remote from direct medical care."<sup>19</sup>

Nevertheless I have pointed out that "Even though our rehabilitation centers have been oriented toward the physically and mentally disabled, we must now strive to apply our collective skills to the socially and culturally deprived if we are to achieve the ultimate in adequate service."<sup>14</sup>

Other persons who are recognized authorities have come to similar conclusions. Dr. Dwight Wilbur, when he retired from the presidency of the American Medical Association, made the following statements in his Farewell Address, entitled "Clinical Sense, Social Sense, Common Sense": "The need was never greater for physicians with compassion for those who suffer and are less fortunate. . . . Medicine and society have become so intertwined they are inseparable. . . . Our problem as physicians. . . . is to develop a social sense that matches our clinical sense. . . . Much can be done through participating by increasing numbers of people on the health team."<sup>26</sup>

Adrian Towne, Administrator, Division of Vocational Rehabilitation, State of Wisconsin, directed a long-term study in which "total rehabilitation" was provided for the citizens of Wood County. This included rehabilitation of the "culturally deprived" as well as the physically and psychiatrically handicapped. He reported that the project "sought to demonstrate the feasibility . . . of extending vocational rehabilitation services to all handicapped persons, including both medically and socially handicapped." He added that "this million dollar . . . project came up with extraordinary findings. Not only did it prove that the culturally disadvantaged can benefit from rehabilitation services, but research disclosed that they profited the most of any group."<sup>25</sup>

Finally Dr. Edward Newman, Commissioner, U.S. Rehabilitation Services Administration, reported recently that the vocational rehabilitation act "allows for the provision of vocational evaluation and work adjustment services to the disadvantaged whether disabled or not." He spoke of this as a "vital new program direction for rehabilitation," and then he predicted that this "fledgling specialty in the rehabilitation movement . . . will soon blossom into a large and full grown area of the program."<sup>18</sup>



I do not expect that psychiatrists and other medical rehabilitation workers, concerned with the management of physical and psychologic disabilities, will become involved primarily with the rehabilitation of the culturally deprived or the socially disadvantaged. But I do believe that they should seek to develop social rehabilitation units—units that are either associated with the medical rehabilitation centers or that are independent centers for the socially deprived. I think the programs for the medically and socially handicapped should strive to become mutually supportive.

Increasing support of the rapidly expanding number of centers of physical medicine and rehabilitation for the restoration of the chronically ill and seriously disabled and now also the culturally deprived to self-sufficiency is a triumphant affirmation of our society's belief in the intrinsic dignity and worth of the individual. The person's right to such services is not measured by his potential ability to bear arms for the state or to fill his established production quota or to become a useful servant of the community according to purely utilitarian standards. These programs in physical medicine and rehabilitation seek to restore the patient to his maximal degree of self-sufficiency even if this means that he will merely be able to lift a fork to his lips, hoist himself from his bed into a wheel chair or write with a pencil clutched in a clawlike device. The fact that he is a human being in need is sufficient justification for exerting every effort to help him use whatever abilities remain, however slight they may be. It is our hope that this handbook will aid physicians and other health workers concerned with the handicapped and the disabled to understand their problems, to learn how to evaluate their disabilities and to provide the modern techniques of management so that they can achieve the fullest degree of self-sufficiency, productivity and happiness of which they are capable.

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