SPECIAL ARTICLE

Social Aspects of Cardiovascular Rehabilitation

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The enormity of the problem of heart disease with its physical implications is well known, but its effect on the socioeconomic structure of the family, community, and government is not realized by all in the medical profession. That heart disease is the leading cause of death,1 that 5 per cent of working people are afflicted,2 that 400,000 people with coronary artery disease are being added to the labor market yearly;3 that it exacts its heaviest toll from those with the greatest responsibility over 40 years of age;4 are readily appreciated facts. That 653,000 man-years are lost each year as a result of cardiovascular disease and that this loss was equivalent to $2,468,340,000 in earnings alone in 1953,1 are but a few of the statistics that one reads frequently and might readily comprehend. But the social implications are not widely understood nor are the resources of combating the problem a matter of common knowledge.

What do all these staggering statistics signify? They mean that a progressively larger number of people will be dependent upon their families and governmental aid, unless they can support themselves. Experience with the disabled cardiac patient indicates more and more the importance of collaboration between the physician and other helping disciplines. The spectrum of rehabilitation with its physical, emotional, economic, and social components includes a range of skills outside the competence of any one discipline. Coordinated efforts of the physician, social worker, nurse, rehabilitation counselor, occupational therapist, physical therapist, and the employment service may be engaged in whole or in part on behalf of the patient. Community resources to provide these services present pictures of varying degrees of adequacy. Adequate or not, however, they should be known and utilized by the physician.

It is our purpose to point up the social factors determining the high incidence of disability among cardiac subjects and to underscore what resources may be recruited to diminish this incidence.

Social Factors Determining the High Incidence of Disability

Rehabilitation of the disabled cardiac would not be such a great problem if the physical incapacity of the patient were the only factor to be solved. Great strides have been made in this field, and numerous studies have demonstrated that the cardiac can work, does work, that work is not harmful, that work may be beneficial, that absenteeism is rare; and that there is little risk in hiring the cardiac patient. In spite of these advances in knowledge, there are, unfortunately, many potent forces involved in the high incidence of disability.

Character of the Patient’s Work and Skills

The character of the patient’s work and training has many facets. One must consider these forces when matching the patient’s ability against the stress of the job. Although it is recognized that a great deal of progress has been made by physiologists in assessing the energy requirement of the work, many intangible and unmeasurable factors must be considered. The overdemanding employer or foreman may complicate what normally may have been a suitable job.
work may also increase physical and emotional demands. Whereas job stress and physical ability may seem to harmonize, at times, failure may be met by prolonged and difficult modes of travel to and from work. Often the method of travel requires more energy than the work itself.

The patient's skills—or lack of skills—add to the incidence of disability. There is no question that the skilled indispensable worker has a greater chance for rehabilitation than the one lacking in such attributes. He has more to offer, usually with less energy requirement. The laborer, especially the older one, who must depend upon his brawn for a livelihood, may be hard put to find a job when disabled by a cardiac condition. He has little to offer except strength, and this has often ebbed. For example, a miner with a coronary occlusion might be totally disabled, whereas a watchmaker, jeweler, accountant, typist, and others in such light work categories might have no disability whatsoever.

The patient who is self employed is in an enviable position. He might work less, be willing to live on less, receive long deserved help from his highly indulged family; he might hire additional employees and get along admirably. It is interesting to note in this respect that 90 per cent of the self employed return to work.

The Physician

It is unfortunate that the physician must be indicted at times as an important social force in the cause of cardiac disability. In general, he may abuse the time-honored concept of rest, forgetting that too much rest when used injudiciously may lead to physical and emotional incapacity. Rest and inactivity, once a cardiac lesion has healed, does not prolong life. One thing is certain; it may lead to barrenness and unhappiness for the patient and those surrounding him.

The physician, also is subject to social and economic pressures. He may unwittingly be remiss in order to protect himself. He may mention murmurs of a functional nature or slight electrocardiographic changes with no other corroborating evidence of heart disease. He does this, perhaps, in fear that some other physician may discover these abnormalities and thus subject his ability to question. Inadequate training in cardiology also may lead to faulty diagnosis of minor changes and thus produce a train of events with anxiety symptoms and cardiac disability far outweighing the physical state.

Also, because of possible disorderly and indefinite indoctrination in rehabilitation, the physician may be ambiguous in instructions to the patient. This should be avoided. The orders that are given should be specific when possible. The work formula should fit the patient. The phrases "take it easy" and "look for a lighter job" should be discarded from the physician's vocabulary. The insecure physician afraid of censure may place unnecessary restriction on the patient with reference to food, coffee, tea, cigarettes, sex, and other pleasures, thus dramatizing the illness. Although the benefits of such restrictions are questionable, they tend to emphasize the gravity of the ailment to the patient and add to his disability.

Stress of Living

The stress of daily living, with its competition, high cost, conformist attitudes, deadlines, responsibilities, and lightning decisions, is often indicated as an important factor in causing cardiac disability. This, of course, is a popular concept to the physician as well as the layman. It certainly is more admirable to be a victim of diligence and ambition rather than gluttony and inactivity, which is more likely in light of present knowledge. Stress of living per se must be examined in more critical light, and its effect as a cause of disease must await further proof.

Interesting, along this line of thinking was a recent investigation by Lee and Schneider, who made a comparison between 1,171 male executives and 1,203 nonexecutives observed over a period of 5 years with respect to evidence of arteriosclerosis and hypertension. This study was done to confirm or deny the popular conception that executive responsi...
BILITIES increased the incidence of cardiovascular disease. The results of this study were surprising in that the executives over 40 years of age had no greater incidence of hypertension and a disproportionately low incidence of generalized arteriosclerosis, arteriosclerotic heart disease, and myocardial infarction. This finding, of course, does not rule out the effect of emotional stress because as the authors point out, "stress is a relative matter and the disruption of the harmonious balance between a man and his environment can result from either the demands of the environment or the failure of a man to measure up to them. Success in a career goes hand and hand with good health. The executive, as part of his training, learns to judge the amount of occupational stress he can stand and to appreciate the value of outside avenues of expression." 17

Whereas the stress of living cannot be indicted as a cause of heart disease, there are certain external forces in existence that aggravate preexisting heart disease. These forces may be stimulated by our newspaper and magazine articles, radio and television dramatization of cardiac disease, and advice of well-meaning and misinformed friends. Every sudden death that is highlighted in the press and acted out on television offers little solace to the patient with heart disease and, if anything, intensifies his disability. The overcautious parents of the child with rheumatic heart disease may be cited as the classical example of an anti-rehabilitative force. The overprotective wife and children of the husband and father with coronary or hypertensive heart disease may exert a dynamic influence on the patient. The wife frequently denies him food, alcohol, and sexual gratification. Physical effort and diversions are prohibited in hopes of preventing recurrence. The unstable individual may succumb to this secondary gain and become unproductive.

The Attitude of Industry

Large industries have a definite aversion to employing persons known to have cardiac disease. Olsansky et al. in a review of employment practices in the Boston area indicated that about one half of 100 employers in the survey excluded patients with cardiac disease from new employment. Only 99 known cardiac subjects were hired among 13,431 new employees. The potential risk of Workmen's Compensation costs was given as the primary deterrent to such employment. Other restraining factors were the lack of suitable jobs and the added cost of sickness benefit plans. Lee et al. in another industrial survey noted that only 242 cardiac workers out of 19,321 new employees were hired. Kline in another survey discovered that 71 per cent of industrial physicians were reluctant to hire cardiac patients because they considered that the physical demands of the work exceeded the physical capacity of the cardiac patient. It was noted, however, that employers are prone to continue in employment those workers who develop cardiac disabilities during their employment.

There is a general tendency to condemn industry for its attitude toward cardiac employment. There is also a hope that they should act as rehabilitation centers. In all fairness, however, one should examine the other side of the coin. The fact remains that American industry is highly competitive and must have full efficiency to survive. Unless industry can be convinced that it will receive maximum efficiency from the cardiac patient, it is only natural to assume that there will be unwillingness to hire him. Those in the private practice of medicine also readily appreciate the fact that people are very claim-conscious today. Industry knows this from experience and their fears of liability and higher insurance rates may have justification.

It has been reported that in New York State alone, Workmen's Compensation payments for heart disease amount to about two million dollars annually. This underscores the severity of the situation and reemphasizes the fact that the fears of the employer have a substantial basis.

Age

The social aspects of aging itself with the relationship to employment are subjects that...
may well be covered in an individual thesis. Suffice it to say for our purposes, however, that the older the cardiac person with disability, the less is his chance for employment. In general, there is a resistance by employers to hire older people, with or without disability.

**Status of the Labor Market**

The availability of jobs is important. During a recession with high unemployment, the chances of the cardiac person receiving employment are less. It is only natural for the employer to desire maximum efficiency with a minimum of risk. During boom times when industry is thriving and a labor shortage exists, cardiac disabilities might be easily overlooked. The employer is willing to take the added risk. It was shown during World War II, when the able-bodied were in the Armed Forces, that the chance for employment of the cardiac subject was greater.

**Abuse of Workmen’s Compensation Laws; Old Age, Survivors and Disability Insurance; Temporary Disability Insurance and Pensions; Health and Accident Plans**

Social legislation, with all its inherent benefits may be abused. At times, one may feel that it is a deterrent to work. In reading many of the writings on cardiovascular rehabilitation, one gathers a feeling of resentment on the part of the authors toward the value of social legislation. In general, the value of legislation must not be judged by the few that abuse it. The internist or cardiologist must remember that his statistical sampling is poor.

Ironically, at times, this social legislation, especially Workmen’s Compensation Laws, does harm to the cardiac patient and prevents his rehabilitation. Because of the costs of the program, the employer may be reluctant to hire a known cardiac patient, or rehire one who had suffered an attack at work. This has been intensified by the recent liberal trend of the courts in the interpretation of the Workmen’s Compensation Act. Instead of causal relationship depending upon “an accident arising out of and during the course of employment,” recent decisions in many states have depended on the mere act of being employed. This has stemmed from the fact that some upper courts have a tendency to give more weight to a philosophical and emotional concept rather than a consideration of the evidence and scientific medical testimony.

In New Jersey, for example, cases were decided for many years on the “‘unusual exertion theory,’” i.e., if the initial or presenting symptoms occurred during or immediately after an unusual exertion, the disability was held compensable. In 1958, the Supreme Court of New Jersey, in the Ciuba case, stated that an unusual-uneusual test to be an illusory criterion of work-connected injury.

Katz has stated that “Work, one’s vocation, like play, one’s avocation is a normal state of affairs . . . there are many people subjected to any excessive stress not ordinarily sustained on the job, the situation would be different.”

In a similar vein, Sprague concurs, explaining that “City living itself shortens life as compared to rural living, but most men are probably willing to sacrifice something for the comforts and amusements of the city. Industry should not be held automatically responsible for the hazards of life. Workmen’s compensation was not intended to be a substitute for pensions and sickness insurance. The ordinary activities of living produce similar circumstances to those of employment during which, a chronic, slowly developing heart condition may be revealed. Less than one quarter of a person’s life is spent on the job with a forty-hour week.”

These differences of opinion between medical and legal authorities have raised new obstacles to the employment of cardiac subjects.
and engendered decreases in productivity. Add to these differences the fact that some lawyers are dedicated to securing the largest financial settlement possible with the introduction into their cases of such factors as aggravation, activation, and acceleration and one can understand why the employer is loath to hire the patient with heart disease.17

With reference to Old-Age, Survivors, and Disability Insurance, payments under the disability feature of the program began July 1, 1957, and immediately the cardiologists noted an increase in cardiac disability in a certain few. Chest pain became more frequent and more crushing and breaths became shorter. And they applied for benefits. Of course, this legislation may be abused as evidenced by the following example of a 48-year-old patient who had suffered a myocardial infarction. He had already received Veterans Administration benefits for a service-connected hypertension. Following the myocardial infarction, he received 100 per cent disability from the Veterans Administration. He recently stated that he expects to retire in 2 years. Why? "Well you see," he stated, "By then I will be 50 years of age and when I combine the Veterans Administration money with the Social Security money, there will be no need to work." There is no question that occasionally such legislation breeds lack of incentive and thereby contributes to cardiac disability. It is hoped that such instances are few.

With reference to Temporary Disability Insurance and Health and Accident Plans, again, there may be abuses, especially, if the differential between the previous take-home pay and the insurance benefit is small. The onus of deciding the length of disability is always placed upon the shoulders of the private physician and there is often a tendency to extend the time of disability in order to please the patient. Unintentionally, the physician prolongs cardiac disability by making work unnecessary.

Resources for Rehabilitation

The Individual

In order to return the patient back to work and integrate him into the community structure, many resources are available. Probably first and foremost are the patient's own individual resources, depending upon his functional capacity, education, emotional background, and motivation. Next in importance is the physician, and, finally, various local and governmental agencies.

It has been said18 "in order that people be happy in their work, these three things are needed. They must be fit for it. They must not do too much of it. And they must have a sense of success in it." We must accept the philosophy that work is the normal part of living and that work is important for the physical and emotional well being of the individual.

The Physician

Of all the resources, the enlightened physician provides the greatest impetus to rehabilitation. The strides that have been made in this field make it imperative that the physician fully understand the determination of cardiovascular fitness.19,20 In order to advise a patient whether or not he can go back to the same job, should change jobs, or even stop work altogether, he should know the stress of work involved and the energy cost demands on the job as well as at home. The work prescription should include evaluation of housework demands on the woman, recreational demands, travel demands, and the specific problem of work itself. The work physiologists have tabulated the great majority of human activities in form of energy demands and the physician should become familiar with them.21 He would then realize that the majority of American workers are working at a level of 3 to 4 calories or less per minute, with most industrial jobs varying from 1.25 to 3.0 calories per minute and peak loads varying from 1.5 to 4.5 calories per minute. Realization by the physician that most patients can return to former jobs, or to the same job with relief of peak loads goes a long way toward facilitating rehabilitation of the cardiac patient.20 Cooperation with the industrial physician in on-the-job evaluation is another important task.22

Ability to make knowledgeable use of health

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and welfare services in the hospital and the community is increasingly important to the physician as new discovery results in greater specialization of function in the treatment process. Facilities designed to assist the patient to adjust to his life situation continue to develop. This task may at times seem to be an exorbitant demand on the time of the physician who is already harried in keeping up with the exactions of his practice and the demands of advancing medical knowledge, but, in the long run, these resources will prove a valuable asset and may prevent time lost through poorly directed efforts.

In short, it behooves the physician to get acquainted with others concerned with helping the disabled. Interprofessional communication is vital to this process. The best of intention to cooperate may be thwarted unless there is a disposition on the part of all to understand each other and the respective roles and methods of each. The physician may take advantage of other disciplines in any stage of the cardiac disability, whether it be the acute stage, the convalescent stage, or the stage of rehabilitation.

The physician may enlist the help of the medical social worker. This professionally trained person may be of great assistance in helping the patient utilize medical care to the best possible advantage. The medical social worker will assist in the understanding of the emotional factors that promote or block treatment. By relating the social situation to the treatment procedures, the social worker provides the physician an added dimension in treatment.

**Homemaker Service** may be enlisted when the patient is a mother; explanation of and expediting of temporary disability insurance may be made; and perhaps, referral to an agency for assistance if the family is in need of care, may be done. All these problems fall within the realm of the social worker. Certainly, the physician is in no position to do all this.

Again, in the stage of convalescence, the social workers may have a valuable role in many cases. They again may relate the illness to the family situation and provide community facilities when necessary. They may help in securing special medication. They may enlist the help of the Visiting Nurse Association or Homemaker Service. They may refer to the Housing Authority when it is found that the home is not adequate or appropriate in view of the patient’s illness. They may work with community agencies by keeping them informed of the patient’s condition at all times so that the help given is based on definite need in accordance with the illness. If the convalescence becomes more protracted, they may be able to refer the family to an agency for assistance if there is need. There are many instances in which the employment of the trained social worker will tide the patient over the convalescent stage; make for smooth, continuous, unhurried and unworried convalescence; help the family ride out the storm until the wage earner is able to return to work.

If the physician feels inadequate to evaluate the patient’s work capacity or if the patient is not rehired or cannot return to his former employment, there are other facilities at his disposal.

**Voluntary Agencies**

*The Work Classification Unit of the Cardiac Clinic*

There are over 40 Work Classification Units in the United States serving approximately 2,000 patients a year. This may seem to be an infinitesimal service but their influence lies in the research and the interest they have created. The purposes are education, research, and service. The ideal team consists of a cardiologist, psychiatrist, social worker, vocational counsellor, physiologist, nurse, clerks, technicians, etc. Such an ideal is rarely achieved, or, if achieved, rarely maintained. Most of the units accept patients only on a referral from the local physicians, industries, and state and voluntary agencies. The reports they give are competent and useful to agencies interested in placing these patients. They lack the vagueness that usually characterizes the report of the general physician and even the cardiologist. The vagueness has been the bugbear of placement counsellors.

The main problem we have encountered with
a Work Classification Unit of our Cardiac Clinic has been the maintenance of dedicated personnel. This stems logically from the inability to place many of the patients because of the factors mentioned earlier. It seems that such specialized services must be subsidized with labor and industry contributing. Only then will they be interested in the benefits that a Work Classification Unit can offer to the physician and the patient.

The Sheltered Workshop

This is often helpful in the patient with marked psychogenic overlay and in one who has been disabled for over 2 years. It provides a spirit of cooperation, raises the patient's morale, imbues him with independence, and frequently provides a stimulus for training. For those who cannot be trained and must remain on a permanent basis in the sheltered workshop, the small amount of income gained at least restores a spirit of independence, so that the cardiac patient need not turn to his children or to the community for every wish. Jezer's groundwork in this field with the "disabled" cardiac plan at the Altro workshop has been enlightening and encouraging. He found that after work schedules were increased, 30 per cent of the patients were able to find work in industry after 10 months of such training.25, 26

The Rehabilitation Center

This is an ideal setup, but there are so few. In the center is a program in which a patient can be observed by a team under work conditions prescribed after discussion between those in charge of the training program and those in charge of the medical care. Then gradually the program can be accelerated until the patients reach tolerance. The job he can do is worked out in a setting with people of various disciplines who are skilled at such things.

The American Heart Association

Contact of local heart associations will often be fruitful in offering guidance in the community. The American Heart Association has been helpful in cardiac-in-industry programs, research in the evaluation of work potential, education, study of state compensation laws, establishment of work classification units, and heart-in-the-home programs.

To these voluntary agencies must be added JOB (Just One Break) and other organizations such as cardiac clubs, which are important in providing further impetus for cardiovascular rehabilitation.

State and Federal Resources

State Employment Service

Most states operate a service for the handicapped. Upon recommendation of a physician, trained personnel give guidance, counselling, and selective placement to these disabled individuals.

Department of Education

Many states have organized programs for persons with heart disease under the age of 18. They offer vocational training classes and guidance clinics for the purpose of directing the young cardiac patient toward a permanent occupation in which he can limit his activity as his cardiac capacity becomes increasingly impaired.

Workmen's Compensation Laws and Second Injury Funds

Workmen's Compensation Laws were the earliest of the social insurances in the United States. It has been estimated that 60 to 80 per cent of the working population of the United States are covered by these laws which are enacted in all the states and territories. They were passed to meet the problem of the worker who is disabled on the job, to help the exigencies of the situation due to wage loss, heavy medical costs, and rehabilitation. They were enacted to protect not only the worker but also the beneficiaries against economic hardship. Prior to the development of these laws, the worker's only recourse was to the courts, where he could sue for damages. The unnecessary delays in such cases with the slow grinding of the legal processes were unduly detrimental to the worker who rarely had significant savings on which to fall back.

By establishing this form of insurance, the states and the federal government have implied that the costs of work-injured disease or injury are a part of the cost of production.
These programs are exclusively state ones, with no federal aid. In some states, coverage is elective as far as the employer is concerned. In others, coverage is compulsory. In some, the program is part elective and part compulsory. There are wide variations in conditions of coverage, adequacy of benefits, and methods of administration. It is not within the scope of this paper to discuss the variations but all the programs have in common the following benefits: medical care; payments for partial disability, for permanent total disability; death and burial benefits. Payments for temporary disability are based on a proportion of the average wage, with both top and bottom limits placed on weekly amounts. States also specify the maximum period over which benefits may be paid for temporary disability.

There are 3 methods of financing workmen's compensation depending upon the provisions of the individual state: there is self insurance; insurance with a private carrier or payment to a state fund. In general, the employee does not contribute to financing workmen's compensation. The cost is carried by the employer in line with the philosophy that this is one of the legitimate costs of doing business. This explains the employer's responsibility and his desire to keep the costs down.

That Workmen's Compensation has contributed to the security of the worker is unquestioned. Critics point out many ways, however, in which this program has failed to fulfill its once bright promise. In many states claims procedures are cumbersome and costly. Benefit schedules vary widely from state to state, but tend to be far from adequate in provision of compensation for loss of earning power. While all state programs provide for medical care, in two thirds of the states, the task of rehabilitation is left to other governmental or to voluntary agencies.

With reference to the attitude of industry toward the rehiring of workers, it has been pointed out that the crux of the problem is financial. Fortunately, many states have attempted to counteract the difficulty of rehiring an injured worker by developing "second injury" funds. This legislation provides that the employer of a person who previously received an injury shall be liable only for a part of the cost of a second work-injured injury or illness with the balance to be paid by the second injury fund. The employee is paid the entire amount of the appropriate benefit, however, from the combination of sources. This legislation is found in the workmen's compensation laws of 43 states and has widely broadened the opportunities of the handicapped.

Office of Vocational Rehabilitation

Temporary disability insurance in 4 states, and workmen's compensation in all states have helped the disabled cardiac workers to maintain themselves during the period of rehabilitation. The extension of the Old Age and Survivors Insurance helps the permanently and totally disabled over the age of 50, but these programs do not meet all the needs of the disabled cardiac person who is vocationally handicapped, yet physically able to work.

This task is assumed under vocational rehabilitation programs. While the first federal measure providing grants to states for this purpose was enacted in 1920, vocational rehabilitation has begun to come into its own as an important resource rather recently.

In 1954, the Eighty-Third Congress added some significant amendments to the Barden-LaFollette Act of 1943. These were hailed as introducing a new era in vocational rehabilitation of the handicapped. In order to qualify for these services, there are requirements: the disability must be of a handicapping nature; there is a definite possibility that the person could benefit from the service whereby he would be able to return to gainful employment. According to governmental regulation, the services include "Any goods and services necessary to render handicapped individuals fit to engage in a remunerative occupation." The services include medical care, guidance, training, physical restoration, placement, and others as required to restore the person to gainful employment. The re-
habilitation counsellor is an important cog in this program. Outside the medical aspects of treatment, he is the one who carries the load of guiding the disabled person, of helping him to select his training facilities, of assisting him to find a job, and of interpreting to the employer what the handicapped person is able to do.

This is a state-federal program, with the states carrying responsibility for providing basic services. The federal government, in addition to administering the grants to states, provides technical consultation, and through its various grants, stimulates the development of special projects and research.

It can be seen that this is an important resource for the selective placement of patients with heart disease. The services vary from state to state depending upon the enthusiasm and efficiency of the personnel. The Massachusetts Division of Vocational Rehabilitation gives proof to this statement. They were instrumental in alleviating the financial burdens and problems imposed by cardiac surgery and added to those of preexisting chronic illness. Many individuals and families were spared from applying for public assistance for medical care by these services. Through the cooperation of many agencies and individual physicians with the staff of the Division of Vocational Rehabilitation, 101 patients received 102 operations and approximately 75 per cent of this group were at work within 5 months following the operation. They have demonstrated that although employment of cardiac patients presents serious problems in rehabilitation, it is not an insurmountable obstacle.30

Veteran Services

At times, the patient may be able to turn to the Veterans Administration for help, particularly, if the cardiac condition is in some way connected with a Service-incurred disability. It must be pointed out, however, that non-Service connected benefits are also among the oldest of all provisions for veterans. Medical, hospital, and rehabilitation facilities are available for non-Service connected ailments, provided the veteran stipulates his inability to pay for such care.31 This occasionally arises in private practice and is not uncommon in clinic patients.

There is no question of the high caliber of work and rehabilitation done at these institutions. The Veterans Administration claims that 95 per cent of the cardiac patients are working, 86 per cent with skill acquired in training. Of those who were not working, one half stated that they were unemployed for reasons not related to their heart or circulatory disabilities.32 These figures underscore the value of medical rehabilitation, vocational training, and placement service.

Temporary Disability Insurance

Sickness incurred while off duty may temporarily incapacitate the worker. Since it is off duty, it is often not covered by Workmen's Compensation, nor is it covered by unemployment insurance, which applies only to people able to work. Under the Old Age, Survivors and Disability Insurance, only permanent and total disability is covered, and that only for persons over 50. Therefore, temporary disability insurance has been devised. This again is a great social gain for the worker and permits income during the illness, convalescence, and period of rehabilitation.

Workers in 4 states are covered under temporary disability insurance programs. These are Rhode Island, California, New Jersey, and New York. In general, coverage is similar to provisions of unemployment insurance and requires employee contributions. The employer may insure under a State Plan or private carrier.37

For the self employed, Health and Accident insurance has met this need to some extent.

Old Age, Survivors and Disability Insurance

For the cardiac patient who has become totally disabled because of his condition, the 1956 and 1958 amendments to the Social Security Act have been a boon, another important step forward toward support and maintenance of individual dignity. These amendments included severely disabled persons 50 years or over and their dependents as beneficiaries. In order to be eligible for this pro-
program, the disability should be one in which the patient is unable to engage in substantial gainful employment and one which is expected to result in death or to be of long continued and indefinite duration. In order for the worker to qualify, he must be fully insured and have 20 quarters of coverage out of the 40 calendar quarters before he became disabled. Disability insurance benefits will be paid for as much as 12 months before the month in which an application for the benefits is filed. The previous law contained no provision for retroactive disability insurance payments.33

It is important to point out that the claimant must accept therapy and training designed to restore him to gainful employment. If after a period of time the person becomes able to work again before he reaches the age of 65, disability benefits are discontinued.

The task of determining the degree and extent of disability was assigned to the state vocational rehabilitation agencies or to other designated state services. Certain phases of cardiovascular symptomatology are highly subjective and might be difficult to evaluate. Judgment must then be rendered not only on the cardiac condition but also on the individual’s ability to perform gainful work. This requires much administrative and highly technical judgment. A staff of medical consultants is maintained in order to offer unbiased opinion. Anyone who has examined these applicants will find that there are many who are totally disabled and will appreciate the benefits of this legislation.

Public Assistance

In all communities, programs of financial aid to needy individuals are available. These may be administered by county or municipal welfare offices, or, in some states, by district offices of state agencies.

This is an important resource to the needy person ineligible for any of the social insurances, or with needs inadequately covered by the insurances. Financial aid is provided for the needy aged, children who are in need because of loss of support of a parent through death, incapacity, or absence from the home, the blind, and the permanently and totally disabled. The central condition in this program is financial need, although there are inevitably other factors of eligibility which must be met. Increasingly, public assistance is developing a strong emphasis on services designed to rehabilitate the individual client of the agency and to strengthen family life.

Other Public and Voluntary Programs

The foregoing by no means exhausts the list of social resources that may be available to the patient. Children’s services, both public and voluntary, voluntary family agencies, organizations devoted to a higher standard of health care, and many others may be utilized by the resourceful physician. In larger communities welfare councils will be the chief source of information on available local services. In small communities, the physician will find his county public welfare office to be the best source of information.

Future Goals in Cardiovascular Rehabilitation

In spite of all that has been accomplished in cardiovascular rehabilitation, there are still many fertile fields to explore and develop. The education of the public, labor, management, and the physician still must go on. One may reemphasize the necessity of dispelling some of the old concepts held by the practicing physician. This is not always so easy as it might seem on the surface. Perhaps, education of the medical student will be more profitable. The young, the impressionable student is now being taught rehabilitation aspects of medical care combined with social work technics in some institutions. This will, in time, bear fruit.

There is a great need for the education of social workers who hold many of the key positions in rehabilitation. In general, the more than 60 accredited graduate schools of social work in the United States and Canada are not increasing the numbers of graduates sufficiently to supply the increased demand for their services.

Increased facilities for rehabilitation throughout the country—a definite need—will
only stem from dissemination of knowledge and training of personnel.

A final objective of any over-all program of rehabilitation should be the revision of legal aspects covering the entire subject, looking toward mutual understanding among physicians, attorneys, labor, and management. This is needed to avoid prolonged litigation, unjust disability payments and to limit the employer's liability for employee disability, which is one of the great obstacles to the employment of the person handicapped with heart disease.

It must be concluded that an all-out effort by all parties concerned will be forced upon us, whether we like it or not. Our economy can ill afford the loss of production or the expense of retiring from work a large proportion of our ten million or more patients with cardiovascular disease. A rational and workable common meeting ground for the worker, his labor leadership, industrial management, and state and federal governing agencies must be found. It is our conviction that the physician cannot remain aloof from rehabilitation measures and should accept the responsibility for leadership in their sound and progressive development. This is his moral and professional obligation.

**Summary in Interlingua**

Le serietate del impactos socio-economic demorbo cardiace pote esser mitigate importanmente per le efforto del medico de mobilizare le ressources que existe e in plus per le effortios coordinate del medico, del agente de assistentia social, del infermier, del consulente de rehabilitation, del therapeuta occupacional, e del therapeuta physic. Le presente reporto discute e analysa le factores social que determina le alte incidentia de invaliditate, le ressource que es disponibile pro le objectivos de rehabilitation, e le fines concreto al quales le rehabilitation cardiovascular debe viser.

**References**

18. Quotation of John Ruskin.

During catheterization of the right side of the heart in 2 infants with congenital heart disease ventricular fibrillation developed. In both the arrhythmia was terminated successfully with electric countershock by the external defibrillator. In 1 normal rhythm followed external defibrillation, in the other a severe bradycardia resulted and normal sinus rhythm was restored only after stimulation by the external electric pacemaker. Attention is called to the importance of constant electrocardiographic monitoring during cardiac catheterization and to the necessity for the immediate availability of an external defibrillator and pacemaker in the catheterization laboratory.

SAGALL
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