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REPORT



U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE • PUBLIC HEALTH SERVICE

REPORT

***Surgeon General's
Workshop
on Prevention
of Disability from
Arthritis***

*U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE
Public Health Service
Division of Chronic Diseases
Diabetes and Arthritis Program
Washington, D.C. 20201*

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Background of the Conference

The need for a national conference on the prevention of disability from arthritis was first described in a long-range planning document that was prepared in the fall of 1963 by the staff of the Diabetes and Arthritis Program, Division of Chronic Diseases, U. S. Public Health Service (PHS). The document noted that, although arthritis is a major public health problem, the dimensions of the problem are not widely recognized. And it stressed that, although therapeutic measures for dealing with the problem are far from ideal, procedures that diminish disability, particularly when applied in a timely fashion, have been devised and should be made available to the millions of Americans who suffer from disabling arthritis.

In June 1964, representatives of the Arthritis and Rheumatism Foundation (now, The Arthritis Foundation), the National Foundation, the American Rheumatism Association, the National Institute of Arthritis and Metabolic Diseases (PHS), and the Diabetes and Arthritis Program (PHS) met in San Francisco to give further consideration to the need for a national conference on arth-

ritis. At the conclusion of this meeting, it was the consensus of the group that such a conference was vitally needed. Participants submitted a recommendation to this effect to the Surgeon General and offered to serve as a steering committee to plan the conference. On the basis of this recommendation, the Surgeon General agreed that a conference should be held and accepted the participants' offer to serve as a Steering Committee. This Committee, later enlarged, met several times during 1964.

In these subsequent meetings, the Steering Committee determined that the emphasis of the deliberations should be on community health services, as opposed to basic research. Therefore, the title of the Conference, **THE SURGEON GENERAL'S WORKSHOP ON PREVENTION OF DISABILITY FROM ARTHRITIS**, reflected this emphasis on prevention. The Steering Committee also determined that the objectives of the conference should be to:

1. Assess the problem
2. Assess the resources to meet the problem
3. Determine gaps between needs and resources
4. Recommend action to close the gaps

The Workshop was held May 5-8, 1965, at Airlie House, Warrenton, Virginia. About 100 persons participated. Represented were every health profession, medical economics, science writing, health and medical insurance, and other specialties. To accomplish intensive discussion, the total group was divided into seven Workshops:

1. Public Education and Information
2. Diagnosis and Treatment Facilities
3. Long-Term Control and Management
4. Professional Education
5. Clinical Investigation and Training
6. Voluntary and Public Agency Activities and Programs
7. Socioeconomic Aspects (Financial Resources)

Each Workshop reported back to the total group and each report was discussed by the total group.

This report is a summary of the Workshop reports. Although it represents a consensus of the total group, no individual participant or agency is necessarily in agreement with the total report; and it should not be inferred that any individual participant identifies himself with the report.



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WORKSHOP 3

Currier McEwen, M.D., Chairman

WORKSHOP 4

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WORKSHOP 5

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WORKSHOP 6

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WORKSHOP 7

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The Problem of Preventing Disability from Arthritis

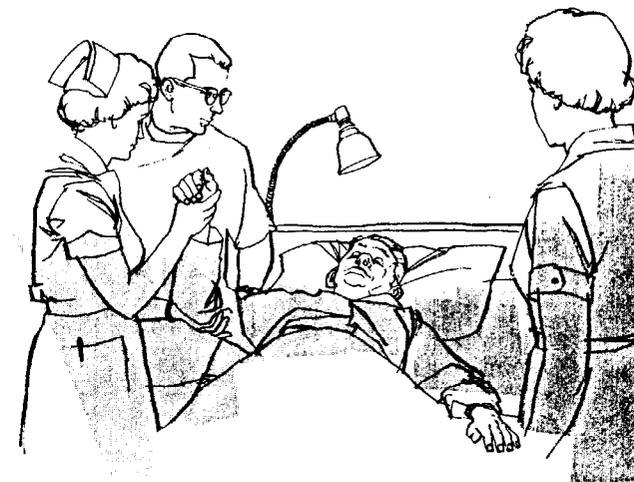
The crippling effect of arthritis on the citizens of this country has created an economic and sociologic problem that can no longer be ignored. Arthritis is the number onecripler in the United States. And the National Center for Health Statistics (PHS) recently reported that arthritis ranks second only to heart disease as the leading cause of limitation of activity for persons who suffer from chronic disability.

The physical ravages of arthritis impose great economic and social burdens on all members of society. Arthritis gradually withdraws from productive activity large numbers of otherwise capable people. The latest estimate of the number of persons in the United States who report that they have arthritis or rheumatism is now 12,668,000.

A more dramatic indication of the physical waste from arthritis appears in data that show that 3,300,000 arthritics in this country maintain, during home interview, that they suffer limitation of activity because of arthritis. About 700,000 report that they are unable to work, keep house, go to school or engage in most recreational activities (see Table A, page 10).

Economic Problem. The total cost of arthritis to the public has not been determined. That it is substantial is indicated, in part, by a 1962-63 survey of recipients of public assistance under the program of aid to the permanently and totally disabled. Of the more than 500,000 persons who were receiving aid under this program, an estimated 33,000, or 6.6 percent, had arthritis as their primary impairment. At least 17,000 additional recipients had arthritis as their secondary impairment, for a total of 50,000 recipients with primary or secondary impairment. Since the average payment in this program is approximately \$78.00 per month, or \$948 per year, a total of \$47 million was paid annually to the 50,000 recipients.

To compound this economic tragedy, arthritis accounts for over 12 million work-



loss days per year. In terms of productivity, the loss to the economy is estimated to be \$520 million a year.

Loss of earning power, coupled with the

Table A Number and percent distribution of persons with arthritis or rheumatism, by type of usual activity status, and by degree of activity limitation, United States, July 1961-June 1963. (civilian noninstitutional population)

Type of usual activity and degree of activity limitation	Number persons (in thousands)	Percent distribution
Total	12,668	100.0
Usual activity status:		
Preschool or school age	57	0.4
Working	4,078	32.2
Keeping house	5,926	46.8
Retired	1,991	15.7
Other or unknown	615	4.9
Degree of activity limitation due to arthritis:		
Limited, total	3,300	26.0
Unable to carry on major activity	697	5.5
Limited in major activity	1,888	14.9
Not limited in major activity, but otherwise limited	714	5.6
None, total	9,368	74.0

¹ Refers to ability to work, keep house, or engage in school or pre-school activities. Note: Does not include persons in nursing homes.

Source: Unpublished data, and Chronic conditions and activity limitation, United States, July 1961-June 1963. Estimated annual average. U. S. Department of Health, Education, and Welfare, Public Health Service Publication No. 1000-Series 10, No. 17, May 1965. Washington: U. S. Government Printing Office.

high costs of treatment and care, often leads the victim of arthritis to economic dependence upon other members of the family or upon community agencies. This

Table B Estimated annual work productivity losses, benefit payments, and expenditures due to arthritis.

	Total	\$1,297,000,000
Work productivity loss, total		\$ 520,000,000
Among arthritics who work, but lose time because of the arthritis	\$220,000,000	
Among arthritics who are unable to work and who receive disability benefits (minimal)	\$300,000,000	
Benefit payments to arthritics, total (minimal)	\$ 132,000,000	
From Old-Age, Survivors, and Disability Insurance, Social Security Administration	\$ 85,000,000	
From Aid to the Permanently and Totally Disabled, Welfare Administration	\$ 47,000,000	
Nonprescription drugs (except aspirin)	\$ 435,000,000	
Physicians' visits	\$ 150,000,000	
Hospitalization	\$ 60,000,000	
Other:		
Prescription drugs	?	
Aspirin	?	
Physical therapy	?	
Certain services in doctors' offices	?	
Nursing home care	?	
Care in private homes	?	
Private insurance benefits	?	
Federal, State, and local income taxes lost	?	

costs the public money. Although the true figure is not known, arthritis is estimated to cost the U.S. economy over a billion dollars a year. Not counted in this figure

Table C Number of persons per 1,000 civilian non-institutional population with activity limitation due to arthritis or rheumatism, by family income and age, United States, July 1961-June 1963.

Annual family income and age	Total population (in thousands)	Persons with activity limitation due to arthritis or rheumatism	
		Number (in thousands)	Per 1,000 population
Total	181,964	3,300	18.1
Under 45 years	128,658	327	2.5
45 years and over	53,306	2,973	55.8
Under \$4,000	56,390	2,033	36.1
Under 45 years	34,897	114	3.3
45 years and over	21,493	1,919	89.3
\$4,000 and over	115,056	1,083	9.4
Under 45 years	87,299	200	2.3
45 years and over	27,757	883	31.8
Income unknown	10,518	184	17.5
Under 45 years	6,463	13	2.0
45 years and over	4,055	171	42.2

Source: Chronic conditions and activity limitations, United States, July 1961-June 1963. Estimated annual average. U. S. Department of Health, Education, and Welfare, Public Health Service Publication No. 1000-Series 10, No. 17, May 1965. Washington: U. S. Government Printing Office.

are the costs of prescription drugs, aspirin, certain services in doctor's offices, nursing home care, care in private homes, private insurance benefits, and Federal, State, and local income tax losses (see Table B, page 10).

Of the \$435 million that is spent annually for medications for arthritis, \$250 million is wasted by arthritics on products that are falsely advertised or grossly misrepresented. Frequently, quackery flourishes because the physician who first sees the arthritis patient is not trained to cope adequately with the problem. In addition, public and private organizations do not have the resources to counter the promotion of fraudulent remedies. In lieu of concrete information about arthritis, the sufferer, believing that nothing can be done, wanders aimlessly into the pit of quackery. When he does seek the aid of a knowledgeable physician, his disease may have progressed beyond the point at which effective measures might have been applied.

Growing Problem. Since arthritis lacks the virulence to kill, prevalence rises with age. Victims of arthritis may become crippled, disabled, and wracked with pain, but they continue to live.

Arthritis has its greatest impact on the lower income groups. As family income goes down, the percentage of arthritis and, the percentage of arthritics in the disabled group, goes up.

A comparison of persons with limitation of activity by family income and age indicates that arthritics who are over 45 years of age with family incomes *under* \$4,000 have even more limitation of activity than those who are over 45 years of age with incomes *over* \$4,000 (see Table C, page 10). It can be said that arthritis is associated with lower income, regardless of age, although it is also associated with increasing age.

Psychological and Sociological Impact. While our society manifests a strong consciousness of responsibility for the handicapped and disabled, it nevertheless places emphasis on youth, activity, and achievement—values that are hardly compatible with a long-term crippling disease. When crippling arthritis strikes, the psychological and sociological stresses that twist and tear at the patient and at all who must suffer with him are so great, both in magnitude and in duration, that they defy quantitative measurement.

The battle that the crippled arthritic must wage to maintain his levels of reserve and adaptability against the onslaught of his disease has profound meaning for all responsible members of society.

Something Can Be Done. The principal problem in preventing disability from arthritis is that of decreasing the interval of time between the patient's first symptoms and the initiation of comprehensive treatment and care. Decreasing this interval is, in part, a matter of patient and public education. Delay in seeking proper care speeds crippling; the informed patient will not delay.

Of perhaps more significance, however, is the related problem of making the patient's first medical contact more effective in leading him to prompt and adequate care. This involves the basic training of the physician and the postgraduate efforts that must be made if the practicing physician is to be kept up-to-date in the field of arthritis. Also, it implies the availability of resources for early and accurate diagnosis and the adequacy of facilities that will provide total or comprehensive medical care that is adapted to the needs of the individual patient.

Unfortunately, public education activities, professional training programs, diagnostic resources, and adequate care facilities are, at present, insufficient. This must change. Something *can* be done for the arthritic. It can be done *now*, if society is willing to undertake the task.

In the prevention of disability from arthritis, there is one fact that has been repeatedly demonstrated; there is one point on which virtually all workers in the field agree: The *early* initiation of comprehensive treatment and care activities, including hospitalization, when necessary, and embodying subsequent and continuing medical and social support, is essential to the prevention of disability from arthritis.

Severe crippling can be prevented. In seven out of ten cases, victims of rheumatoid arthritis can be kept out of the bed or wheelchair. They can be helped to lead a useful and productive life. For this reason, it is of vital importance that community resources be augmented substantially and that they be brought to bear early in the course of the disease, rather than later, as is too often the case at the present time.

Chronic Cripplers Excluded. For too long, the public, professional health workers, and statesmen have been concerned with diseases that kill, to the exclusion of the chronic crippling diseases. As a result, much progress needs to be made. The excellence of current, short-term, inpatient, acute-problem studies has not been duplicated in outpatient work with chronic diseases. Clinical work and planning, which could include a comprehensive program of patient education, is inadequate at many of our better medical schools. Facilities for early hospitalization for patients who would benefit from such care are frequently inadequate. There are too few comprehensive care programs, which could serve as models of educational training of medical students, physicians, and other professional personnel, too few clinics, too few general hospitals, nursing homes, and home care programs, which are capable of dealing with the specific needs of the arthritic, and too few interested health professionals.

With respect to professional education, recruitment, support, and training of both medical and allied health professionals is inadequate. The sparse or nonexistent

training in rheumatic diseases in the curricula of schools for associated professional personnel or in the postgraduate education that is offered to these personnel contributes, substantially, to the present desperate shortage of physical therapists and to the scarcity of other health workers—all of whom should be instrumental in providing optimal care and education for arthritics. In the training of physicians, the orientation of medical undergraduate experience is toward acute, rather than chronic, illness.

Needs Are Great. The prevention of disability and the restoration and maintenance of function require the long-term services of an expensive team of specialists. The facilities that such a team requires are proportionately costly, and they range across a broad spectrum—from acute care beds in a hospital to special devices in a patient's home.

There is much to be learned about this complex and costly disease, arthritis. If new knowledge is to be developed and disseminated, postgraduate training for physicians who are already in practice is imperative. Associated professional personnel must be increased in number and

better trained to deal with the problem of crippling arthritis. And medical students must be exposed to the challenge of this provocative disease.

In addition, the victim of arthritis, his family, and the general public must be set free of the notion that nothing can be done about this disease.

Fundamental research must be continued, but a comparable effort must be mounted in the clinical area. Exemplary care centers should be supported as the focus of study, teaching, and consultation.

And, of particular importance, the community must be helped to organize and to support facilities that will provide a full range of services to the chronically ill, including the arthritic. Everyone who is concerned with health care must be imbued with the philosophy of a team effort, of a persistent and concerted attack, which will not falter in the face of discouragement or disappointment. It must not be forgotten that the needs of millions of Americans will be met only if society decides to redirect its investment, to mold public and private resources into a force that will halt the crippling of arthritis and its impact on the Nation.

Recommendations

1. That the Surgeon General designate arthritis a major health threat that must be surmounted.

Arthritis is the foremostcrippler in the United States. Its impact on the citizens of this country is staggering. Though rarely fatal, arthritis far exceeds the killer diseases in terms of human suffering, misery, and privation. In addition, it imposes on the economy the burden of providing for citizens who have been permitted to become crippled and unproductive. In our society, this burden is accepted. However, since the immense costs of arthritis to the Nation can be prevented, further squandering of these human resources is neither economically nor morally justified. Arthritis is a major threat to the health of the citizens of the United States. As such, it warrants a concerted effort to overcome it by all available means.



2. That facilities for the diagnosis and treatment of arthritis be maintained, improved, and created according to geographic, population, and community needs.

It has been shown that the early initiation of comprehensive treatment and care activities is essential to the prevention of disability from arthritis. As was pointed out earlier in this report, however, diagnostic and treatment facilities for arthritis do not meet today's needs.

The optimal care of chronic arthritic patients requires the combined capabilities of a team of skilled health professionals. The patient's family physician is a most important member of this team, since it is he who is charged with the key role in management. If optimal care is to be provided on an effective and widespread basis, without interfering with the traditional doctor-patient relationship, facilities and personnel for early diagnosis and comprehensive treatment should be established and supported at four basic levels: Re-

gional Arthritis Centers; Diagnostic and Treatment Clinics; Roving Consultation Boards; and an Arthritis Advisory Committee of the Rheumatism Section of The Arthritis Foundation (formerly, American Rheumatism Association).

Regional Arthritis Centers should be university-based or affiliated with large medical centers. They should provide facilities for the diagnosis and exemplary, comprehensive care of outpatients, by both full-time and part-time medical and associated professional personnel, and each Center should contain a limited number of beds for short-term inpatient care. In addition, each Center should operate an automated multi-test laboratory and make laboratory services available to other diagnostic facilities and to physicians in the area. Such laboratories would provide for quality-controlled uniformity and standardization of diagnostic tests—services that are not presently available.

Diagnostic and Treatment Clinics should be established in existing arthritis centers and service clinics and in accredited hospitals or other qualified medical facilities. These clinics would provide facilities for the diagnosis and comprehensive treatment

of outpatients from a defined geographic area. They would be staffed by part-time medical and associated personnel, and policies of financing and admitting would be identical to those of the parent institutions, the Regional Arthritis Centers.

Roving Consultation Boards would make periodic visits to hospitals in communities in which arthritis consultation services are not available. These Boards would be composed of professional personnel from the region's Arthritis Center or nearby Diagnostic and Treatment Clinic.

An *Arthritis Advisory Committee* of the Rheumatism Section of The Arthritis Foundation would be responsible for establishing standards of quality and of procedure for quality control of Regional Arthritis Centers, their automated multi-test laboratories, the Diagnostic and Treatment Clinics, and the Roving Consultation Boards. The Committee would work closely with the U. S. Public Health Service, all other public and voluntary health agencies, and with the American Medical Association.

The philosophy of providing these facilities for early diagnosis and comprehensive treatment should be one of building on the strengths and eliminating the weak-

nesses of present resources, rather than of creating a new structure. Maximum utilization of and sustained support for currently available facilities, together with the creation of new facilities, where needed, will give local physicians easy access to new information, as it becomes available; provide a mechanism for early diagnosis and treatment at the grass-roots level; and provide for the standardization of laboratory criteria for diagnosis. Responsibility for achieving and maintaining a high standard of medical care will rest with the patient's family physician, leading rheumatologists, and the Arthritis Advisory Committee.

3. That recruitment programs and undergraduate, graduate, and continuing education programs for the physician and for associated health personnel be improved and expanded in the area of the rheumatic diseases.

Meeting the needs of the patient with arthritis begins with the recruitment and education of those who will care for and manage the patient. Proper management of arthritis patients can be provided only by persons who have professional knowledge, technical skills, and a commitment to the provision of optimal care and to the development and dissemination of knowledge. Professional people who fit this description—who can meet the ever-increasing demands for patient care, education, and research in chronic illness—are in extremely short supply.

It is precisely because special and supporting skills are not available in quantities sufficient to provide optimal care for the arthritic that there is an urgent need for support of education in these fields, coupled with intensive and imaginative recruiting programs. Because recruiting success is, in the end, largely dependent upon the excellence of educational and training programs, the great need is for programs with the kind of built-in appeal that attracts medical students, well-trained physicians, and associated professional personnel. For this reason, exemplary, comprehensive care centers should be established in conjunc-

tion with medical schools. These centers would be multi-categorically oriented, but would focus on arthritis as a prototype of chronic disease. They would serve as educational facilities in which physicians would work in concert with associated professional personnel and would provide graduate education for all fields. Federal grants to medical schools should be offered to assist in planning facilities and curricula, as well as for the support of faculty. Assistance is also required for the support of large-scale, cooperative studies among all or most of the arthritis teaching centers and study units in the country.

4. That training for and support of better clinical investigation be encouraged by all available means.

The current approach to clinical investigation has produced an abundant and diversified body of knowledge in recent years. For a variety of reasons, however, the emphasis has been on studies of bio-

chemical, immunologic, and morphologic aspects of the disease. Support for these studies has been, and should continue to be, available. In the long run, they are of the utmost significance. Nevertheless, there has been a tendency for these efforts to overshadow fundamental clinical studies, to preempt the attention of investigators, and, thus, to inhibit work that is more directly applicable to patient needs and to the prevention of disability. The detailed recommendations that follow serve to identify means by which this imbalance in attack may be corrected.

It is recommended that support for the Research Training Grant Program be expanded, thus accelerating the training of teachers and clinicians who are primarily concerned with patient care as a research and teaching activity. Physicians who are capable of asking the pertinent clinical questions, of designing studies that are capable of answering such questions, and of carrying these studies through to completion are in short supply. There has been too little emphasis on the kind of excellent clinical judgment and critique that is mandatory in such work.

It is further recommended that clear and

forthright support be made available to clinicians of proven capacity who are in a position to give and to teach excellent patient care and to conduct clinical investigation. Support has been inadequate for the physician whose area of major contribution is in such clinical spheres as defining natural history of disease and establishing the role of a given therapeutic modality. It must be recognized that these problem areas are of fundamental importance, that they are distinctly worthy parts of the total investigational effort, and that, as such, they are areas in which competent, research-oriented clinicians should be supported.

It is recommended that support for hospital beds for clinical investigation be provided within the framework of the arthritis center concept. Hospitalization is of major, yet poorly defined, significance in the management of crippling arthritis. Proper clinical studies cannot be performed without an adequate supply of hospital beds that are available to the subjects. The cost of providing such facilities is more than justified by the fact that each bed serves not one, but three interlocking purposes—exemplary patient care, the teaching of

exemplary care to learners in all professional health fields, and clinical investigation.

It is recommended that research grant applications that pertain, in large degree, to clinical studies be evaluated on a competitive basis with similar studies, rather than with programs that are based primarily in the experimental laboratory. Clinical studies are generally considered to be much more difficult to evaluate than experimentally induced results because of the extended observation programs that are required, the many subjective factors that impinge on the observer, and the slower evolution of scientific truths from observed data. Despite these problems, value judgments can be made if clinical studies are compared only to each other.

There is a great need for a central coordinating agency that would be concerned exclusively with the clinical and epidemiological features of arthritis. Such an agency would provide continuing consultation in the areas of experimental design, biometrics, and data processing. It would serve as a focal point for drawing together widely separated investigators, who might then elect to join others in cooperative studies. And it would be expected to origi-

nate investigative efforts of its own.

Finally, it is recommended that an arthritis research coordinating agency be established as a function of the U.S. Public Health Service. This agency would, on a voluntary basis, contribute to the design and execution of cooperative clinical studies, provide technical consultation in experimental design and biometrics, and assist in efforts to standardize criteria and laboratory procedures. In general, it would coordinate clinical research activities in three major problem areas: 1) The natural history of the diseases and the effect upon them of therapy or lack of therapy, including analysis of such areas as patient motivation and the useful patterns of various agencies, such as centers, clinics, and hospitals; 2) The study of diagnostic criteria, therapeutic efficacy, and such patterns as remission and exacerbation, including both laboratory and clinical features; and 3) Classical epidemiological work, both in terms of measuring the extent of the problem in various areas and under various circumstances and in terms of identifying etiological factors.

5. That all agencies that are concerned with crippling arthritis dramatically improve and expand programs of public education and information.

Comprehensive programs of public education and information are essential to the effective control of crippling arthritis. An uninformed patient and general public can neither intelligently seek good care nor demand that health authorities provide proper treatment and care facilities for arthritis. In lieu of professional help, the victims of arthritis spend \$250 million annually on worthless and fraudulent treatments for arthritis. Obviously, neglect of this disease problem, on all fronts, has created, and is, in turn, caused by, a composite of apathy, ignorance, and misunderstanding. Breaking this frustrating chain of hopelessness will require intelligent and aggressive action by a number of agencies, at a variety of levels.

A public education and information program on arthritis should work to achieve the following goals: To motivate arthritics

to seek qualified care, to seek it sooner than they might otherwise, and to stick with it; to improve the attitude of the public toward arthritis and the attitude of the arthritic toward his disease; to motivate those who produce and disseminate health information to place more emphasis on arthritis; to create in the public an awareness of the size and seriousness of the arthritis problem; and to stimulate widespread interest in a major effort to meet the challenge that the problem of crippling arthritis poses.

If these objectives are to be accomplished, all agencies that are concerned with arthritis must concentrate their efforts in a continuing, nationwide program of information dissemination that will make maximum use of all the tools of communication to inform and educate the general and special publics about arthritis. In years past, the role of the Federal Government in focusing public attention on, and in providing support for, the amelioration of crippling from arthritis has been small. It is now time for the U.S. Public Health Service to provide the resources and leadership that will enable public, private, and voluntary agencies to work together to establish a program of arthritis education

and information that will deal systematically, thoroughly, and realistically with the needs of the millions of arthritics in this country.

6. *That a substantial portion of Federal grants for the chronically ill and aged be earmarked for comprehensive community service programs for the arthritic.*

The chronic nature of arthritis often requires that programs of supervision and care be continued for a prolonged period of time after the patient returns from the hospital to his home. Basically, two types of supervision are required: Home care programs, for the patient who is still home-bound; and outpatient care programs, for the patient who can leave home. Although necessarily different, both approaches to patient care depend for their success on the availability of a variety of facilities and skills. The availability of these skills and facilities is, in turn, directly dependent upon the support that is given to communi-

ties to plan and to operate comprehensive service programs.

The ultimate aim of treatment of the arthritic patient is to enable him to engage in productive activity in his home and in the community. Because of the tremendous variations in the prevalence of illness and in the resources that a community might have to combat the social, emotional, and economic, as well as the medical, problems of chronic illness, each community must develop the patterns by which it may use its particular resources to the fullest.

It is while communities are developing patterns of resources utilization that they should give serious consideration to the desirability of combining programs for the long-term management of arthritic patients with those that are designed to cope with other chronic diseases. Combined efforts are usually more effective and more feasible than separate attacks on different disorders; and they enhance the management of the arthritic patient without unduly increasing the economic burden on a small community.

Community planning should include provision of facilities for all types of care; the development of appliances and equipment and the training of the patient and his family to use them; the means of bringing together, most effectively, the patient, per-

sonnel, and facilities; and the development of recreational and social activities that can be operated in conjunction with those that are enjoyed by other members of the community. Programs should also include means of evaluating their strengths and weaknesses, in order that they may be modified and improved on the basis of experience.

The need is great for community services that go beyond the hospital and the clinic—that enable the arthritic patient to lead a satisfying and productive life. Federal formula and project grants that are earmarked for arthritis would, if provided, stimulate States and communities to come to grips with the problem of planning for and providing the long-term care that is needed to prevent crippling arthritis.

Background Papers

Workshop 1

Public Education and Information

William S. Clark, M.D., Chairman

It is to be hoped that we have just about reached that stage of civilization when we can say: "Our society can no longer afford the crippling diseases, the most notorious of which is arthritis."

As distinct from the killer diseases, on behalf of which a dramatic mobilization of resources has enlisted overwhelming public response and cooperation, the general attitude toward this most familiar of the crippling diseases has become one of apathy. Perhaps because some form of arthritis has been known as far back in the history of man as we can go, and perhaps

because a habit of frustration has been built up through the years (by the medical profession and by the lay public), this attitude seems to be based on a belief not dissimilar to that held until very recently about poverty: that "rheumatism, like the poor, has always been with us." The built-in implication, of course, is that it always will be and that there's not much point in doing anything about it.

But today, we are taking a new look at poverty in the midst of abundance, and we are attempting to apply intelligent and intensive effort towards its elimination. It would seem to be more than about time to take a new look at the country's leading crippler. This necessarily includes an examination of what can be done to clear away the mists of apathy, now lying like some vast primordial miasma between us and the prospect of successful subjugation of this crippler of mankind. Let us first look at the facts.

Arthritis, the second most prevalent chronic disease, affects an estimated 13,000,000 persons in the United States—one out of every 15 people—and adds 250,000 new victims each year. Over 3,300,000 persons are limited in their activities by arthritis, of which number 697,-



000 are unable to work, keep house, or go to school. Of the 915,000 persons who are confined to their homes by chronic diseases, 17 percent attribute their problem to arthritis and rheumatism. Sixteen percent of over 16,000,000 individuals who are classified as having limitation of major activity report arthritis as the responsible cause.

Arthritis and rheumatism cause 1,223,000 persons to be confined to bed for one or more days each year.

According to the National Health Survey, arthritis caused the loss of 12,000,000 days from work in a recent single year. Arthritis is estimated to cost the Nation approximately \$2,000,000,000 a year, including \$500,000,000 in productivity loss and \$130,000,000 in disability benefits.

When arthritis strikes, there is a double loss: a worker ceases to produce at top capacity, perhaps to produce at all, with all that that means in loss of productivity to the economy, as a whole, and in terms of tax dollars for city, State, and Federal governments. In fact, only too often the wage earner is moved from the plus side of the ledger to the debit side; he becomes a consumer of tax monies.

Proportionately, the arthritides constitute the most neglected group of diseases in the modern approach to good health. The general public has demonstrated no great concern. Funds from private and tax-supported resources that are allocated for research support that is directly related to arthritis are something less than \$15,000,000. Facilities that are provided by the public for diagnosis, treatment, and rehabilitation are generally inadequate or lacking. Of the Nation's medical schools and teaching hospitals, less than one-third have noteworthy programs and projects for treatment, teaching, and research. Fewer than 1,600 physicians in the United States manifest an active interest in the arthritis problem, and it is estimated that there are fewer than 500 properly qualified medical specialists in the field of rheumatology.

We have an ironic situation. On the one hand, there are not enough adequate facilities and not enough professional competence to meet the need; on the other hand, \$250,000,000 a year is spent on worthless and fraudulent treatments. We have a situation in which, even when adequate professional help exists, large numbers of pa-

tients do not seek or avail themselves of good care on the assumption that nothing can be done about arthritis—that it's a hair shirt they just have to live with. Reinforcement of this traditional point of view, driven home by families, friends, and even physicians, is probably deepened by incessant, day-in-and-day-out TV commercials: "Medical authorities state there is *no cure* for arthritis; take aspirin to relieve the pain." Yet, it is now true that, with early diagnosis and comprehensive care, 75 percent of the crippling that is incident to arthritis can be prevented.

It becomes obvious that the neglect of the arthritis problem is due to an amalgam of apathy, ignorance, and misunderstanding. Any solution must include intelligent and aggressive programs, by a number of agencies, at a variety of levels.

Greater public awareness of the nature and magnitude of the problems of arthritis and rheumatism should have the following purposes:

1. To motivate patients to seek qualified medical services and to seek them sooner, so that they will receive earlier treatment and more effective prevention of disability.

2. To improve attitudes toward those that are afflicted, including those in the family, employees, teachers, neighbors, schoolmates, and friends, by encouraging them to replace a fatalistic attitude of gloom with a constructive and hopeful outlook.
3. To motivate large numbers of practicing physicians to become more knowledgeable and more skillful in the field of rheumatology.
4. To motivate more educators to provide, at all levels, more effective and more attractive programs for continuing education.
5. To motivate more hospitals and related agencies to provide optional facilities and resources, as required by knowledgeable physicians.
6. To encourage paramedical personnel to acquire increasing awareness and to improve general skills, knowledge, and services. Paramedical educators will, of necessity, improve programs for undergraduate and postgraduate education.
7. To provide for medical students, interns, and residents greater exposure to the diseases and to motivate them to take greater interest, with the result

that more young persons will seek research and clinical careers in rheumatology.

8. To make more funds available for clinical and basic research.
9. To stimulate the development of new and more effective treatment methods.

Impressing the public with the nature and importance of an insidious and undramatic chronic disease, such as arthritis, is a challenge to physicians, health educators, and specialists in communication techniques.

The successful methods that are applicable to acute and limited morbidity and to the dreaded fatal diseases are not likely to be as effective in public education programs that involve less dramatic, long-term chronic diseases. The problem is further complicated by the need for correcting false and misleading concepts, which are held by vast segments of the public.

New and imaginative methods, involving the development of educational content and of communication, must be devised. Crash programs must be launched. Dedicated representatives from the fields of medicine, health education, and the communications professions must develop

and apply techniques that will get the message across—that will compete favorably with public information programs in other fields.

A new attitude toward health information must be cultivated in editors, newscasters, and writers in the years ahead. Moreover, the effort of government and voluntary agencies must be stepped up to achieve a greater impact. The combined public education activities of agencies should be focused on an immediate goal, the amelioration of crippling.

A critical appraisal of public education by all who play a responsible role is long overdue. Such a review should take inventory of the past and current efforts. On the basis of current and future needs and trends in health education and mass communication, a program must be designed that will deal systematically, thoroughly, and realistically with the problem.

Workshop 2

Diagnosis and Treatment Facilities

Ephraim P. Engleman, M.D., Chairman

The objectives of our Workshop will be:
(a) To consider those community-oriented facilities that are needed for the diagnosis and short-term treatment of arthritis; and
(b) to explore the resources that are potentially available for such facilities.

It is appropriate, at this time, to define the term "arthritis," as it will be used in our Workshop. For purposes of our discussion, the term "arthritis" will be used in a general sense to refer to a group of articular and para-articular diseases, often chronic that cause painful disability, which may be evanescent, episodic, static, or progressive. Examples of such diseases are gout and bursitis, in which the disability may be evanescent or episodic, degenerative joint disease (osteoarthritis), in which disability may be static, and rheumatoid arthritis, in which disability is often progressive.

There are certain problems that must be recognized prior to our discussion of facilities for diagnosis and treatment of arthritis. In the first place, we have little or no information about the cause or prevention of these diseases. Secondly, there is no unequivocal diagnostic test. And of those tests that are commonly used, there are at least two sets of diagnostic tests for which there is no uniformity or standardization. I refer, specifically, to the tests for the rheumatoid and lupus factors and to the criteria for radiologic diagnosis. Thus, our methods for diagnosis are traditional. They include the time-consuming history and physical examination and the performance of laboratory tests and X-ray studies.

A third problem concerns the lack of a cure. Thus, in most instances, we employ several therapeutic modalities, which may be used simultaneously. Examples of such modalities are rest and exercise, in proper balance, and drugs and simple orthopedic supports or appliances. Often the treatment is palliative. Nevertheless, the proper management of early disease will usually reduce pain, preserve function, and prevent progressive deformity. Furthermore, proper treatment will minimize the likelihood of iatrogenic disease.

Some 13 million people in the United States maintain that they have some form of arthritis. This prevalence is so high that responsibility for these patients must be assumed by their local physicians, by doctors with varying interests, including those in general practice. This brings us to the fourth problem, namely, the shortage of physicians with at least a modest degree of skill, or even interest, in the care of the arthritic patient. The gap that exists between the knowledge that is available about arthritis and its application to the patient can only result in a critical delay in accurate diagnosis and proper treatment.

At the community level, we are faced with a fifth major problem: the shortage of arthritis clinics. Although there are approximately seven thousand accredited hospitals in the United States, there are only 300 arthritis clinics, many of which are poorly staffed and equipped. And most of these clinics are restricted to large population centers.

Finally, it must be noted that there is an almost complete absence of certain arthritis facilities that are available in many other parts of the world. Thus, we have, in the United States, virtually no provision for rural arthritis services, hospital beds for arthritis, national registry of patients with

arthritis, a directory of diagnostic and treatment facilities that *are* available, and/or an assessment of screening techniques, which might provide early diagnosis on a large-scale basis.

This, briefly, is the current status of the diagnosis and treatment of arthritis in the United States. That there are vital needs is self-evident. Nearly one-half of the patients who have arthritis are receiving no medical care. Thus, they are candidates for crippling or disability, which might be prevented or minimized. Our Workshop will make practical recommendations, which, hopefully, will satisfy some of our needs.

Workshop 3

The Long-Term Care of Patients with Arthritic Disabilities

Currier McEwen, M.D., Chairman

A. Who are the patients with whom we are concerned?

It is assumed that arthritic patients in acute and severe subacute stages need general hospital facilities and that this Workshop is concerned with those who have progressed beyond those stages. These patients have need of less complex facilities, but, nevertheless, specialized skills and programs.

The patients who are in need of this care include:

1. Those with inflammatory types of arthritis, in mild subacute and chronic stages, without deformities, but whose illnesses can be expected to remain active for many weeks or months;
2. Those with similar arthritis who have

developed deformities that probably can be corrected with nonsurgical measures;

3. Similar patients with advanced deformities, which require surgical measures for correction;

4. Patients with advanced deformities and disabilities, which have little promise for more than very limited correction;

5. Patients with osteoarthritis of the disabling type, who require intensive programs of physical therapy and therapeutic exercises;

6. Similar patients who require surgical measures;

7. Patients with arthritic disabilities, who have little potential for rehabilitation because of other handicaps, such as senility, stroke, etc.;

8. Patients who should be removed from their home environments for short periods, either for intensive supervision of corrective measures or for psycho-social reasons;

9. Patients who are in need of learning Aids to Daily Living;

10. Patients who require prevention of deformity, as well as correction.

These groups include patients of all financial levels, but the needs are especially important for those in low and moderate income groups.

B. *Where do these patients now receive care?*

Information that is currently available permits only general answers to this question.

The great majority of these patients now receive very inadequate care, either in their own homes, in general hospitals, in chronic disease hospitals, or in nursing homes.

It is probably true that, in many instances, even well-to-do patients, in their own homes, receive inadequate care because of lack of (a) suitable programs, (b) skilled personnel, (c) knowledge of available community resources, and (d) coordination of existing community resources.

C. *What are the special needs?*

The special needs of the various types of patients who are listed under section A include:

1. Facilities of the simple hospital type with which they can be effectively and economically cared for;
2. Skilled consultant services, provided on a team basis, to plan and periodically assess each patient's program;
3. Ready access to general hospital beds for those patients whose course of disease demands that level of care, because of

intercurrent illness, exacerbation of disease, or suitability for a definitive surgical or other therapeutic measure;

4. Financial arrangements that will permit patients of all economic levels to receive optimal care for whatever period is required;

5. Means of continuing supervision of the program after the patient returns home; and means of providing for his total needs, including care of all illnesses other than the arthritis;

6. Arrangements to facilitate the retraining of patients for jobs that are within their capabilities and assistance in job placement;

7. Development of arrangements to meet the ultimate needs of those patients who have no homes and whose potential for rehabilitation is small.

D. *What skills are needed?*

The essential skills include those of the:

1. Rheumatologist; 2. Orthopedist; 3. Psychiatrist; 4. Physical Therapist; 5. Occupational Therapist; 6. Psychologist;
7. Social Worker; 8. Vocational Counselor; 9. Nurse and Aide; 10. Public Health Nurse (including Visiting Nurses).

E. *What facilities are needed?*

These include:

1. Facilities of a simple physical type, which provide a pleasant atmosphere, beds, medical supervision, nursing care, space and equipment for therapeutic exercises, splinting and other unelaborate measures, and facilities for recreation, where constructive rehabilitation programs can be most effectively and economically carried out for patients of the types that were noted under section A;
2. General hospital beds, to which patients can be transferred readily if their medical needs demand it;
3. Consideration must be given to the roles of existing types of facilities, such as nursing homes, in the care of these patients;
4. The patient's own home should be the most important facility of all in the ultimate care of the arthritic. Means must be developed to make the home an effective place for the continuation of constructive programs;
5. Development of more shops with facilities for the employment of rehabilitated arthritic patients.

Workshop 4

Professional Education

Howard F. Polley, M.D., Chairman

Increasing attention is being given to arthritic diseases, not only because they are conditions for which satisfactory scientific answers have not yet been found, but also because of the increasing awareness of the associated public health and community problems. No doubt, both scientific and public interests have been stimulated by research efforts, especially those of the last 15 years or so, that have been directed toward the solution of both the clinical and the basic science aspects of the biochemical, cellular, and other abnormalities that occur in various arthritic diseases. Although interest in arthritis prompted such investigations, the resulting scientific and public health benefits may extend to areas far beyond those of the diseases toward which the efforts were initially directed.

The increasing attention that arthritis

has received has also revealed major obstacles to the solution of community health problems that arthritic diseases present. The recognition that there are such obstacles and that they may not yet have been defined well enough to facilitate their solution is the basis for this conference, which has been called by the Surgeon General, U.S. Public Health Service. Our Workshop's attention is particularly directed to the professional education aspects of the prevention of disability from arthritis.

Obstacles that are related to the professional education aspects of better public health management of arthritis may include: (1) shortages of skilled professional personnel in various pertinent medical and paramedical fields; (2) inadequate use of presently available knowledge and public health techniques to determine which persons and which areas would be amenable to preventive measures; (3) public and professional indifference to the ever-increasing magnitude of the social and economic consequences of failure to prevent disability; and (4) financial requirements of the correction of recognized deficiencies.

In order to obtain a better approach to the solution of these obstacles and of those that are, possibly, less well recognized, it

seems necessary to define, more clearly, the current resources, such as the number of presently available medical and paramedical specialists, whose skills could contribute to the prevention of disability in areas in which they are now located. It seems necessary, in addition, to determine how they function in their medical and social communities. A whole series of corollary questions that are suggested are listed below.

How can the talents of these specialists best be used?

What are the optimal methods of teaching and training medical and paramedical skills at the professional level?

How can professional education attract the dedicated interest of knowledgeable graduate physicians and scientists and paramedical personnel, such as physical and occupational therapists, social-service workers, nurses, nutritionists, and others, for prevention of disability?

What are the relationships, if any, between the undergraduate educational experiences in either clinical or research aspects of rheumatic diseases and graduate professional education?

Who can undertake professional education most effectively, and where?

Will postgraduate training of established medical and paramedical personnel reach those physicians, scientists, and others who have the earliest opportunity to apply preventive measures against disability?

Will the experience of postgraduate education in related public health endeavors indicate whether postgraduate education can hasten the solution of public health problems that are presented by disability from arthritis?

Other related questions arise, such as:

When does the arthritic patient need the attention of the specialist—medical or paramedical—for the prevention of disability?

Is the current use of local hospital and other medical facilities, university medical or other research centers, and public health offices the best approach to the prevention of disability from arthritis?

Can restorative measures or ordinary domiciliary care be used to better advantage, or modified readily, for prevention of disability?

Would it be pertinent to know whether comprehensive public health surveys

could determine, accurately, the numbers of arthritic patients for whom medical or paramedical care (or both) is needed to prevent disability?

Where are such patients in relation to the availability of the skills they are thought to need?

How might patients be motivated to use available preventive measures?

What is the significance of the socioeconomic aspect of disability from arthritis on the patient, family, and community?

Certain of these and related questions are more particularly the province of other Workshops in this conference, namely, those that are concerned with public education and information, diagnostic and therapeutic facilities, long-term management, clinical investigation and the training for it, voluntary and public agency activities, and socioeconomic factors. Likewise, the questions that are pertinent to postgraduate education may not all be separable from their specific approaches. However, in so far as it is practical to do so, our attention will be directed, particularly, to solution of the problems of professional education, as it is related to prevention of disability from arthritis.

Hopefully, such attention might also contribute toward solution of those other aspects of the prevention of disability that are being considered in the other Workshops in this conference.

Workshop 5

Clinical Investigation and Training

John L. Decker, M.D., Chairman

“Clinical investigation” is, in the current language of the medical scientist, commonly interpreted as encompassing a wide field, from electron microscopy to the indications for synovectomy, from the structure of peptides to population studies, and

from the problems of membrane potentials to the psychologic impact of chronic invalidism. While recognizing and rejoicing in the breadth of this definition and in the fundamental role of the more basic approaches to generating new avenues of thought and investigation, the clinician, and with him, our society, is confronted, now, today, with the unfilled needs of the rheumatic disease patient. A part of the title of this conference, "prevention of disability," makes the point clearly. The way to prevent disability is to prevent or cure the disease. Despite some hopeful flickerings on the horizon, flickerings that need continued nourishment and hard work, these routes are not now open. Another way must be sought.

It is this effort—to address ourselves directly to the individual patient, to understand the framework in which his disease develops, to diagnose and classify his illness, to predict its outcome accurately and to manage it in such a way as to prevent disability—which constitutes "clinical investigation" in a more restricted form and is our subject, here.

There is no clear dividing line between "basic" and "clinical" investigation; and it is unwise to seek or to draw one, for

each flourishes best when enlightened by the other. The emphasis on the patient and on his problem that is expressed here is not meant to denigrate more fundamental studies, nor to imply that there is only one way to do things. Obviously, there are many avenues; but it is our present purpose to explore the possibilities and pitfalls of one, only.

Within the health professions, "arthritis" means inflammation of the joint. Thus, this conference has great breadth, in terms of specific diseases. In selecting a specific area or disease for work, many considerations, some appropriate and others distinctly inappropriate, assail this conference (and the investigator). The choice might be based upon quantity. Which disease is most common? Degenerative joint disease? Which disease causes the greatest economic loss and misery? Rheumatoid arthritis? The choice might be based on scientific considerations—that is, where the leads look best. Which disease seems more likely to be due to infection? Reiter's syndrome? Which disease permits study of the synovia before, during, and after induced inflammation? Gouty arthritis? The choice could be based upon its current "popularity rating"; no granting commit-

tee can entirely divest itself of medical fashion. In which disease do genetic factors seem most pertinent? Ankylosing spondylitis? Which disease is the prototype of "autoimmunity?" Systemic lupus erythematosus? Or perhaps the considerations should be more practical. What disease will be troubling the largest proportion of the next one hundred patients to be seen? Fibrositis?

In practical fact, all of these considerations, and more besides, enter into the choice. For our purposes, it is sufficient to recognize that choice is difficult and that it is foolish to restrict or to delimit, unduly, the area of concern. The diseases that cause crippling overlap in a myriad of fascinating ways, and the study of the exotic is no less (nor no more) to be preferred than the study of the common.

The prototype disease, and the major public health problem, is rheumatoid arthritis. While most of our thinking will be concerned with rheumatoid arthritis, lessons that are learned in other diseases will apply to rheumatoid arthritis; and, conversely, many of the conclusions that are reached will have validity beyond rheumatoid arthritis, alone.

This essay will cite a few approaches to

knowledge that can be applied to preventing disability from rheumatoid arthritis. It will discuss the difficulties which tend to hinder these investigations. And it will suggest means of eliminating some of these obstacles. The nature of the professional training that qualifies individuals for such work will be considered.

I. Problems for Clinical Investigation

The number of unanswered questions that are concerned with rheumatoid arthritis is unlimited. Much of the operating knowledge that is now in general use has not been "established," in the rigorous scientific sense of the word. Consequently, almost all of the thought and action patterns of today's clinician might be considered to be in need of reevaluation.

In practical fact, the last 20 or 30 years have provided a reasonable baseline of knowledge, both in the literature and in the abilities of physicians and others who have been privileged to observe the disease in large numbers of patients. A good example of this baseline knowledge exists in the criteria for the diagnosis of rheumatoid arthritis, which was first suggested in 1957 by a committee of the Rheumatism Section of the Arthritis Foundation. These

criteria continue to serve a most useful purpose; and they deserve the constant reappraisal that was suggested by the original committee and, recently, begun. Thus, there is need for clinical investigation of the foregone conclusions of the past, as well as of the new tools, ideas, and modalities of today.

Early identification of the disease continues to be a problem; but it should now be extended to efforts to identify susceptible individuals before overt onset of disease. What is the meaning of serum rheumatoid factor in healthy individuals? Studies of rheumatoid arthritis in populations, both at one point in time or with continuing reappraisal of a population sample, have proven to be useful, in terms of defining the magnitude of the problem and of permitting the drawing of conclusions as to its nature. For example, the low order of familial aggregation that is found in surveys of special populations raises important questions about the disease, which appears in certain families at a rate far beyond that expected.

The natural history of the disease deserves constant study, as do its relationships to other illnesses, such as chronic ulcerative colitis or psoriasis. The recently

changing views of the distinctions between rheumatoid arthritis and ankylosing spondylitis provide evidence that this type of nosological effort is still valid today. Indeed, there are cogent reasons to believe that "rheumatoid arthritis" is not one disease, but several. For example, are the monarticular, large joint disease of adolescence, the destructive, nodular disease of the metacarpophalangeal joints in young adults, and the chronic inflammatory synovitis of shoulder and knee of old age the same disease of the same cause?

More information is needed about such freely used terms as "active," "inactive," "suppressed," "burned-out," and "in remission." They have received careful attention in recent years, but one cannot escape the fact that the local destruction of a wrist, for example, seems, on occasion, to progress inexorably, while the systemic disease is regarded as inactive. Can distinctions be drawn and quantitation achieved between "local" and "systemic" activity? Would it be worthwhile to develop prognostic indices for individual joints?

The fundamental need to distinguish patterns, classes, and types of disease rests not in a desire to create more eponymic

syndromes, but, for our purposes, to achieve a more definitive prognosis. This is a prerequisite to properly planned therapeutic investigation, as well as to an enlightened treatment program for any one individual. This, too, has been done in the past, both retrospectively and prospectively. But new data handling methods, coupled with precise, prospective definition of the variables, should produce new insights.

The events that surround remissions and exacerbations of the disease deserve study. Such changes are regarded as spontaneous, but it seems likely that there are unrecognized contributing events, be they psychosocial, infectious, traumatic, or environmental.

The entire area of treatment, or management, lies open to clinical investigation. Only in recent years have properly controlled studies of corticosteroids, gold, and antimalarial therapy become available. Some attention has also been directed to non-medicinal approaches, such as long-term hospitalization, or immobilization, in reducing joint inflammation.

Among physical measures that are often recommended, few have been validated by exacting studies. Such matters as bed rest,

range of motion and muscle-building exercises, the role of heat in its various forms, and preventive exercises deserve analysis.

There has been much recent interest in local therapeutic measures. Both (intra-articular) injections and surgical approaches have been advised. No controlled studies are available. Early synovectomy—that is, before cartilage damage—cannot readily be advised nor accepted by the patient, unless it is established that it is not, in itself, a damaging procedure and that joint disintegration can be prevented. Reparative surgery has been in use longer, and its benefits are more evident, although, even here, it is essential to define results in terms of useful function, rather than in terms of pleasing cosmetics. Despite the many variables that are involved, appropriately designed studies, evaluated over an adequate period, should provide the needed definitive evidence on which to construct therapeutic plans.

II. Inhibitors of Clinical Investigation

The present paucity of studies of the type that have been described is readily accounted for: they are difficult to perform. In considering or conducting such studies, the investigator often finds himself

stopped by an insuperable problem or by a combination of problems. It is appropriate to examine some of them.

The nature of the disease, itself, is obviously the key factor. It is chronic, very different from patient to patient, given to abrupt, seemingly inexplicable changes in activity, and thoroughly intermingled with the emotional and physical nature of its human victims. There are no comparable animal models. These facts force the conclusion that appropriate studies require large numbers of patients and extended periods of study, measured in years and decades, rather than in weeks or months.

The investigator, then, must have qualities that are far from universal, such as infinite patience; the ability to design appropriate studies that are based on an exhaustive knowledge of the disease; a foresighted perception of what questions or problems will be of significance when his work comes into its final phases; the ability to inspire and to stimulate his associates; and the sustained and communicable concern for his patients that is the mark of the good physician. One of the inhibitors of clinical investigation in the rheumatic diseases is immediately clear: such paragons of virtue are rare, if not

altogether unknown!

A stable and reliable patient population of sufficient size is not always available. In many areas, this factor may hinge upon adequate transportation facilities. Many studies require a degree of patient understanding and cooperation that can rarely be attained in the average clinic population.

Patients who are able to pay a fee for services should be included; presumably, no charges would be made while they are "in" a study. There are major ethical factors that inhibit (perhaps properly) some work. Is it ever appropriate to perform sham surgery or to give a lactose placebo over years?

Inadequate cooperation between the various medical specialties is another potent inhibitor. Occasionally, this is based on long tradition or petty jealousies; more often, it is rooted in a failure to take the time to understand the ideas, methods, and motives of another discipline.

The expense of prolonged hospitalization, crucial to some work, has been an inhibitory factor where "free beds" are not available to the investigator. The high cost of this type of hospitalization within the institutions in which clinical research

is being done has made this form of support difficult to obtain.

An additional important problem is the pressures that are put on the physician who *does* have a few such beds at his command. The demands and the need for chronic hospitalization are so heavy and so pathetic that it requires a heart of stone to maintain the integrity of such a unit for investigational purposes, alone. The only reasonable solution is the provision of a chronic disease facility, with beds at a lower cost than those in the general hospital, but in *close geographic proximity* to the medical center. Such a facility is consonant with the rapidly increasing proportion of chronic to acute problems that is now being noted in medical practice, with the increasing mean age of the "average American," and with the overwhelming need for better training in chronic disease for all of the health professions.

To return to the inhibitors of clinical investigation, freedom, when it is denied the clinical investigator, is an inhibitor that deserves more deliberate mention. Creative work requires time, imagination, effort, and an environment that encourages opportunistic ventures into the unknown. The investigator can readily find himself

nailed to the rack of a protocol that was written years before, unable to exercise his originality and imagination. Worse than this, he can be so burdened by the multitude of administrative responsibilities that are sure to result from the problems that have already been cited that he lacks the spirit or mental energy to pursue even his protocol, much less anything new. His freedom must be preserved.

In the last analysis, monumental effort on the part of the investigator can overcome most of these problems. Then, the urgency and the pertinence of the hypothesis that is to be studied become of overriding importance. It is obvious that an hypothesis that involves basic attributes of the disease process is more compelling than an hypothesis that will require hundreds of man hours and scores of patients to determine whether Pill X or Procedure Y has an effect that is beyond that to be expected from chance, alone.

III. Encouragement of Clinical Investigation

Our discussions will center on possible means of encouraging clinical investigation. A major segment of the problem, which might be entitled "The Care and Feeding of the Clinical Investigator," is

considered next (IV). Other factors that apply include:

- a. Where should this type of investigational activity be done? Within a medical school? Within a research institute? Within the practice of medicine, either by individuals or in groups? What financial arrangements are appropriate for hospitalization for clinical investigation?
- b. Cooperative studies. Should all or any portion of this work be carried out with central direction to a number of operating units? How should these ventures be organized and by whom?
- c. The enthusiastic support of the local community, both lay and medical, can make a great difference. How can this be assured?
- d. The services that are required in any particular study—laboratory, physical medicine, transportation, follow up, etc.—will differ; but they must be available. Almost all will require consultative assistance in experimental design and statistical analysis. How can such facilities be made available?

IV. Training for Clinical Investigation

In the last analysis, the ideas that will build tomorrow must come from the mind of a man today. The research team, as a group, contributes to the environment of each individual on it; but an individual concerns us here. Any improvement or increase in clinical investigation has a single *sine qua non*—the investigator himself. As suggested above, he must be a man of many parts.

It is desirable that the creative individual be identified as early as possible and be introduced to the field in such a way that he will wish to enter it. Important consequences of this view are that training units for rheumatic disease should be widely dispersed in our educational system; that they should be in a position to recruit men to the field; and that the process of early identification is to be expected to bring many more into training than will actually perform adequately as independent clinical investigators.

The training will have to be flexible. The only requirement should be that the trainee must attack and master one area, no matter how limited, in depth. It seems unwise that all trainees be versed in a pre-

clinical discipline, although this would be the course for many. It is assumed that the trainee will be involved in clinical investigation and that the majority of his training will come in the one-to-one relationship with the preceptor, who is jointly involved in his problem.

All training units cannot (and should not) have competence in *all* disciplines. The trainee should be directed to the best possible position for the accomplishment of his purpose, be it a basic science unit, another rheumatic disease training unit, or a specialized institute or program.

Starting independent work represents the point of greatest attrition, perhaps rightly so. Appropriate support mechanisms should be available to permit the truly competent man to pursue his problem in a status beyond that of trainee. During this period, which might extend to three or four years, he should be free of heavy administrative or teaching responsibilities. He should complete the period ready to assume a permanent role as a clinical investigator.

He should be assisted and guided in finding a post that will permit the full utilization of his talents. As of today, this post is usually conceived of as an academic

appointment within a medical school. As more emphasis is placed on the investigational aspects of patient care, however, it seems likely that suitable posts will open up in hospitals, private clinics, and foundations; with proper direction and relationships, a suitable environment can readily be developed in such circumstances.

The mode of support for the clinical investigator is crucial. The rapidly recurring need to demonstrate "progress" to the granting agencies, both private and governmental, has tended to direct efforts toward limited and short-term goals. On the other hand, the difficulties of a *carte blanche* program of, for example, 15 years duration are obvious. Some intermediate mode may be necessary for people who work in the field of treatment of the rheumatic diseases.

Some of the unsolved, and perhaps unsolvable, problems of training investigators for work in rheumatic diseases include the following:

- a. Is all of medical school necessary to produce a specialized clinical investigator? There are reasons to believe that advancing age and the brainwashing of the average medical school curriculum smother originality. Should

there be "short cut" routes to clinical investigation? Might some subject areas be dropped and others fortified?

- b. Should training of clinical investigators be the responsibility of a few (less than ten) strong and especially organized training units?
- c. How can the trainee be encouraged to keep his breadth of vision wide while he is concentrating on a limited problem and using circumscribed modalities? Should he be exposed to a survey period during which he would study a wide range of techniques and their limitations?
- d. Would a regular pattern of rotation of trainees among several training units serve a useful purpose?
- e. Is a critical investigator born, or can the talent be developed? The ability to design clinical studies, to select properly matched controls, to analyze the many variables that are involved, and to appreciate what has and what has not been shown to be fact, seems to be rare. Are these talents "teachable?" If the answer is affirmative, should the teaching be by precept only, or can formal courses or programmed instruction be a major benefit?

Workshop 6

Voluntary and Public Agency Activities and Programs

William D. Robinson, M.D., Chairman

In spite of the growing recognition of the importance of the effect of rheumatic diseases on the health and economy of the community, there is little precise information available on the prevalence of these diseases in the general population. According to the United States National Health Survey of 1961-1963, rheumatic diseases caused a loss of 12 million man-days each year, with 13 million people in this country estimated to be affected. An estimate of the degree of crippling that was attributed to these diseases was also provided by this survey: 157,000 individuals were confined to their homes because of rheumatic diseases.

Another index of incapacitation is provided by the roles of applicants for disability benefits under Social Security.

During the period of this three-year survey, 30,000 arthritic applicants a year were unable to work for six months and were eligible for Social Security disability benefits. The reason for this is clearly related to the age and sex distribution of individuals who are eligible under this program, since it does not include individuals where the impact of certain types of crippling arthritis are most heavily felt. Only 18 percent of the individuals in this program were under the age of 50 years, and only 20 percent were women. Of the applicants for Social Security disability benefits, 56 percent had osteoarthritis and 27 percent had rheumatoid arthritis (1). A National Health Education Committee, in Washington, D. C., estimated that each year 320,000 persons in the United States are rendered totally unemployable by rheumatic diseases. While more accurate data is certainly desirable, there is no question that this Workshop is dealing with a problem of considerable magnitude.

There are at least forty different forms of arthritis and related diseases that can lead to temporary or protracted disability, or to permanent crippling. Of these, the one that bulks largest, in terms of human suffering, that is characterized by a pro-

tracted or recurrent course, and that possesses the greatest capacity for producing irreversible crippling is rheumatoid arthritis. While osteoarthritis is, statistically, a more common disease (indeed, technically almost every individual who is over the age of 40 can be regarded as having some degree of osteoarthritis) this condition is very gradual in its onset and progression. It permits adaptation of the patient's level of activity over a long period of time and rarely causes a severe degree of difficulty. In contrast, rheumatoid arthritis strikes unpredictably. It affects a younger age group at the time of maximum responsibility, in family relationships, striking the wage earner in his most productive years and the housewife at times of maximum family responsibilities.

Specific infections of the joint and gout can also cause crippling, but in these situations effective medical management is well defined and the primary problems are accurate diagnosis and patient cooperation. A variety of forms of nonarticular rheumatism may cause temporary disability of considerable magnitude, but these conditions, in a great majority of cases, are limited to a few weeks or months in duration; and, with proper management, they

should not result in irreversible crippling. Therefore, in this Workshop, rheumatoid arthritis may be regarded as the prototype of the crippling diseases, not only because it is the least well understood and the most difficult to manage, from the medical point of view, but also because of its important impact on the individual, on his family, and on his ability to function in society.

Also pertinent to the purpose of this Workshop is the fact that any sound program that is developed to meet the problem of disability from rheumatoid arthritis will automatically include the measures that can be brought to bear on other forms of disability from rheumatic diseases. Indeed, it would be virtually impossible to develop an adequate program for rheumatoid arthritis that would not accomplish this purpose.

Basic Considerations

In the prevention of disability from rheumatoid arthritis, there is one fact that has been repeatedly demonstrated and agreed upon by virtually all workers in the field—the importance of early hospitalization and subsequent medical and social support. A powerful argument can be made in favor of hospital treatment early in the course of rheumatoid arthritis and for the

provision of adequate medical and social supervision, on a long-term basis, following discharge from the hospital. It is clear that these measures are important in the maintenance of the functional ability of patients with rheumatoid arthritis and, therefore, in the prevention of disability and crippling from this disease.

The importance of early hospitalization was clearly outlined by Short and Bauer and their associates (2), and it has been repeatedly confirmed in additional studies. All of these studies indicate, clearly, that the course of the disease is better in those patients who are admitted to the hospital within one year of onset of their disease. Because of the importance of this thesis to the subject of this Workshop, it is worthwhile to look at, in some detail, at least one of these studies.

The most recently reported study (3, 4, 5) consisted of an original group of 307 admissions to the Rheumatism Unit of the Northern General Hospital in Edinburgh, Scotland, between June 1948 and July 1951. Admission to the hospital had been decided upon because of active disease, the presence of deformities, or both. The mean duration of stay in the hospital was 9.4 weeks. While in the hospital, all the pa-

tients were put under the same basic regimen, which was comprised of rest in bed, the application of plaster splints to affected joints, aspirin to limits of tolerance, physiotherapy, and a graduated return to the highest attainable functional level. Drugs other than aspirin were avoided. After discharge, the patients were seen at regular intervals and their treatment was modified as the need arose. Splints were removed and help was provided in domestic and employment problems. At this stage, drugs were given whenever they were indicated.

Careful assessment of disease activity and functional capacity was made at the time of admission to the hospital, at the time of discharge from the hospital, and at intervals of two, four, six, and nine years following discharge from the hospital. Of the 200 survivors who were available for assessment some nine years after discharge from hospital, 20.5 percent were without significant residual disability, 41 percent were moderately incapacitated, 27 percent were more severely crippled, and 11.5 percent had become entirely dependent on others.

Between discharge from the hospital and the first assessment, some two years later, the overall pattern reflected maintenance of

nearly all the improvement that had occurred during hospitalization, with an overall pattern of some further improvement. From two years onward, there was a gradual but progressive deterioration in the functional status of the group, as a whole, due, in part, at least, to increasing age and degenerative changes in previously damaged joints. The disease remained moderately active in the majority of patients throughout the period of observation, but functional capacity and the capacity for useful employment was reasonably well maintained among the survivors.

A study of social and economic factors indicated a close relationship between domestic or financial difficulties and the degree of crippling, as might be expected; but the relatively small number of unresolved problems in the last assessment was a clear indication of the important part that is played by medical social workers in the long-term care of the disabled. Maintenance or loss of morale was also intimately related to the degree of disability.

The group that showed the greatest initial improvement was comprised of those whose musculature was likely to be most efficient—the young, rather than the old,

men, rather than women, and manual, rather than sedentary workers. This, as well as other observations, would suggest that benefit that was derived from treatment was more attributable to the physical measures that were used in the maintenance of function than to the effectiveness of measures that were directed toward reduction of disease activity.

There are two points that must be kept in mind in generalizing from studies of this sort. The conclusions, with respect to the course and prognosis of rheumatoid arthritis, are naturally based on cases that are severe enough to be selected for hospital treatment. They do not necessarily apply to the milder cases, with little or no disability, which may never be referred to a hospital. Several surveys indicate that such mild cases, with little or no disability, make up a considerable portion of the total number of people with rheumatoid arthritis in the whole population.

It must also be borne in mind that the death rate among such groups of patients with rheumatoid arthritis is higher than in the general population, in all ages and in both sexes, although the causes of death do not appear to differ from the expected pattern. Mortality is highest among those

most severely affected by rheumatoid arthritis. The fact must be borne in mind in reviewing late followup results, since the removal of the more severely affected segment of the group may give rise to an over-optimistic view of the long-range results.

Objectives

In order to make available to all patients with rheumatoid arthritis the advantages of early hospitalization, combined with subsequent careful medical and social supervision, effort must be directed toward at least three objectives:

- A. Acceptance by the patient and by the general medical profession of the fact that early intensive treatment is both necessary and of value. This involves a public education program, as well as an education program for physicians and for paramedical workers. It also underscores the necessity for early and accurate diagnosis, with the associated responsibility of insuring that facilities for early and accurate diagnosis are available.
- B. Availability and adequacy of facilities for hospitalization. This clearly involves a significant economic problem.

In addition, it is important that optimal facilities be available, in terms of both trained personnel and physical resources, to provide the services that are needed for the arthritic patients. Required are physicians who are skilled in the medical, orthopedic, and physical medicine aspects of rheumatic diseases. Required, also, are the special skills and experience of physical therapists, social service workers, nursing personnel, occupational therapists, nutritionists, and dietitians. A soundly based program must, clearly, be involved with the training of such individuals, as well as with their appropriate utilization.

- C. Availability and adequacy of resources for the medical and social supervision that must follow the period of intensive treatment during hospitalization and, also, for those patients whose disease is not severe enough to require hospitalization. This involves the establishment, distribution, and setting of proper standards for arthritis clinics, in order to provide the necessary medical supervision. It also involves the services of all of the paramedical professions who are concerned with the

hospitalization facilities that are listed above. To be successful, this aspect of the program must also enlist the services of many agencies, such as public health nurses, visiting nurses, vocational and recreational programs, and rehabilitation efforts, which are not directed primarily at the arthritic patient. Although the efforts of these organizations are not restricted to patients with arthritis, they have much to offer in terms of both experience and objectives, which can be beneficial to the achievement of the ultimate goal of preventing disability from rheumatic diseases.

It is the specific assignment of this Workshop to review the present activities and programs of voluntary and public agencies, with the objective of determining what is being done at the present time and how these programs and activities can be made more effective.

Voluntary Agencies that are Concerned with Arthritis

The Arthritis Foundation. Within the past year, The Arthritis Foundation has emerged as the voluntary agency that is concerned with both the professional and

the lay effort in the field of rheumatic diseases. Formerly, the Arthritis and Rheumatism Foundation, its national program is concerned, primarily, with both lay and professional education. Through its regional chapters, it is directly involved in the support of arthritis clinics and in the administration of other facilities that bear directly on the care of the arthritic patient. Its organization is closely intertwined with that of the American Rheumatism Association (now, the Rheumatism Section of The Arthritis Foundation), as far as professional guidance and policies are concerned. Currently, efforts are underway to make the coordination of the lay and professional medical effort in this field still more effective. The National Foundation, which previously had a program in arthritis that was directed particularly toward juvenile rheumatoid arthritis, has concentrated in other areas since the emergence of The Arthritis Foundation as the strong voluntary organization.

The Rheumatism Section of The Arthritis Foundation (formerly, American Rheumatism Association). This is the professional organization of physicians who have a special interest in the field of rheu-

matic diseases. It currently numbers more than 1,600 members. It provides leadership in professional education and furnishes professional resources and "know-how" to public education programs of The Arthritis Foundation.

Community Hospitals and Medical Centers. There is an accelerating tendency for the hospital to become the focal point in the provision of all aspects of medical care. This is true with respect to both diagnostic resources and treatment facilities. In addition, because the hospital supplies a setting in which the physician can function most effectively and efficiently, it is often only in the hospital that the more refined diagnostic procedures are available. The hospital is the setting in which the physical therapist, dietitian, occupational therapist, and social service worker can function most effectively; indeed, in all but a few areas, it is the only place where such individuals and facilities are available. Through their internship and residency training programs, these hospitals exert an important influence on professional education. They are also often the focal point in the training of the paramedical professions, whose services are so important in the care of the arthritic patient.

Hospitals that are associated or affiliated with medical schools and medical centers are involved in direct service to patients to the extent that they function to meet community needs. They also serve an important function in the training of individuals in the medical and paramedical professions and in the demonstration of effective organizations and procedures in meeting the needs of the arthritic patient.

Arthritis clinics have tended to develop entirely in relationship to hospitals—most frequently, in relationship to hospitals that are concerned with teaching and residency training. The National Foundation pioneered in the financial support of arthritis centers that serve as demonstration units, and it is projected that continuing efforts in this area will be supported by The Arthritis Foundation.

The outpatient department of the hospital plays a particularly important role in dealing with the problem of arthritis, since there is need for continuing medical supervision, as well as for episodes of hospitalization.

Other Voluntary Agencies. Numerous agencies that are concerned with the problems of chronic incapacitating disease include patients with arthritis in their pro-

grams. In many areas, such programs as visiting nursing programs are coordinated and, to some extent, supported by the activities of the chapters of The Arthritis Foundation. In many areas, there is a lack of effective coordination of these programs into the effort to improve care of arthritic patients.

Public Agencies that are Concerned with Arthritis Programs

The United States Public Health Service

The Bureau of State Services, through its Division of Chronic Diseases, has a combined Diabetes and Arthritis Program, which is responsible for the efforts of the United States Public Health Service in the arthritis field at a national level. The activities of this Program have ranged from the preparation and dissemination of material for public education to the preparation of recommendations for community arthritis projects and programs in county and local health departments. Its public education activities have been closely coordinated with those of The Arthritis Foundation. In some areas, it has cooperated with State health departments and chapters of The Arthritis Foundation to sponsor symposia, postgraduate courses, and demonstration programs to provide improved

facilities for the care of the arthritis patient. The primary charge of this program is to seek more expeditious application of the scientific techniques we now know and of those that are becoming available through research.

National Institutes of Health (National Institute of Arthritis and Metabolic Diseases). This research arm of the United States Public Health Service supports a large program for research in arthritis and for the training of research workers in this field. While programs of this Institute may not be directed immediately to the care of the arthritic patient, they indirectly exert an important influence on professional education and in the development of facilities for patient care. The centers for research and training in research are located in the same institutions that are providing leadership in the development of facilities for care of the arthritic patient. There is a fine tradition of cooperation between the National Institute of Arthritis and Metabolic Diseases and The Arthritis Foundation.

State Health Departments. In most State health departments, no specific activities are directed solely to arthritis. Most State health departments support a

number of projects, throughout the State, that directly or indirectly influence care for the arthritic patient. These may include chronic disease diagnostic clinics, rehabilitation centers and services, nursing services to the chronically ill, stimulation of home-care services, with available consultation subsidization, homemaker services, and nursing home services. Programs that are concerned with facilities for the care of crippled children and crippled and afflicted adults may include appropriate patients and arthritis.

It is apparent that in several States the activities of the State health departments are closely coordinated with those of the chapters of The Arthritis Foundation. Such activities may include symposia and dissemination of literature for public education, the joint sponsoring of symposia for physician education and, also, for the education of nurses, physical therapists, and social service workers, and the preparation of a directory of arthritis services that are available throughout the state. In several States, key staff members of the appropriate division of the State health department are members of the Medical and Scientific Committee of the State chapter of The Arthritis Foundation.

Examples of Activities in Which State Health Departments Have Provided Leadership or Have Participated

Pennsylvania: In cooperation with the Pennsylvania chapters of The Arthritis Foundation, two State conferences on arthritis have been conducted for medical and paramedical groups. Seven institutes on diet and arthritis have been conducted. Equipment has been made available for physiotherapy demonstration projects. Institutes on rehabilitation and restorative services have been conducted. Training programs in rehabilitation have been conducted for nursing home staffs.

New Jersey: Program activities include promoting community resources for control of arthritis, including continuity of care services, rehabilitation services, and diagnostic services. The department has encouraged and facilitated research studies and provided education in arthritis and allied disorders. Arthritis symposia have been sponsored jointly by the State health department, medical school, and county hospitals. The State health department has prepared a directory of arthritis services that are available in New Jersey, including agencies, clinics, educational materials,

physical medicine, and rehabilitation resources.

Colorado: The State health department cosponsored a three-day institute on "Management and Rehabilitation of Patients with Arthritis" with the Rocky Mountain Chapter of The Arthritis Foundation, the University of Colorado Medical School, and the State department of rehabilitation. Plans were formulated to provide assistance to the Rocky Mountain Chapter of the AF for purchase of equipment for physical therapy home service programs and craft rehabilitation projects. Assistance is also being developed for professional lay education through the procurement and utilization of educational materials and audio-visual aids. Other services relate to consultation to nursing home administrators, including occupational and physical therapy consultants, community homemaker services in Denver, and extension of programs for home nursing care of the sick.

Kansas: Courses sponsored in self-help and rehabilitation for nursing home personnel include service to arthritics, as well as to stroke patients. Rehabilitation courses are conducted for registered nurses. Also programs for nursing care of the sick at home are being developed. The

Kansas statewide arthritis education program is a cooperative agreement involving the Kansas Chapter of The Arthritis Foundation, the Kansas State Health Department, and the U.S. Public Health Service. The objectives of this program are to provide up-to-date information to physicians and paramedical personnel on techniques, particularly physical therapy, that are used for care of arthritics. It also seeks to organize and mobilize community resources to improve the care of the arthritic.

Minnesota: A project entitled "Home Economists in Rehabilitation" has been sponsored jointly by the State health department, the Minnesota Heart Association, the State agricultural extension service, and the Minnesota Chapter of The Arthritis Foundation. This is a project to assist homemakers with physical handicaps to accept the knowledge that will encourage them to develop both realistic attitudes toward homemaking and enable them to accomplish some, or all, of their homemaking tasks. A series of four classes are held. They cover different aspects of homemaking. This program reached about 160 homemakers in 13 counties in 1963.

County and Community Health Departments. It is difficult to get significant in-

formation about the activities of county or community health departments in the field of arthritis. It is clear that such health departments are in a position to play a key role in community arthritis projects.

An example of the way in which rehabilitation services to arthritis patients has been extended by a generalized public health nursing agency is provided by Tulsa's arthritis program. The first steps were to ascertain the number of rheumatic disease victims in the community who required home nursing service and to decide on the type of inservice education that would best prepare the nursing division of the City or County health department to take care of them. On the basis of the information and prior experience of a specialized program that had been established by the local chapter of The Arthritis Foundation, the staff nurses became acquainted with the patients, familiarized themselves with the patient's disabilities, and gained considerable insight into the needs of these patients, with respect to the medical, nursing, and physical therapy techniques that are needed. This was followed by formal lectures and demonstrations and the participation of staff nurses in training programs that were available elsewhere. It

is of interest that, in one year, about 12 percent of 7,620 visits for nursing care in the home were made to arthritic patients. During the same year, 191 new arthritic patients were admitted to the nursing service.

There are also a number of both governmentally supported and voluntary organizations that are concerned with the provision of diagnostic, treatment, and rehabilitation programs for the chronically ill patient at the community, regional, and national levels, with programs and facilities that play an important role in services that are available to the patient with arthritis. One of the purposes of this conference will be to obtain more information concerning such programs and to develop recommendations for more comprehensive and extended care of the arthritic patient, through coordinated health activities and through the integration of health information.

Educational Activities of Voluntary and Public Agencies

Public Education. A sound pattern for the provision of authoritative information on arthritis has developed, usually with The Arthritis Foundation taking leadership in preparing appropriate literature, fre-

quently with the advice or participation of committees of the Rheumatism Section of The Arthritis Foundation (formerly, American Rheumatism Association). Dissemination of this information is carried on, to a considerable extent, through the chapters of The Arthritis Foundation, the Division of Chronic Diseases of the United States Public Health Service, and the State health departments. Examples are the booklet entitled, "Strike Back at Arthritis," informational booklets about quackery in the arthritis field, and authoritative information about fact and fancy and the relationship of diet to arthritis. The Arthritis Foundation also prepares and distributes informational pamphlets, directed toward the education of the patient that is afflicted with arthritis, that deal with the various types of rheumatic diseases.

Professional Education. Several organizations are concerned with keeping the medical profession up-to-date on advances in the diagnosis and management of arthritic disease. These efforts are usually well coordinated, and several of them are undertaken on a cooperative basis. An example is the "Primer on Rheumatic Diseases," which is prepared periodically by a committee of the Rheumatism Section of

The Arthritis Foundation and published in the *Journal of the American Medical Association*. Through The Arthritis Foundation, copies are distributed to every medical student in his junior or senior year in medical schools throughout the United States and Canada. Information concerning advances in research are disseminated in the monthly *Bulletin of Rheumatic Diseases*, a joint enterprise of the National Institute of Arthritis and Metabolic Diseases and The Arthritis Foundation, which is distributed to approximately 60,000 practicing physicians in the United States, primarily through the chapters of the Arthritis Foundation. A periodic *Rheumatism Review*, prepared by a committee of the Rheumatism Section of The Arthritis Foundation, is widely distributed with the financial support of The Arthritis Foundation. Symposia and postgraduate courses that deal with the diagnosis and management of the arthritic are frequently cosponsored or organized by the Rheumatism Section of The Arthritis Foundation, or its regional affiliated societies, and The Arthritis Foundation and its chapters, sometimes, with the joint sponsorship of the State health department.

Education of Clinical Specialists in

Arthritis. There has been a substantial increase, in the last fifteen years, in opportunities for advanced training for physicians who wish to concentrate in the field of rheumatic diseases. This has tended to occur, particularly, in centers in which there is an ongoing research program. It has been stimulated by the training grants program of the National Institute of Arthritis and Metabolic Diseases (PHS). However, since such training grants have concentrated in the training of younger physicians for research in the field of rheumatic diseases, there has been a real problem, financially, in providing training for men who are not primarily interested in research, but who wish to develop their proficiency in the diagnosis and management of the arthritic patient. The Arthritis Foundation, both at the national level and through its local chapters, has tried to meet this need to a limited extent. There is a very real need for financial support for men who are seeking advanced training in this field in order that they may be better prepared to provide care for the arthritic patient.

We are not aware of comparable training opportunities for the other professions that are concerned with providing health

care. Chapters of The Arthritis Foundation and governmental health agencies have organized one and two-day symposia to provide public health nurses, visiting nurses, nutritionists, physical therapists, social service workers, vocational, recreational, and social rehabilitation workers with some information concerning the particular problems of the arthritic. Most of the real experts in these paramedical professions, as far as the arthritic patient is concerned, have developed through "on the job training" by participating in the activities of an arthritis center, rather than through an organized program of training.

Hospitalization Problems

Organizational and Financial Considerations. Both hospital organization and planning and the patterns of defraying the costs of hospitalization in this country have tended to center on care for the patient with acute illness. There is a limitation to the extent to which such patterns can be adapted to the needs of the patient with chronic disabling disease. Physical facilities and administrative organizations, which are quite suitable for the care of patients who are hospitalized for a week or two, are often not appropriate for providing optimum

care for patients whose hospitalization is a matter of months. Similarly, hospitalization insurance plans, which are adequate in meeting the cost of acute illness, are inadequate when applied to patients who require long-term hospitalization.

Hospitalization programs for the arthritic patient have tended to develop in training centers, usually in connection with medical schools. The problems that were cited above become more pertinent if recommendations are considered for the extension of the development of such resources in the community and voluntary hospitals. An easy solution might appear to be the development of hospital facilities that are designed, organized, and financed to meet the specific needs of the arthritic patient. But there are obvious disadvantages in the development of such facilities: They tend to become isolated from the mainstream of medical progress and care, and they are difficult to integrate with followup services that are much more likely to be part of an overall community or regional program.

It is apparent that those who set out to make realistic recommendations for providing adequate hospitalization facilities for patients with arthritis must weigh the

above considerations carefully.

Standards of Excellence in Hospitalization Resources. The most important aspect of the quality of care that is provided during the hospitalization of patients with arthritis is clearly dependent on the professional qualifications of the staff. In addition to the general diagnostic and consultation services that are usually found in a general hospital, the special skills of men who are trained in rheumatology, orthopedic surgery, and physical medicine are required. Special training is also needed in the paramedical health professions that are concerned with the care of such patients. These include nursing, social service, vocational rehabilitation, and psychological testing workers. The public and voluntary agencies can be most effective in providing support for the training of such individuals, and also in insuring adequate budgetary provision for the variety of skills that must be brought to bear in the care of the arthritic patient.

Continuing Medical and Social Supervision

Continuing medical and social supervision is usually provided by outpatient clinics that are closely affiliated with the institution that is providing the resources

for hospitalization of the arthritic patient. It is clear that the organizational and financial problems, as well as the maintenance of quality in such continuing activities, are dependent on much the same factors as those that were outlined above, under the heading of hospitalization. However, it is in this area of continuing supervision that the role of the physician becomes less predominant and dependence on adequate programs in the home nursing, physical medicine, and social aspects become increasingly important. It is also in this area that integration with other community programs that deal with the chronically ill patient can be most effectively utilized.

Currently, most of the activities that are directed toward this aspect of the care of the arthritic patient have developed through the local and regional chapters of The Arthritis Foundation. Such activities have included aid in the establishment and continuing support of arthritis clinics; the provision of physical therapists to work with the visiting nurses' and public health nurses' programs; financial aid in the provision of corrective supports, splints, and wheel chairs to severely handicapped individuals; the maintenance of mobile physical therapy units for the homebound arthritic; and

participation in community homemaker, recreational, rehabilitation, and home nursing efforts. The Arthritis Foundation has developed a set of recommendations for standards for the organization and operation of such arthritis clinics.

Summary

Today, we, in this country, can bring excellent resources to bear on the problems of prevention of disability from rheumatic diseases. A significant segment of the medical profession is interested in rheumatology; nearly 2,000 members of that profession are organized into an effective, professional organization. We have a strong and outstanding voluntary health agency that is concerned with the problem. Our research activities are the envy of the rest of the world, and we have a preponderance of eminent investigators and clinicians in the field of rheumatic diseases. There is a focus of special interest in rheumatic diseases in nearly two-thirds of our medical schools, and there are over three hundred special clinics for patients who suffer from these diseases. The U. S. Public Health Service is committed to helping the American people find the answer to chronic disease, and State and local health authorities are dedicated to serving the health

interests of those for whom they are responsible. And regional and community organizations are concerned with the medical and social aspects of chronic incapacitating disease. With stronger interaction and liaison between these groups, advances can be made "which will convert the problem of rheumatic disorders from a public liability to an area of competence in disease control, rehabilitation and prevention of disability." (6)

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Workshop 7

Socioeconomic Aspects (Financial Resources)

Ronald W. Lamont-Havers, M.D., Chairman

Arthritis has been a problem with which the individual patient and his immediate family have had to cope since antiquity. Today, however, the impact of arthritis is so great that it has become, in addition, a public health problem of major importance to the Nation, as well as to individual com-

munities. This is well illustrated in the selected statistical data that is available.

These statistics must be interpreted, however, with an understanding of the many factors that are involved in their compilation. Some of these will be explored during the Workshop session.

Arthritis patients seldom have arthritis as their only problem. The general age group is such that other chronic and acute diseases as well as the infirmities of age, are frequently concomitant companions. Invariably, the psychosocial consequences of the disease are a major burden. These multiple problems must be taken into consideration. In many respects, therefore, the study of arthritis can be viewed as the prototype of studies of chronic disease problems that normally face the community.

The clinical aspects of arthritis and the rheumatic diseases generally will not be discussed. Background information on this aspect can be obtained from the "Primer on the Rheumatic Diseases." Of all the various diseases that are classified under the rheumatic diseases, those of greatest socioeconomic importance are rheumatoid arthritis and osteoarthritis.

Other sections of the Workshop will be discussing many of the problems that con-

front the individual and the community, from the standpoint of needed facilities and personnel. This Workshop on socioeconomic aspects will concentrate, primarily, on the problems that are associated with the major economic impact of arthritis upon the patient and the community.

It is expected that a number of areas that are in need of additional study and information will be identified. Typical of these areas are the following: The need for assessing services and facilities for the arthritic in the local community; the difficult problem of implementing actions so noted; and the manner in which the unique needs of the arthritis patient and of those with chronic disease, generally, can be integrated into the present health care plans.



Workshop Reports and Discussions

Public Education and Information

Chairman: William S. Clark, M.D.

The effect of crippling arthritis on the Nation's health and economy constitutes an emergency that the public can no longer ignore. Arthritis is the Nation's number one crippling disease. It exacts an enormous toll in human and material resources.

Arthritis is a growing and spreading problem. Something can be done about it now. Intensified and sustained programs of public education and information are essential to the achievement of effective control of the crippling effects of all major forms of arthritis.

The extraordinary amount of personal disability and the burdensome cost of the

individual to his family, to the community, and to the Nation that result from arthritis can be attributed, in part, to the general lack of information and the considerable abundance of misinformation about the nature of the arthritic diseases. It can be attributed, also, to the lack of motivation to develop and utilize optimal professional skills, meaningful facilities, and resources for treatment and care.

Moreover, misconceptions about arthritis are being perpetuated by counter propaganda for the promotion of legitimate and fraudulent treatments for arthritis. Public education cannot be clearly separated from professional education, either in concept or in practice. As one panelist put it: Every physician is a layman in some area of the medical sciences.

Moreover, the level of information of the general public is proportionate to the degree of professional knowledge. The subject, Public Education and Information, could well be included on the agenda of each of the six other panels that are arranged for this conference.

Responsibility for public education and information rests with all agencies that are concerned with the problem of arthritis, as well as with individuals in the medical

and paramedical specialties who are involved in the care of the arthritic patient. Public education cannot take place in a vacuum. It must begin with the patient and relate to meaningful and attractive services that are available for effective treatment.

In this discussion, we will consider the patient to be a part of the public. A high priority objective in the prevention of crippling arthritis is bringing the patient into points of contact with skillful professional personnel and effective medical facilities.

The purposes of public education and information can be stated as follows: The goal of the effort against arthritis is to reduce or prevent disability in its victims now and, as soon as possible, to develop techniques for cure or total prevention.

Our Workshop believes that there is substantial factual information on arthritis that is not now reaching patients and the rest of the public. We believe that bringing such information, in a proper way, to those who need it can motivate them and influence their behavior, thus contributing toward a solution of the problem of arthritis.

The public information program for arthritis should include the following pur-

poses: To motivate those with arthritis to seek qualified medical care, to seek it sooner than they might otherwise, and to stick with it; to improve attitudes toward arthritis and the arthritic individual, replacing despair with justified hope; to motivate educators at all levels to pay more attention to arthritis; to create in the public an awareness of the size and seriousness of the arthritic problem (it being noted that the decisions of individuals who are not physicians, but who serve on hospital boards, or on legislative bodies, or who support and participate in voluntary organizations, will largely determine what will actually be done about arthritis); to stimulate widespread interest in a major effort against arthritis and in the challenge the problem poses.

The Workshop notes that while doctors, nurses, and other health workers are trained by professional educators, it is usually exposure to public information that stimulates them to select their careers.

The more that is said about arthritis in newspapers, in private sayings, in magazines, books, and over radio and television, the more excitement will be generated about it and the more young people will be drawn to careers in it.

What is done in the public sector of information, if done well, can also have a massive impact in the area of improving the amount, quality, and effectiveness of professional education.

Whom to educate . . . The public, at large, including the physician, as well as the layman, is the audience to which public education and information programs on arthritis must be addressed. Programs should be directed to specific groups, physicians, paramedical specialists, educators, pharmacists, community leaders, and others who, in effect, educate or advise the public or mold public opinion.

Certain segments of the arthritis problem have especially pertinent application to certain groups. There is reason for concern about the patient's understanding of his own problem.

Content . . . The public information and education program on the arthritic diseases should contain the following basic elements in its approach:

The public must be made aware that many of the rheumatic diseases are manageable and preventable and that tremendous public health problems have been conquered by their demand.

The importance of early diagnosis must

be continually emphasized. With proper medical care, severe crippling can be prevented in most cases of arthritis, and most patients are able to maintain significant measures of function, or significant measures of independence, regardless of the stage of progress of the disease or the severity. Lost function can be retained or, to a great extent, restored.

Treatment must be administered by qualified physicians; and it should be the policy of public education programs to identify and explain the elements of adequate care. These include regulation of physical activity and environment, proper diet guidance when appropriate, proper selection and administration of drugs, the use of physical medicine, and specialized care, such as orthopedic surgery, psychiatric treatment, and rehabilitation techniques.

Methods and techniques . . . The development and support of a trained administrative staff and personnel for planning, implementation, and continuity is essential. There must be national, State, and community programs of information and education about arthritis.

There must be development of sources of information and cadres of individuals

to convey information through a variety of conference and group techniques, including neighborhood and patient group discussions.

There must be development and selective utilization of audience-specific terms. There must be development of interest and support by mass media for comprehensive educational programs for arthritis care.

Conclusions and recommendations: It is the consensus and unanimous agreement of our group that more money should be invested in public education and information by all agencies. There must be a continuing and sustained effort. There must be education of a special group of people who need information in depth to act in the capacity of educators and informers.

There must be research in the motivation of patients to seek and to accept adequate treatment; and there must be research in the comprehension of the informational materials that are supplied to patients, their families, and the public.

There must be intensified programs and expansion of existing programs. There must be cooperation among agencies and the avoidance of duplication; and we must encourage greater involvement of all media in the problem.

For the discussion, I have asked the four people who helped prepare this report to sit at this table and help me answer questions, because I don't want to do all the talking.

Discussion

DR. McDONALD: I have no questions, only a comment; and it is complimentary to the group that you represent. I think that this was a very good statement, and that it will help to guide our Program in the next several years. Thank you very much for this report.

DR. WILLIAM CLARK: Thank you for the gracious comments, Glen.

DR. TRAEGER: When you talk of continuity, just what do you mean?

DR. WILLIAM CLARK: We mean that this shouldn't be a short burst, a one-shot affair, that it should be a sustained program and that there should be continuity of knowledge, objectives, and planning.

We are not talking about a project for 1965. And programs in public education must be adapted to increasing knowledge, not only to knowledge about the nature of arthritis diseases, but about the patient and the public's acceptance of this knowledge and about their motivation to act on the problem.

DR. STILLMAN: I think that you have done such a superb job that I have nothing to add. I congratulate you and your committee.

DR. DECKER: Did the committee talk about over-publication to the general public of investigative advances that are not, perhaps, pertinent to the status of any one individual, but which can give him major hunks of unfortunate information?

DR. WILLIAM CLARK: I don't know that I understand the question, but I am going to let someone over here answer it. Dave, do you want to take a crack at it? Incidentally, my panel is, from my left to my right, Mr. David Preston, science writer, Dr. Theodore Bayles, Director of Research, Robert B. Brigham Hospital in Boston, Mr. Lee Curren, Director of Public Information of The Arthritis Foundation, and Dr. Ralph Jacox, Dept. of Medicine, University of Rochester. Mr. Preston will answer.

MR. PRESTON: The committee did not specifically talk about that problem, but I think it was the consensus of the committee that we need a lot of specific material for people with specific arthritic diseases and conditions.

I think that if those materials were well

enough prepared and if they met the need, the individual patient would not be likely to be led astray by an occasional story of the kind of which you are thinking.

DR. WILLIAM CLARK: Such as DMSO.

MR. FRALEY: I think that this ties in with what Dr. Traeger said—that you have to raise the level of knowledge in the general public continuously, on a sustained basis, so that when there is premature publicity the general public has some kind of background in which to judge any specific piece of information.

DR. JACOX: I think our committee did devote considerable discussion to the education of the patient as being an important way to make them less vulnerable to these ill-advised press releases. And our committee felt, generally, that if the patient had a good knowledge of his or her disease, he would not only cooperate more readily with treatment suggestion, but he would be in a much better position to read things, perhaps, that come out in the newspapers about arthritis.

DR. JOHNSON: I am concerned about the prevalent—and I say that guardedly—idea that prevails among physicians who are rendering firstline medical care to peo-

ple who have this crippling disease—nothing can be done for the arthritic.

I see arthritics in my office and in other areas who were told, one, two or three years before they came to me, that they had one of the arthritides and that there was nothing that could be done for them. They had gone home and slipped into the passive and recessive group. They had accepted it.

How can you tell these people that, regardless of the fact that one person in medicine told them nothing can be done, they should seek a physician who is interested in the process and who wants to get something done for them? Is not that in your purvey of services here?

DR. WILLIAM CLARK: Yes, sir. We would like to respond to that, Dr. Johnson. Dr. Bayles?

DR. BAYLES: Well, I think one thing that came out of our discussion was that public education and information had to be across the board. We even decided that doctors were people, that nurses were people, that physical therapists and other health workers were people, that high school students and college students were people, and that junior high school students were people. We had the strong

conviction that this kind of approach of public education and information, while it may be layered to different levels of reception, is an important function.

Mr. Fraley and our other science writers pointed out that we have to adjust the information to the people who are receiving it. And I think, in answer to this, we would feel that the doctor who has told the patient that there is nothing to do about arthritis needs as much education as the arthritic patient, his family, the public, or those whom Bill Clark calls opinion molders in the community.

So, I think it can be said that we are not neglecting any category of individuals; and we hope that we can reach, with different material, hopefully, every strata, or every phase of people, as we call them, in our country.

DR. WILLIAM CLARK: We emphasize that public education begins with the patient and with those who are responsible for the patient or on whom the patient is dependent for any kind of assistance.

DR. ROBINSON: Mr. Chairman, sometimes one finds that when one has information one thinks is useful for public education, the journalist feels that this doesn't fill the bill because it has no par-

ticular interest to them. Now, I find that this might be exciting news, and they think it is not. We have to get together on these matters. Did the committee consider this?

DR. WILLIAM CLARK: Yes, it did. Dave?

MR. PRESTON: I think that journalists, important as they are, are a small part of the total chain of communication between people who know about arthritis and the patient and the rest of the public.

I think that the journalist has to deal in large measure with what he considers to be new. I think an important message, such as the fact that something can be done about arthritis with what is known now, will have to be delivered to the patient and other segments of the public by many, many means.

It is my own personal guess that if we had complete control of all the science writers and journalists in this country, we would still find that 75 percent of the information on this subject that patients and the public were getting would be coming from other sources.

DR. TOONE: I would like to make a plea for the patient. I think this is the individual who requires our attention and our particular effort. I think it came out

in our discussions that, in many ways, he has been greatly neglected, not only because of our shortcomings in treatment measures, but in the fact that he never was given the proper information about his disease. I think this all points up to the fact that the patient is the individual at whom we need to point most of our attention.

DR. WILLIAM CLARK: I did want to make one other comment and amplify it. Mr. Fraley made the point that we could have sliced this differently and that the public information and education could be a part of each panel discussion. Would you wish to amplify that, Pierre?

MR. FRALEY: No, I think you covered it. I would make a plea, too, that whenever any aspect of this disease, or of the treatment and care that can be given it, is under consideration, that the public information and public educational aspects be taken into consideration.

I am particularly strong on the point that research, for instance, is never done until the results of the research are communicated not only to those people who apply it to patients, but all the way out to the general public.

MR. CURRAN: I agree with Dr. Jacox. It has been a very rewarding session and

I have learned a lot. I think that some of the statements and deliberations of our group will help us at The Arthritis Foundation to broaden our thinking and our programs that bring the facts about arthritis to our people.

DR. BAYLES: Perhaps I had just better point out to the group that we are all going to go home with the responsibility to help in this effort to spread the word, or the party line, or whatever you want to call it.

MR. NILES: I would like to make one comment in amplification of Pete Fraley's comment that educational information must essentially be on a horizontal basis across all of the activities of the other Workshops. From the other Workshops, we will get the tools with which we can work; and Pete Fraley and other science writers and educators, and so forth and so on, can use these tools and apply their skills to hammer these points home.

Also, I think that we did not identify one group in our panel. We identified doctors as people, nurses as people, and so forth, as people. Health educators were identified as those who hold the lantern while their mother chops the wood.

MR. PRESTON: Having been in the

field of science writing for many years, since the time when there was very nearly open warfare between the immediate profession and science writers, it is extremely gratifying to find lay science writers called here by the government to work with doctors and other health professionals to try to solve the problem. I think it is very encouraging.

DR. WILLIAM CLARK: Thank you. That completes our report.

Diagnosis and Treatment Facilities

Chairman: Ephraim P. Engleman, M.D.

Ours, as you know, is the Workshop that was concerned with facilities for diagnosis and short-term treatment. The participants were practicing physicians, fulltime medical academicians, an epidemiologist, a hospital administrator, an expert on automated diagnostic screening, a consultant on community planning, a medical social worker, and a nurse. It was agreed that there is an urgent need for more facilities to permit more widespread early diagnosis and treatment of patients

with arthritis. The immediate questions were: What are the best available methods of diagnosis and treatment? Where can they be found?

It was recognized that proper diagnosis depends on painstaking clinical history and physical examination and on certain laboratory and X-ray findings; that the most effective program for patient management is multidisciplinary and time-consuming; and that optimal methods of diagnosis and treatment are found in certain existing arthritis teaching units. These centers are university-based units, in which knowledge of arthritis is pursued and applied and in which there are personnel and facilities for exemplary diagnosis and patient care, for professional education at both undergraduate and postgraduate levels, and for research.

Prior to World War II, there was only a handful of such centers in the United States; and all were in a few Eastern States. Following World War II, three significant developments made possible establishment of additional arthritis centers that fulfilled the above description: (1) creation of The Arthritis Foundation; (2) establishment of the Training Program in Arthritis of the National Institute of Ar-

thritis and Metabolic Diseases (PHS); and (3) the entry of the National Foundation into the field of arthritis.

Nevertheless, in 1964, when the National Foundation withdrew its support, there were scattered throughout the United States no more than 38 exemplary arthritis centers, of which 17 are currently (1965-1966) supported by The Arthritis Foundation. It is by no means certain that The Arthritis Foundation will be able to continue this support after July 1, 1966. To further compound this problem, there is a critical shortage of arthritis service clinics in the United States. There are only 300 such clinics, approximately one to every 23 accredited hospitals; and in many, the services are inadequate. Recommendations 1 and 2 are designed to preserve existing, qualified arthritis centers and clinics, to upgrade the services of others, and to create new service clinics, as personnel and funds become available.

Recommendation 1. Certain existing arthritis centers should receive continued support to enable them to sustain their exemplary functions. These should be identified as Regional Arthritis Centers and should fulfill criteria and provide services as follows:

- a. They should be university-based, or affiliated with large medical centers, and should provide facilities for professional training and research.
- b. They should be distributed according to geographic and population needs. (See appendix).
- c. They should provide facilities for diagnosis and comprehensive care of outpatients. Comprehensive care includes prevention of disability and provisions for optimal physical restoration, personal and emotional adjustment, and vocational guidance, training, and/or placement of all candidates.
- d. Medical personnel should include a full-time director, who is a physician with training in rheumatic disease, part-time consultants in internal medicine, orthopedics, physical medicine, and pediatrics, and other qualified consultants, when necessary. Trainees, house officers, and students should also attend.
- e. Paramedical personnel should include a physical therapist, a medical social worker, a nurse, a secretary, and other qualified personnel, when necessary. One of these should also serve as the "coordinator of patient services." While these people will work full-time

in the parent institution, all but the coordinator might also contribute to other chronic disease facilities within the institution. The coordinator of patient services, a full-time member of the arthritis center, is defined as one who collaborates with all members of the team in planning the patient's program. He will provide the integration of professional activities that will ensure the provision of diagnostic and treatment services with maximal efficiency and effectiveness. Any one of the paramedical personnel may serve as coordinator, but he must have knowledge of the local health agencies and their services.

- f. Patient services should be readily available and should be utilized effectively. Cordial relations should exist between the center and the sources of patient referral, such as local physicians, arthritis clinics, public agencies, house officers, and others. In addition, the patient admittance policies should be flexible and compatible with those of the parent institution. Consultants should be available within the confines of the clinic. New and problem patients should be seen by both the medical and paramedical staffs, in order to ensure

communication between all who are interested in the patient. This, in turn, will increase the patient's confidence in his care. Ultimate arrangements for continued care of the patient should be integrated with his socioeconomic needs and with the available health services in the community.

- g. Day hospital facilities for short-term intensive group and/or individual education and training should be provided for patients whose diagnosis is established and who do not require hospitalization.
- h. Approximately 10 hospital beds should be available for patients who require hospitalization for short periods.
- i. Funds should be available for stipends for professional personnel and for transportation and temporary lodging for out-of-town patients.

Recommendation 2. Certain existing arthritis centers and service clinics should receive continued support to enable them to provide appropriate services. These should be identified as Diagnostic and Treatment Clinics, and additional units of this type should be created as fast as trained personnel become available. Suggested requirements for Diagnostic and

Treatment Clinics are:

- a. They should be based in an accredited hospital or other qualified medical facility.
- b. They should provide facilities for diagnosis and comprehensive treatment of outpatients.
- c. Professional staffing should include the part-time services of at least an internist, a pediatrician, an orthopedist, a physiatrist or physical therapist, and a coordinator of patient services. At least one physician should have received training in a Regional Arthritis Center.
- d. Such clinics should meet at least one-half day per week.
- e. An adequate number of Diagnostic and Treatment Clinics should be established to provide good quality service within an area of reasonable geographic dimensions and population density. (See appendix).
- f. Financial and patient admittance policies should be those of the parent institution.
- g. Funds should be available for stipends for professional personnel.

The shortage of physicians with skill or interest in the care of the arthritic patient and the wide gap between available knowl-

edge and its application to the patient are well-known. How do we apply the available knowledge, the experience of the arthritis clinical centers, at the local level? How do we bridge the gap between centers and the local doctor in communities without arthritis services? Consultative services, laboratory, X-ray, and paramedical services, which are so successfully applied at the centers, should be made available to the local doctor in such communities.

Recommendation 3. Roving Consultation Boards should be created. A Board from the regional center, or clinic, will visit local hospitals in communities in which such consultation services are not currently available. Consultation Boards will have the approval of local county medical societies. They will meet on an "on call" basis, approximately one-half day per month. Each Board will be composed of at least one medical specialist with training in arthritis, a physiatrist and/or physical therapist, and a community-oriented coordinator of patient services, who does not have to be from the center or clinic. Patients will be seen by the Board only on referral by a local physician, who will receive a written report promptly. The consultants will not treat the patients. Patients

will pay a nominal fee for consultation services, when possible. Financial support for these Consultation Boards will include stipends for the services of the consultants.

Recommendation 4. Because of the lack of uniformity and standardization in commonly used diagnostic tests, automated multitest laboratories should be established in each of the Regional Centers. The services of these laboratories will be made available to local physicians, Consultation Boards, and Diagnostic and Treatment Clinics in the region. Emphasis will be placed not only on quality-controlled uniformity of laboratory techniques, but also on data-processing capabilities. Although the introduction of automated equipment is costly, a savings will result from the lower cost per test unit.

Local doctors must have easy access to the many community facilities that are often available, but not properly used. Examples of such facilities are Public Assistance Medical Care for Categorical Aid, which provides aid for the aged, for the blind, for those in need who are disabled, and for families with needy children; Crippled Children's Service; and Kerr-Mills aid for patients who are over 65 who pass a means test. Additional examples of local facilities

include home care programs, which may be hospital-based or implemented by a visiting nurse or by a local health department; homemaker programs, which are sponsored by the Visiting Nurses' Association or Family Service Agency; public welfare programs; nursing home programs; rehabilitation services; information and referral centers; shopping services; home maintenance services; transportation services; and home dental services. A busy local physician, who sees 30 or 40 or more patients in a given day, is bewildered by this endless list of facilities, which are, in fact, available to him and to his patients.

Recommendation 5. The coordinator of patient services in the Diagnostic and Treatment Clinics should make readily available to all doctors in the area information regarding the easily accessible local facilities for patients with arthritis. Communication of such information may be expedited by telephone calls, as well as by frequently revised directories.

Recommendation 6. An Arthritis Advisory Committee should be created. This Committee will be responsible for recommending standards of quality and procedures for quality control of the Regional Centers, the automated multitest labora-

tories, the Diagnostic and Treatment Clinics and the local Consultation Boards. This Committee will have close liaison with The Arthritis Foundation, public health agencies, and with the American Medical Association. Its membership should represent a cross section of physicians who are interested in arthritis and should include representatives of the Rheumatism Section of The Arthritis Foundation, the American College of Physicians, and orthopedic, psychiatric, radiologic, pediatric, and other professional societies.

Recommendation 7. Physicians in Regional Centers, Diagnostic and Treatment Clinics, and on Consultation Boards should maintain a registry of patients with rheumatoid arthritis, juvenile rheumatoid arthritis, systemic lupus erythematosus, gout, and hyperuricemia. Data for prospective study are needed for better understanding of the clinical course of arthritic diseases, of the value of early diagnosis, of early treatment, and of comprehensive treatment. Such a registry should include the patient's name, parents' names, social security number, sex, date of birth, date of registry, and vital clinical data. Data collection and processing should be stand-

ardized by the Arthritis Advisory Committee. Periodic reports of the results should be made to local medical communities.

Recommendation 8. Clinical assessment of the modalities of treatment and of drugs in large numbers of patients in widely distributed geographic areas, currently performed by the Cooperative Clinics and sponsored by the Rheumatism Section of The Arthritis Foundation, should be extended to include participation by Regional Centers and by Diagnostic and Treatment Clinics.

Recommendation 9. The Arthritis Advisory Committee should explore and make recommendations regarding methods of early casefinding in arthritis. A health education program should be designed to improve public awareness of the advantages of early diagnosis and treatment. Serious consideration should be given to the suspension of drug advertising that may discourage early medical attention. Regional Centers, Diagnostic and Treatment Clinics, and Consultation Boards should have available to them the personnel, equipment, and facilities that are necessary to achieve early diagnosis and to evaluate the extent of disability. In this

way, early treatment can be directed to prevent or to minimize such disability.

Recommendation 10. Financial support of the programs that have been outlined should come from public health agencies at all levels and, whenever possible, from voluntary health agencies. Voluntary agencies usually have greater opportunities for experimentation than do those that are tax supported. They often demonstrate new methods that, if successful, may be desirable for adoption by tax-supported health agencies. It is hoped that voluntary support will be available, perhaps, initially, on a pilot basis, for new and untried facilities, such as the roving Consultation Boards, automated multitest laboratories, or the arthritis registry. Funds for other recommended facilities and, especially, for maintenance of established facilities might come chiefly from public sources.

Comment

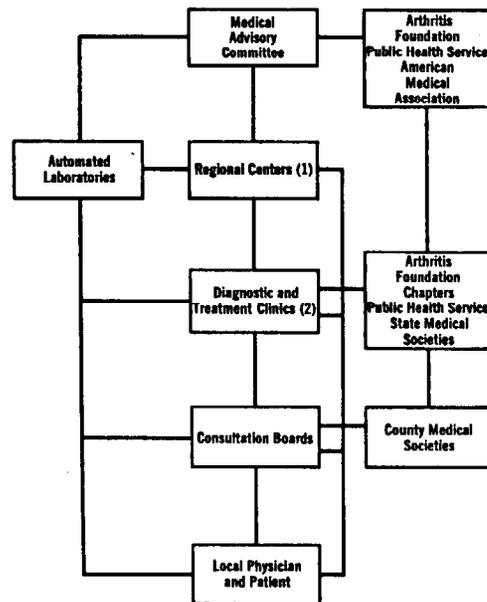
Fulfillment of these recommendations will provide the facilities that are required in the United States for widespread early diagnosis and treatment of arthritis. New construction is not required. The proposals include the sustained support and utilization of currently available, effective facil-

ities, which may be lost if funds are not made available immediately. These proposals give local physicians easy access to the practical application of information that has been gained in recent years in exemplary arthritis centers. They provide a mechanism for early diagnosis and treatment at grass roots levels, without interfering with the traditional, American doctor-patient relationship. Responsibility for high professional quality of diagnosis and treatment will rest with qualified physicians. Provisions are made for a national registry of arthritic patients, for standardization of laboratory criteria for diagnosis, and for expanded opportunities for cooperative assessment of new drugs and other therapeutic modalities. An approach to a study of methods in early casefinding is also suggested.

Implementation of these recommendations can be accomplished in phases over a period of several years. The first and immediate phase, however, is the provision of funds for maintenance of those qualified arthritis centers and clinics whose voluntary support may terminate on July 1, 1966. The speed of evolution of remaining proposals will depend on the availability of funds and trained personnel.

And it will differ in various parts of the country. Professional training can be ex-

APPENDIX TO WORKSHOP REPORT
Suggested Mechanism for Implementation of Proposals of Workshop on Diagnostic and Treatment Facilities for Arthritis.



(1) Suggested number: 9-12.

(2) Ultimate goal: 1 clinic per 100,000 people in radius of 30 miles or, approximately, 1500 clinics. (One clinic for every 5± accredited hospitals.) In higher population areas more than one clinic should be established in order to maintain the part-time status of these clinics. The number of clinics in relation to the Regional Center should depend on the volume of work done in the clinics and geographic factors and thus must be flexible in order to insure the highest possible quality.

pedited enormously within the framework of these proposals, which are designed for undergraduate and postgraduate education in the Regional Centers and for continuing education of the practicing physician in his own community, with his own patients. It is emphasized that many of the proposed services should be shared with those of other chronic diseases, whenever possible.

In summary, the Workshop on Diagnostic and Treatment Facilities recommends the creation and/or preservation and the financial support of the following facilities:

1. Regional Arthritis Centers
2. Diagnostic and Treatment Clinics
3. Roving Consultation Boards
4. Automated multitest laboratories
5. Information regarding locally available community facilities
6. An Arthritis Advisory Committee
7. An arthritis registry
8. Cooperative clinical trials of methods of treatment
9. Early casefinding

Financial support should come from voluntary and public health agencies.

These recommendations represent the consensus of the participants in the Workshop.

Discussion

DR. FREYBERG: This is a very comprehensive report. It is based on a lot of study by people who gave a lot of time on the panel.

I hope that what I am going to say will not be misunderstood. It is more of a reference to a historical event. I hope that the report that goes to the Surgeon General does not imply that the best place to get diagnosis and early treatment is in the exemplary clinics and centers that have been funded by The Arthritis Foundation.

To pay homage to some pioneers, who are, unfortunately, no longer with us, some very excellent centers existed before this time. I hope that the report will not simply single out the regional centers for support, but will include others, of comparable standards, some of which have been in existence and have continued to function with the same degree of excellence without such support. I think we ought to include these centers in our planning, too.

DR. ENGLEMAN: I am sorry. You are quite right, Dr. Freyberg. As a matter of fact, this point was, indeed, brought out in our historical discussions. I wasn't able to include everything in our verbal report.

DR. GLENN CLARK: I think that this

was a beautifully organized report and that many of the things are crucial to our handling of the problem of arthritis. But I would not like to see us go completely for a categorical approach to the disease, arthritis, before we seriously consider the benefits of developing our program on a broad chronic disease basis, with developing physiotherapy units, social service units, and all the other things that are needed in so many chronic diseases on a regional basis. I would like to see a combined effort, with no separating out of arthritis as a disease entity of its own.

DR. ENGLEMAN: I probably didn't emphasize this sufficiently, Dr. Clark. We agreed, in our discussions, that services should be shared, whenever possible, with those of other chronic diseases.

DR. CALKINS: This is certainly a very interesting report. I am sorry that I had to take a telephone call toward the latter part; perhaps you raised points that were applicable to what I am about to say.

As we consider this type of regional center, which is something that the Heart Disease, Cancer and Stroke people are proposing, although perhaps along a somewhat different pattern, a question comes up that is of great importance: How can we

best develop this approach, while still supporting the private physicians, family physicians, private consultants, and others, who, through the accepted pattern of American practice, perform exemplary care in their private offices and in the homes?

At a time when there are groups of extremely low-income patients, it obviously is not appropriate to consider only low-income patients in this type of framework. Yet, if we extend this program to cover middle- and upper-income patients, how can we develop it without basically and seriously weakening the present fabric of care?

DR. ENGLEMAN: Dr. Calkins, I think you probably did miss a critical portion of the presentation—a portion in which emphasis was placed on preserving the relationship between the local physician and his patient. This, as a matter of fact, has been a vital consideration in the plan that has been evolved by the American College of Surgeons, American Cancer Society, and their 1,000 Tumor Boards. They have had some 25 or 30 years experience with this kind of setup, and I know that, in their experience, the rapport between private patient and local physician

has not been disrupted.

On our panel, we have a gentleman who is here because of his experience and background in facilities for the diagnosis and treatment of cancer. I would like him to speak to this crucial point, on which he spent a great deal of time in our discussions. Dr. Robbins?

DR. ROBBINS: I am Dr. Robbins of the Memorial Center in New York. That point came up very clearly and, in short, if you will look at the chart over here (indicating Appendix to Workshop Report) you will see that the "Local Physician and Patient" box is the guts of the care of the patient.

If the patient is not satisfied with the local physician and wants to go to a diagnostic and treatment clinic, he has to follow the rules that have been laid down by the community. In some local communities, the Tumor Boards will not see a patient unless there is a referral. Frequently, our sector coordinator at the Tumor Board will get a call from a patient. If he has no doctor, the coordinator will ask: "To whom would you like us to send the report if you see us?" And the matter is handled that way.

If the patient has a doctor, the coordinator will say: "We shall get in touch with

your doctor, or you tell him to call us.”

If the consultants who work on the Tumor Board or in the diagnostic clinics are any good, or have any moxie at all, they will set up this sort of system. The people who fill the diagnostic clinics are specialized in their field. They may be from the regional centers or from their community; but they are picked to meet standards that are set up by a Surgical Advisory Committee. And they are practicing. Some have salaries. You can call us watch dogs, or friends, or whatever you want; but we, in our program, are very careful. And we have been relatively successful, in that we haven't allowed a bunch of thieves, who might clip the local physicians, to get into the diagnostic clinics.

This program is merchandised in such a way, and with such economy of facilities at the laboratory level, that patients pay their way. If patients are indigent, the local community takes care of their costs.

One more thing: State and county medical societies and health agencies act as another watch dog, to make sure that the thieves do not cause trouble.

DR. CALKINS: It seems to me that you may be developing a situation in which the family physician as a referral source,

is coming along well. The private consultant, however, is still the backbone of most medical centers at the present time. How is this system, with its supported, endowed, and automated laboratories, and all the rest of it, going to enable the private consultant to exist, except by a merchandised program, which he isn't going to want?

DR. ENGLEMAN: No, no, Evan. Let me answer that question, because I happen to be one of those consultants, myself; and I would never support a program like that.

I think you are talking about the level of the Consultation Board. It is stated in the report that no Consultation Board will exist in an area in which such consultation services are otherwise available. This is primarily for the rural districts and for those communities in which such services are not currently available. Furthermore, the Consultation Boards must have the approval of the local county medical society.

DR. ROBBINS: Now, if the local physician wants to send his patient to the Consultation Board, to a previously established consultant, to me, or, perhaps, to you, he can do it. As a matter of fact, he can use the automated multitest laboratory with-

out utilizing any of the other facilities of the Regional Arthritis Center. To be able to get these services, the local physician doesn't have to promise to send his patient to see anyone. This is a very flexible sort of thing; and, certainly, in our committee, none of us had any preconceived ideas about changing the practice of medicine in America.

DR. CALKINS: I am asking about a constructive way out, here. How are we going to do it to satisfy our physicians? We are not changing the basic philosophy.

DR. ROBBINS: We do it just as we are doing it now. This is one of the few cases of which I am aware in which a surgeon and his syndicate can come to the intellectuals of the medical profession and say, "Look, we have been doing this for 30 years."

DR. JOHNSON: I am Amos Johnson. I represent some twenty-eight or thirty thousand family physicians in the American Academy of General Practice. These physicians are immensely interested in this program at the community level. They are interested in it from the standpoint of their knowledge of the patient in his own perspective in the community and of their knowledge of him from the standpoint of

ecology and of other areas of interest.

I am really very impressed with the way you have this all worked out. I assume that there is no doubt in the minds of those who erected this chart that this is a workable condition. If I thought that that were so, however, I would be sitting down over here and not standing up talking now.

Today, I happened to be in Workshop 4, which was concerned with professional education. There was some question, in this group, as to whether or not we did, indeed, have the answers to the treatment of people who have the various arthritic manifestations of the disease process of joints. I have heard it expressed, here, that all you have to do is identify arthritis at a local level—that the arthritis panacea will be effected by so many institutions per one hundred thousand persons. Is 1,500 the figure?

DR. ENGLEMAN: Correct.

DR. JOHNSON: And all of this must be funded—check me if I am wrong—by public funds. I just get the impression that we have built up something, here, that is impractical. I think that when those of you who are referred to as specialists in this disease—the internists, the orthopedists, and the rheumatologists—to whom

all of these cases will be referred, finally see these patients, they will have been one, two, three, or four years in their disease process. And when the patient has the type of personality that does not motivate him to seek aid early in his disease process, those of us who have attempted to provide him with aid—and I am including not only the family physician, but the internist, the surgeon, and others in that area who do general practice—we will have told the patient that nothing can be done.

Your chart is really beautiful. I can read it from the bottom up, from the top down, and from inside out. But, to me, from where I sit in the actual treating of people, in the community of captive patients that I know well, this is not the practical approach. I may be the only one, but I would like to be recorded as taking exception to the idea that this is a program that can be handled by an outlay of public funds. Would you record me as being opposed to this concept.

DR. ENGLEMAN: Yes, sir.

DR. WEDGWOOD: I was wondering if I could make a comment from the pediatrician's point of view?

DR. ENGLEMAN: By all means.

DR. WEDGWOOD: Unfortunately, this

Workshop was scheduled concurrently with the national pediatric meetings, which somewhat precluded pediatric representation on some of the Workshop panels. I would like, however, to make some points about the child population of arthritics.

The number of children who have arthritis is a little difficult to determine. It probably runs between five and ten percent of the arthritic population. This sounds like a small figure, but from the point of view of man-years of potential disability, from the point of view of potential manpower lost, and, particularly, from the point of view of crippling diseases that occur and create their crippling in the early child-bearing years—that destroy families, as well as productivity—the pediatric age group represents a severe problem.

One could calculate that, from the point of view of possible man-years, the figure of disability would represent at least 25 to 35 percent of the potential disability for man-years lost for arthritis in all age groups.

Now, there are certain problems that are related to the child with arthritis that I believe need the types of attention that are, perhaps, best given by either the pediatrician or the family physician who has a

clear understanding of the interaction of a child and his family and who has some fundamental knowledge of the process of child development.

The impact of arthritis, when it starts at, let's say, the age of one year, or one-and-one-half years, is extraordinary; and the problems that the acute phases of the disease present are manifestly different than those problems that occur in the majority of adults. The projective problems of understanding the appropriate therapy for the child, not only as they apply to dose schedules, but also with respect to activity and the difficulties that are imposed on the child, who has to relate not only to family, but, eventually, to school, are very real.

I am delighted to see the report that Dr. Engleman presented. From my experience, this type of approach is necessary if we are going to be able to provide the type of health care, to a mass population, that is needed so badly. However, I think it would be appropriate to suggest that we not be parochial in our definition of the persons who are involved in providing this type of health care. And I would specifically suggest that we should not be denominational in assigning the title of a program

director, for example, to an internist. It seems to me that, in many communities and in many areas, this person might well be an entirely different subspecies group and quite appropriate, himself.

I believe that if we fix ourselves too firmly to defining, designing, and designating the specialty guidelines for the care of arthritic children, we may miss a flexibility that may be more appropriate in a few years. Quite specifically, I would suggest that the appropriate care of the arthritic, be he child or adult, requires a variety of personnel, all of whom have to work functionally, as a team. The team director may be a primary physician of any designation; and the person who follows the child or adult might be a physician of distinctly different designations in different areas. But it is the team approach that is important.

I think, then, that it is inappropriate to designate the pediatrician a consultant. He is part of the working team, and I hope that he will not be relegated to the sidelines as a consultant, but will be included more clearly. For certain patients, he is going to have to be the primary physician.

To return to my original statement, from the point of view of man-years of

productivity that are potentially lost, the pediatric group supplies perhaps one-quarter or even as much as one-third of the potential crippling disability that may occur from arthritis. I would, therefore, file a mild minority report, Dr. Engleman, concerning the designation. I think it is important that we not be parochial or denominational.

I would like to add one other thing: I believe that it is crucial to the provision of optimal health care, particularly on a mass basis, to be able to include the first contact physician within the team, if at all possible. And I hope that some means can be designed by which the local physician can have direct and continued contact, not only with the Diagnostic Clinics, but with the Regional Arthritis Centers. In this way, he will be included in their functions. In this way, too, the functional matter of the continuing education of the physician is best achieved.

DR. WILLIAM CLARK: Dr. Engleman, while I may or may not agree with what Ralph (Dr. Wedgwood) said so eloquently, I do hope that the statistics that are published in the final transcript are more in line with the actuality.

First of all, Dr. Wedgwood is probably

quoting from Dr. Edstrom's article, which states that five to seven percent of adult rheumatoid arthritis starts in childhood. I doubt if there are any other statistics that could negate what he said.

DR. WEDGWOOD: That doesn't mean, necessarily, that they are right.

DR. WILLIAM CLARK: Well, you provide correct statistics to the contrary.

I have mixed feelings about the report of this Workshop. First of all, I, as a participant in this conference, question whether we, as a group, should make such a structurally specific recommendation for the care of the arthritic to the Surgeon General. I think that those of us who have been involved in the development of centers and in the administration of center programs would say, with conviction, that, as neat and symmetrical as this plan is, it probably will not be a practical and feasible solution to the problem of preventing crippling arthritis in the foreseeable future. The reasons for that are obvious, apart from the cost, which would be in excess of \$30 million per year.

The point that Dr. Johnson raised is, we know, reality. We do not now have the personnel to properly man quality arthritis

centers in half the Nation's medical schools. We will not have the personnel in the next five years. If we do achieve that goal in five years, we will be accomplishing a great deal.

Now, let me give you a quick history of the center program. Dr. Freyberg is correct. Prior to World War II, there were about five or six arthritis centers that were responsible for establishing standards of treatment and for training young men—medical personnel—in the care of the arthritis patient and in the techniques of teaching and giving clinical service.

Following World War II, because of The Arthritis Foundation, particularly those chapters that encouraged interest in medical schools in their areas, the number of centers proliferated. Also, because of the fellowship program, provided first by the Arthritis and Rheumatism Foundation and, subsequently, by the National Institutes of Health (PHS), the number of young men who were available for such programs did increase. But, at this time, we do not have programs that could be considered of top quality in one-third of our medical schools.

Today, there is a dropoff in the availability of men. We are robbing Peter to pay Paul. For example, several years ago,

the National Institutes of Health had training grant programs in 47 medical schools. Since that time, the number has dropped to 43.

We have a serious situation that we must meet now. Having been through many workshops, I consider this sort of thing to be a form of therapy for our own frustrations. It looks good, but those who are actively involved in the development of such programs know that it is not attainable in the immediate future.

The weakness in this approach is that we are starting from the top and working down. It is based on the assumption that if you can have an administrative superstructure, you can coordinate services, personal skills, and knowledge, which, in fact, do not exist. But from a practical standpoint, it is traditional in American medicine that the motivation that increases the number of troops that must be coordinated begins from the bottom.

That might have been the essence of the message in the public education and information program. Regardless of the political implications that might have been brought out, or that must be running through at least a few people's minds, I do not think, as one who has had practical ex-

perience, that we can offer this structurally specific program as an immediate and practical solution to the prevention of crippling arthritis.

DR. ROBINSON: I have one question and one minor speech. First, how do you arrive at the number of from 9 to 12 Regional Arthritis Centers?

DR. ENGLEMAN: The number of regions was based on two or three considerations. One was the number of regions in The Arthritis Foundation, which is nine. There are also nine Federal regions. And the cancer groups are divided into 12 regions. So, we decided that the number should be somewhere between 9 and 12.

DR. ROBINSON: Well, I think that the statement that Dr. Clark made with respect to training programs, with full appreciation of training programs, does not mean that we necessarily have the personnel, manpower, and structure for an effective, comprehensive care program in each of those places. I think we already have more than 9 or 12 centers where, with proper support and development, exemplary standards of consultation and care for the arthritis patient can be developed.

I would like to state that our panel, which was concerned with voluntary and public

programs, considered this problem, as, I am sure, other panels did; and we felt that it would be much wiser to include into existing programs, rather than to develop a formalized structure, such as this. I hope to be able to present the reasons for this tomorrow morning, although the overwhelming conviction and the underlying reason for it can be stated now.

The problem of arthritis is not going to be solved by the Advisory Committee or by the various centers. The problem of arthritis is a community problem, and it is going to be solved by mobilizing community resources. I would agree with Dr. Clark that, from the point of view of our panel discussion, the place to start is down at the bottom, rather than up at the top. We must build up, not down.

DR. HILL: May I come up front? I can't sit still any longer. I'm Donald Hill, from Tucson, Arizona. I have been practicing in rheumatology and internal medicine for over 30 years. There are several points that I would like to make.

I have great respect for general practitioners. In trying to educate more doctors in arthritis—to understand it, to recognize it, and to know what to do about it—I have had occasion to talk with all kinds

of doctors. Of all of them, the members of the Academy of General Practice are full of interest, eager to learn. They are totally different from the general practitioners of fifty years ago. These young men are learning the different diseases. They are learning to identify them. If they are too busy to treat them, they are learning what to do about them, where to refer them. Already, this is taking place. It is very refreshing.

Dr. Clark is, I think, quite right. This chart is an example of beautiful diagramming; but it is upside down. This (indicating "Local Physician and Patient" box) belongs on top, if we are going to make progress; and we are making progress. I am amazed and pleased when I see the intelligence about arthritis, the keen interest, the enthusiasm, and the motivation in all of you people. We are making excellent progress in this disease.

I am not an old man, but I have been at this long enough to realize that you don't change things overnight. We are making good progress in arthritis, even though we have a lot of problems that are unsolved, a lot of people who are untreated, and lots of goals to accomplish. We have come a long way in recent years,

if you will just stop and think a minute.

Turn this chart upside down and start with the local physician, who is learning, now, about arthritis, and with the patient, who is learning more from public sources. Incidentally, I would like to add one thing, here, and that is that we doctors, these days, have to read *Newsweek*, *Time*, and the *Reader's Digest*, to be sure we keep up with our patients. I do this every noon, or most noons, when I drink my milkshake at the drugstore. I grab a magazine to be sure I have kept up. Too often, our patients are getting advised about new treatments in the lay papers before our doctors are advised; and this, I am sure, you are all aware of.

To return to the subject, the local physician is catching up; the general practitioner is learning; and the patient is certainly learning. And there are good centers available. We have a number of them. Dr. Robinson has a good one. There is a good one in New York, one in Boston, and one around Philadelphia. There are others in other places around the country, too, and local physicians are learning where these centers are and are referring patients there.

Actually, we already have many of the

institutions that are shown on the chart. And we have test laboratories to which we can send materials. But if the local physician had to send everything to his automated test laboratory, then wait three days, or a week, to get a report back, I am not sure that the procedure would be practical. There are simple tests; and, after all, I think that those of us who practice are not really convinced of the value to clinical practice of laboratory procedures, anyway. Some of them, of course, are good guides; and we all use them as aids. But I don't think that we are going to change things overnight.

I would go back to one thing that I have been insisting on in my time: that is that we concentrate on spreading more information—on trying to teach doctors to understand the problem before the patient understands it, if this is possible. We must also emphasize the importance of providing more paramedical services and of stimulating the comprehensive team approach.

Finally, Dr. Johnson spoke, a few minutes ago, about the patient who rightfully reveres his family doctor because he is a good doctor. Unfortunately, a family doctor is also a busy doctor. And, many times,

he has not had time to study arthritis before he sees the arthritic patient. All he has heard is that there is nothing he can do but prescribe aspirin. The patient, believing this, goes home and doesn't see another doctor for a year. This chart won't work until the local doctor realizes that there is something else that can be done for arthritis. It won't work until the local doctor either knows how to do it, himself, or knows where to go to get assistance.

I will end by making a plea for continued effort from each of us. Thank you very much, Dr. Engleman, for starting this stimulating discussion.

DR. SHULMAN: I think we all agree that some things have been accomplished. But I think it is much more fruitful to indicate that much needs to be done. And I am sure that we will be hearing from the other groups with respect to what the needs actually are.

I would ask Dr. Engleman the following brief questions: (1) Do you and your group think that what applies to cancer applies, also, to arthritis? Or do you think that there might be some differences between the approaches to the two sets of disorders? I wondered, in effect, whether or

not you have given thought to a further explanation of this, and whether you think that the figures, which have been elaborate, have been worked out to a sufficient degree; and (2) what thought have you and your group given to the question of timing? I ask because I think that this is what seems to be bothering so many of the people here. It is that the final plan has been arrived at, perhaps, with a little haste. I sincerely submit this to you.

DR. JOHNSON: One last word, Dr. Engleman: I want to thank Dr. Hill for expressing, in such fine phraseology, the thoughts that I did not, perhaps, bring out in my earlier discussion. I want to emphasize one point, one aspect of this total question, that I think is of the essence. I will do it by asking a question.

Is there anyone among us who, at this time, would like to stand up and tell us what the treatment of arthritis is? If there is, I stand willing to listen. And if you don't have an answer, does anyone choose to give a learned discussion on this topic? I would love to hear it.

If we don't have the answer to the question, then we had better be careful about using certain areas of available patient-physician interrelationships for learning

more about the disease, before we assume the posture, nationally, of saying that we have a plan that will remedy all that besets everyone.

Now, in all sincerity, if there is one person here who is satisfied, in his own mind, about the complete diagnosis and the complete treatment of the various forms of joint manifestations that beset mankind, I am willing to listen to him. I stand available.

DR. STILLMAN: Mr. Chairman, I would like to answer that loaded question, not because I think I know all the answers to the treatment of the rheumatic diseases, because I have learned a lot of questions in 30 years and not too many answers. However, it can be said unequivocally, that there are certain rheumatic diseases that can be cured, such as infectious arthritis. Now, this is cured when you suspect the diagnosis, when you do a joint tap, culture the fluid, and apply the appropriate antibiotic to the patient. Unfortunately, this is not done too frequently, and great destruction of the joint results.

There is a disease, gout, that can be treated very successfully in a variety of different ways. There are other diseases, such as osteoarthritis and rheumatoid

arthritis, that cannot be cured. And they are not being controlled in a way that is satisfying to any of us. But, certainly, we can stem the development of these crippling diseases when we treat with all of the skills that are available to us today. And I hope that the education program will make these skills available to everyone.

DR. ROBBINS: In cancer—and it is different—we have been using the facilities that are available, including all of these on the chart, and we have come a long way in 30 years, just as you have. I was in this Workshop group; and I can't remember that we advocated any kind of a final word that was to go down as law. We were given a job to do; and how we ever stood all of this, I don't know.

But we did come up with some suggestions to tear apart. And for Heaven's sake, I don't think that anyone on the committee would say that this is a final thing at all.

There are two ways to build a house. You can build it with a big foundation, like this one down here (indicating "Local Physician and Patient" box). You can also turn it upside down. Now, we considered the physician and the patient to be the foundation; and we sort of like our foundation on the bottom.

DR. ENGLEMAN: Dr. Shulman, the current inadequacy of community facilities for early diagnosis and treatment of arthritis is reminiscent of the situation in cancer 20 years ago. Since then, the cancer people have come a long way. We should profit by their experience.

I simply want to say, again, that we were charged with the responsibility of coming up with some suggestions about how we might eventually improve, through development of facilities, early diagnosis and early treatment. We were given eight hours for discussion; this is what we came up with.

Certainly, this was not intended to be the last word; nor was it intended, Dr. Shulman, that all of this would go into effect tomorrow, next year, or even in the next two or three years. This is a long-term, projected consideration which should be implemented in phases over a period of several years. However, we *did* emphasize that the first and immediate phase is the provision of funds for maintenance of those qualified centers whose voluntary support may terminate on July 1, 1966. The speed of evolution of the other proposals will of course depend on the availability of trained personnel; but it is

noted that professional training will be expedited within the framework of these proposals.

I think that, if nothing else, we have provoked discussion.

We are grateful to you for it.

Long-Term Control and Management

Chairman: Currier McEwen, M.D.

The long-term management of the patient with arthritis is a natural extension of a program that begins during the acute and subacute phases of these diseases. It must be considered in relation to the overall problem of the management of chronic diseases.

Nevertheless, there are special features that are particularly important and pertinent to it. In the following statement, these features will be emphasized; areas that require further study will be noted, and recommendations will be made.

I. OBJECTIVES

The objectives of long-term care are:

a. to prevent recurrences of attacks of

those diseases, such as rheumatic fever and gout, where this is possible.

- b. to prevent disability.
- c. to restore function in patients who are already handicapped.
- d. to maintain function that has been gained.

The prevention and correction of disability must encompass not only the function of joints, but also the patient's total physical and psychological status, capacity, and well-being.

II. RESOURCES

The resources that are required include skilled personnel, facilities, and programs of care.

A. Personnel:

The patient's personal physician is the key figure, since he is the one who has primary responsibility for the patient; he is the first to see him. In addition, various personnel with special skills are essential. Required on an intensive basis are rheumatologists, psychiatrists, orthopedic surgeons, physical therapists, occupational therapists, hospital and public health nurses, social workers, and vocational counselors. For op-

timal benefit, these skilled personnel must function not merely as individuals, but as a coordinated team. In addition, supporting skills, such as those of pediatricians, dermatologists, ophthalmologists, urologists, dentists, psychologists, radiologists, dietitians, podiatrists, laboratory personnel, and others must be readily available.

B. Facilities:

These include general hospital beds, long-term care and rehabilitation facilities, facilities for the supervision of the ambulatory patient, and the patient's own home.

1. Whereas the acutely and subacutely ill arthritic patient often needs the facilities of a general hospital, the latter are neither necessary nor most advantageous for long-term management. Nevertheless, general hospital care must be readily available to the chronic arthritic patient, who may suffer a severe exacerbation of his disease, or who may require an orthopedic operation or other major diagnostic or therapeutic measure.

2. The facility that is particularly needed in the arthritis program is the intermediate care facility. These are necessary for the patient who no longer requires the complex and expensive facilities of the general hospital, but who still needs a more intensive program of therapeutic exercises and other measures that can be carried out at home. There is need for exploration of the optimal roles of the chronic disease hospital, the rehabilitation center, the "midway house" type of facility, and the nursing home in this program.
3. The ultimate aim of the treatment of the arthritic patient, at all stages of his disease, is to enable him to engage in productive activity in his home and in the community. The chronic nature of arthritis requires, however, that a program of supervision and care be continued for years after the patient returns home. Two types of supervision are required: a. home care programs, for the pa-

tient who is still homebound; and b. outpatient care, for the patient who can leave the home. The principles of both types of supervision are the same, whether they are provided on a private basis or through properly organized clinics. In either instance, it is essential that all the necessary skills be available. Also essential to ambulatory care is suitable transportation between home and place of care.

4. For the patient who does not have a suitable home of his own, boarding and foster homes and nursing homes and homes for the aged may serve as a substitute. There is need for exploration of the roles of these facilities and of means of developing constructive programs for arthritic patients in them.
5. Although not specifically a facility for long-term management, mention should also be made of the need for units to which the family physician can refer his arthritic patient for intensive evaluation and treat-

ment by the full team of skilled personnel that was referred to above. Such units can be developed in the general hospital, rehabilitation center, or in the midway house type of facility.

C. Programs of Management:

1. Utilization of professional personnel

Proper management of patients with long-term illness depends primarily on persons who have professional knowledge, technical skills, and a commitment to the provision of optimal patient care and to the development and dissemination of knowledge. The physician is charged with the key role in management. All plans for care center on the patient and are the general responsibility of the physician, who must work with other professional persons.

Organization of personnel from the many disciplines that are needed to give the broad spectrum of patient care that chronic disease requires will vary from one region to another and from urban to rural localities. Groups of physicians and

representatives of other health professions should join together in such a way that they can provide care within the home, nursing home, midway and rehabilitation facilities, clinics, and acute general hospitals for patients who are acutely and chronically ill. In this way, they can provide the essential continuity of patient management that is so essential in arthritis.

Such a group should be based in a general hospital, and the concept of the general hospital should be expanded to include facilities and services for all levels of care, either within itself or through affiliated units. The members of the team should go into local communities for workshops, demonstrations, and consultation, and physicians and other health workers from those communities should participate in patient care and educational programs in the centers. The physician with the primary responsibility for the patient might be a member of the group or might use the group for consultation and special therapy. Good function of any pattern

of care depends on the understanding by physicians, patients, their families, and the community of the advantages that are offered by the particular organization that is rendering service. It is evident that the patient's physician is a most important member of the team and should be involved at every stage in the planning and management of the patient's care.

2. Education of Professional Personnel

Meeting the needs of patients with arthritis begins with the education of those who will provide the care and manage the patient in his illness. Professional people who can meet the ever-increasing demands for patient care, education, and research in all health professions are in extremely short supply. Their education must be supported in colleges and professional schools if needs are to be met and if the future of health services is to be assured.

Education of people in health professions includes: (1) The general preparation that is needed to

understand the needs of patients and the settings in which they live; (2) the acquisition of knowledge in the particular field of specialization; (3) practice in the techniques that are essential in the specialty; and (4) the development of capacities to work with others to produce effective teams that will give care, teach others, and explore new areas.

Experience and education in collaborative efforts in health care and research have been inadequately developed. They are applicable in principle to all aspects of health, but are of singular importance in the care of people with long-term illnesses. Programs of education and training with broad financial support and active recruitment programs, should be designed to meet both current needs and those of the future. They should prepare people to adapt to changing social demands and emerging medical knowledge.

3. Community Planning and Design

The complexities of the disabilities that result from arthritis demand extensive community planning if resources are to be used most

effectively. Health care has evolved from the status of a privilege to a right. This change requires the development of a sense of community trusteeship on the part of physicians, other health personnel, community leaders, and the agencies that are concerned with the provision of patient care. Only through planning can the sick person be assured continuity of care, from the most highly specialized technical and intensive levels to the home.

Community planning, in the broad sense, should include provision of facilities for all types of care, the development of appliances and equipment, the training of the patient and his family to use them, and the means of bringing the patient, personnel, and facilities together most effectively. Furthermore, greater attention should be given to architectural design in community planning and building, so that disabled citizens may enjoy social and cultural advantages that are available to the well.

Before planning for facilities and resources for patient care, it is most

important to determine resources that are already available in the community and to make them known to those who will use them. Additional resources will then be developed in an orderly and economical fashion to supplement those that are available. Programs that are established should include means of evaluating their strengths and limitations, so that they can be modified and improved on the basis of experience. The results should be published. Educators and social scientists can be of great assistance in developing means of evaluation.

4. Financing of Care

Although the financing of care is not the specific assignment of this committee, methods of financing have profound implications for any program. This is of particular importance in chronic, disabling diseases, such as the arthritides, in which family resources are usually insufficient to meet the costs of long-term care. Planning and financing are most important at the local level. Private, voluntary agencies, as well as public agencies, are in-

involved; and the planning and financing of facilities and resources of care should also include regional and federal participation.

III. RECOMMENDATIONS

1. Because the most serious obstacle to the provision of optimal long-term management of arthritis is the lack of sufficient numbers of personnel in the essential health professions, there is urgent need for support of education in these fields, coupled with intensive recruitment efforts. This should include direct support of education in medicine, physical and occupational therapy, nursing, social work, and other special skills. In addition, there is need for the development and support of special programs of postgraduate instruction of these personnel in the application of their skills to the patient with arthritis.
2. Studies are needed of the numbers and types of arthritic patients that require long-term care in rural, as well as urban, communities and of where and how they now receive care. Such studies should be made in the context of the total health

needs and the social, economic, educational, and health resources of the community.

3. Studies are needed of various programs of coordinated health services for providing long-term care for arthritic patients. Support should be given for research and demonstration projects of this type. Such projects should be undertaken on both local and regional bases.

There is particular need for exploration of various types of facilities and programs for providing optimal, long-term care at low cost. The role of voluntary health agencies and of volunteers should be included in such studies.

4. An important need in the long-term management of arthritis is that of educating physicians in the value of psychiatric and orthopedic measures.
5. The optimal care of chronic arthritic patients requires the combined skills of the various essential health professions, on a team basis. The patient's family physician, the patient himself, and his family are essential members of this team. Studies should be made of ways in

which the team can best cooperate in improving the total care of the patient and of factors that militate against effective functioning of the team.

6. In planning for improved means of providing long-term management of arthritis, consideration should be given to the desirability of combining such programs with those that are designed to combat other chronic diseases. In rural areas, such combined efforts may be more effective and feasible than attacking diseases separately. They may, therefore, enhance the management of the arthritic patient without unduly increasing the economic burden on the small community.
7. There is a need for rheumatologists, orthopedists, and physiatrists to work together, through interdisciplinary study, to define means of evaluating various measures of care of arthritic patients, as outlined in the recommendations of the Conference on Surgical Criteria and Rheumatoid Arthritis, which was held in December 1963, under the joint auspices of the National Institute

of Arthritis and Metabolic Diseases, the American Rheumatism Association, and The Arthritis Foundation.

8. Studies should be made to determine which members of the professional team can most efficiently provide the various types of patient care that are needed in diverse stages of disability and improvement. For example, an evaluation should be made of the current use and effectiveness of therapeutic exercises, as supervised by personnel with various degrees of training, such as physical therapists, physical therapist aides, visiting nurses, and the patient's relatives. Such studies will not only permit the most effective use of skills that are in short supply, but they will provide yardsticks for determining staffing needs for various types of facilities.
9. There is a need for programs that are designed to enable the disabled arthritic patient to lead the most productive and meaningful life possible. Among these programs, for example, should be ones that will enable patients to be gainfully em-

ployed in their homes, in sheltered workshops, and in competitive situations. Recreational and social opportunities should be developed in conjunction with those that are needed for other members of the community. In addition to developing such programs, there is a need for continuing studies of better means of achieving these aims.

Discussion

DR. JOHNSON: I have been practicing as a personal physician for 31 years, and the thing that is important to me is that I know that the man of first contact is the one who sees the patient when he has the little joint involvement, the first episode. I know that when the patient gets around to going to the clinic and seeing the person who is specifically concerned with the joint diseases, he is already far along the course toward disability; and I think it is of immense importance that those of us who see all of these patients every day for their minor illness—be it seborrheic dermatitis of the scalp, the plantar wart of the foot, or anything that intervenes between—that we look for these things and begin to do something about them. I wish to emphasize that.

DR. CALKINS: I feel this has been a very well brought out and balanced presentation, and I would like to give it my fullest endorsement.

DR. MASI: Your third recommendation, which I would like to compliment you on, was very pertinent. It had to do with demonstration. I think this is something we should try to emphasize.

Any program that we recommend at this time is only something we can conceive of in our present understanding of the problem. As time goes on, we will understand better. I think that we should have an open mind and be constantly trying to demonstrate new and better ways of doing what we are doing, or evaluating how we are doing it, and of comparing one method with another.

DR. MCDONALD: I would like to contribute one thought with regard to general practitioners: They are our hope for prevention, inasmuch as they are the first to see the patients. We have stressed, in all of these deliberations, the importance of early identification, early diagnosis, and early care in the prevention of later disability. We must continue to stress that general practitioners are in the front lines; they give us the greatest core for prevention.

Professional Education

Chairman: Howard F. Polley, M.D.

Our Workshop was concerned with professional education. We had a very competent group of participants and a very good discussion. I am pleased to be able to report it to you.

Arthritis and related rheumatic diseases are a domestic problem with a high degree of public health significance. The possibilities of their prevention, or, at least, the prevention of disability that is related thereto, warrant intensive consideration. Because of this, better educational efforts that are referable to arthritis are regarded as a current major obligation of our society. These efforts should be directed towards medical, as well as associated professional, personnel and, also, to the public.

Our Workshop first considered the subject of professional education, from the viewpoint of available resources and of apparent deficiencies.

Some of the *currently available educational resources* are;

(a) Training centers, which are supported by the Public Health Service,

through the National Institutes of Health. (I understand that there are 43 of these.) To date, they have been supported for research training. Although they do provide some patient care, they have not been established to provide *training* for patient care.

(b) Existing clinical study centers, of which there are seven, and special treatment centers, of which there are 18, are presently supported by The Arthritis Foundation.

An indeterminate, but small, number of centers, perhaps 10 to 15, are supported by other agencies.

(c) Assorted graduate educational programs for both medical and associated professional personnel.

(d) Currently existing training in the field of rheumatology in medical school curricula.

(e) Existing schools for education of associated professional personnel, including physical therapists, occupational therapists, nurses, nutritionists, social workers, and scientists in other fields.

Deficiencies that were noted were:

(a) An insufficient number of arthritis study or treatment centers to cope with the magnitude of the public health arthritis

problem, and the limitations of the clinical teaching or educational aspects of the function of these centers.

(b) Insufficient comprehensive care programs, which could serve as models of educational training of medical students, graduate physicians, and of other professional personnel. (We do not know of any medical center that provides the full spectrum of optimal comprehensive care, from prevention, on the one hand, to care of the chronically-disabled patient, on the other).

(c) The wide variability of instruction in rheumatology that now exists in various medical school curricula.

(d) The orientation of medical undergraduate educational experiences toward acute illness. (The recognition that such episodes often are but phases of chronic illness is overlooked or neglected in training programs.)

(e) Limitations in the availability of, and in the selection of, attendants at post-graduate courses.

(f) The quite limited or nonexistent training in rheumatic diseases in the curricula of schools for associated professional personnel and in the post-graduate education that is offered to these personnel.

(g) A desperate shortage of physical

therapists and a scarcity of other associated professional personnel who are needed for optimal care and education for arthritis.

(h) Deficiencies in support of faculty who are interested in teaching clinical care.

(i) The lack of reliable information on, (1) what to teach; (2) how to prevent disability; (3) what particular disabilities of arthritis are preventable; (4) the role of various preventive measures; and (5) psychological aspects of physical disability.

Other deficiencies could be listed since deficiencies were obvious and critical in all areas of our deliberations.

The recognition of resources quickly pointed up deficiencies, and discussion of one was usually intertwined with the other. Our Workshop was of the opinion that *education in arthritis requires broad concepts of the diseases that are included in this category and the avoidance of excessive sophistication and fragmentation*. The objectives are the best care for all patients who are properly motivated to receive it and the prevention of disability.

The necessary balance between research and clinical orientations seems, now, to be lacking, because of the emphasis on research in the post-World War II era. This research emphasis has obviously been pro-

ductive. Now, a similar resurgence of training in clinical skills is needed to reach a balance between the two.

Improved clinical skills would improve clinical research and bring both teacher and student closer to the patient. This is important because an adequate educational program should be centered around the patient. And it requires a teacher who is able to provide exemplary care. Clinical skills are not easily acquired, and their adequacy may be even harder to measure; but they do need to be used continually to be most effective.

In teaching, individualized contact is probably most effective. But it is woefully inadequate to meet current public health requirements. The essence, in any effective medical teaching program, includes good communications, teaching by example, the ability to inspire a student to strive to meet his best potential, and adequate time for contact with patients.

Student interest is signally influenced by the quality and excellence of a faculty that can be readily recognized for its outstanding care of patients and for the opportunity it provides to the student to practice what he has learned under quality supervision. There is no recognized substitute

for training by example and for the care of patients.

The establishment of a family practice section or academic chair that would teach care of patients at all socioeconomic levels was suggested as a means of providing future family physicians with the skills that are useful for improved care of arthritic patients. As has already been stated, it is the family physician, in general practice, who is often the most deficient in this area. But it is also the family physician who has the earliest contact with arthritic patients and, thus, the earliest opportunity to apply preventive measures against disability.

Postgraduate education is considered to be an integral part of an effective educational program. It is most effective when it is produced in a teaching center, when the attendees have the opportunity to participate actively in its planning. Existing courses need to be strengthened and new courses offered. The effectiveness of postgraduate courses is dependent upon the upgrading of clinical skills and levels of patient care. Support of local chapters of The Arthritis Foundation was also recognized as a stimulating influence.

Postgraduate education has been offered

to the professions and to the public in various forms. These have included lecture courses, printed literature, films, teaching machines and other types of programmed instruction, and teaching visits to local community hospitals by specialists. Physicians express strong preference for workshops and seminars, rather than for lectures. Associated personnel prefer short-term lecture-type courses, although they also have a need for long-term training programs with rheumatologic orientation. All agree that postgraduate education, in any form, should be self-sustaining, through tuition or other support.

Associated professional personnel are considered to be an integral and essential part of an ideal team approach to both educational programs and to patient care in prevention of disability. Associated professional personnel are especially helpful in patient and public education, because of their close and repeated contacts with patients.

There is a great need for expanded educational efforts and for financial support to overcome serious shortages of all associated professional personnel. Physical therapy, especially, needs wider support than it has received to overcome critical

shortages and to develop teachers in the field.

Comprehensive care has three recognized levels, including depth or expertness, scope or breadth, and duration or continuity. None have received adequate emphasis. Some of the best comprehensive care is given in arthritis clinics. In general, however, it is very limited. It is a neglected area because of the lack of people to teach it. A stimulating teacher could make comprehensive care attractive to students by teaching the rewards to be derived from rehabilitation of arthritic patients. This would avoid the fragmentation that comes from teaching by separate specialists from various fields.

Center-type programs stimulate more interest and attract more people to the care of the arthritic. They also appear to be the ideal arrangement for improvement in both management and educational training, at all levels of teaching and in all aspects of the long-term care of chronic disease.

Such programs also need to incorporate the functions of all associated professional personnel. The teaching aspects would be strengthened by more emphasis on clinicians and by investigations of, and teach-

ing that is related to, patient care, training, and research, rather than emphasis on service functions.

Comprehensive care in center-type programs readily offers the advantages of a continuing postgraduate education program and consultative guidance for physicians in regions that are adjacent to the center. However, medical schools do not have the financial resources for the establishment of such centers at this time.

Research that is related to all aspects of disability in arthritis is an integral part of the program of education. Vast areas of scientific ignorance currently exist in diagnosis, treatment, and rehabilitation. Evaluation of therapy seems to have ignored important factors such as socioeconomic stratification, geography, sex, age, how to get patients motivated for early therapy, and the exploration of the relevance of psychological aspects of disability. Evaluation is needed on a long-term basis, with a free association of all philosophies and skills, preferably in a center-type setting. This may require that some beds be made available for long-term studies. It is preferable that evaluation be conducted as collaborative or cooperative studies.

Large-scale public health surveys to find

patients who may not be seeking medical care are also needed. They would be most helpful in the overall evaluation studies.

Better teaching for the 8,000 annual graduates from medical schools would significantly and, probably, quickly improve medical efforts against arthritis. But the question of how best to accomplish this teaching requires data of a sort that is not now available.

Our recommendations emphasize educational, rather than service, functions.

We recommend that current training programs in rheumatic diseases be broadened, within the framework of the Public Health Service, to include support of faculty to train both professional and associated professional personnel at the undergraduate and graduate levels, not only for academic positions, but also for treatment and clinical research of arthritis. This recommendation favors support for those persons whose graduate training has not already been completed.

We recommend comprehensive care centers, multicategorically oriented, that focus on arthritis as a prototype of chronic disease and serve as educational facilities in which physicians work in concert with well-trained associated profes-

sional personnel and provide graduate education for all fields. Such centers should be part of existing teaching centers. They should make studies of management techniques and teach by conducting exemplary patient care. All teaching centers that are presently in existence and those whose development is proposed in the foreseeable future will need to be included, if there is any expectation of coping with the magnitude of the problem of arthritis in the expanding American population.

We recommend that the Division of Chronic Diseases, Public Health Service, develop plans to help medical schools in their formative stages to plan facilities and curricula that are based on the foreseeable future needs of the public health approach to the major medical problems of chronic disease and to the prevention of disability. The Service should incorporate multidiscipline participation in the study of all stages of disease and plan for long-term teaching experiences in both outpatient and inpatient needs. Arthritis represents an ideal example of such a forward-looking need.

We recommend that increased emphasis be placed on training programs for associated professional personnel and on re-

education, when needed, for previously trained personnel who are ready to reenter employment.

We recommend the undertaking of large-scale, cooperative studies among arthritis training and study units, involving all or most teaching centers in the United States. This would constitute a major contribution to the development of more successful programs for care of patients with arthritis.

Finally, we recommend that adequate financial support be provided for the above. Allocation of special project funds for arthritis is one method of achieving such support. In any event, Federal financial support, where needed, is in the public interest, because it will significantly contribute to the solution of a public health problem about which the public, as well as the professions, have become more aroused.

In conclusion, on behalf of my associates in this Workshop, I wish to thank the Surgeon General and Dr. McDonald and his staff for the opportunity to participate in what clearly is an exciting public health development of great importance to us all. Thank you.

Discussion

DR. MANNING: First of all, I would like to congratulate Dr. Polley for a very spectacular summary of what went on. I would also like to emphasize the point that no one, I think, would like to establish a center that would isolate arthritis from the rest of medicine. I think that this is always a danger and that we must remember that arthritis doesn't exist in a vacuum. We must keep it with the rest of medicine.

I have heard centers mentioned several times. I trust and hope that the integrative processes will be utilized to the fullest, so that arthritis will not be isolated.

DR. GLENN CLARK: I hate to pick on just one phrase of such a magnificent report, but in each of the conferences I have heard the statement that properly motivated patients should get good treatment. It is a practical point, I guess, to evaluate a patient's motivation before doing extensive orthopedic surgery. But I would like to express what may be a minority opinion: If treatment is restricted to patients who have good motivation, this merely provides an "easy out" for not taking care of the more difficult, less motivated patients. I feel that we have a responsibility to teach the medical student

not to look for some flaw in the patient's motivation. I feel, also, that we have to take care of all arthritics and that we have no right to sit in judgment of a patient's motivation. If they aren't well motivated, it may be because of their disease, because of their economic environment, because of the warmth of our clinic atmosphere, or because of many other things. I think we have the job of motivating them, as well as of getting them well.

DR. CALKINS: This was a wonderful report, Howard, and I am sure it will be carefully studied by all of us.

We have heard a wonderfully strong statement pertaining to the need for education in the rheumatic disease field, perhaps in unfortunate sequence. We heard about facilities from Dr. Engleman and his group before we heard about education from Dr. Polley's committee. I would hope we could perhaps reconsider these reports before we go on to the next area of discussion.

Let's think, first, of the centers with which we are all familiar. Dr. Polley emphasized small group instruction in preceptorial fashion. He emphasized a close relationship between the personal physician and those with a little deeper experience

in the broader range of techniques and available approaches. We should consider making well-supported clinical traineeships available to personal physicians who might come to graduate medical centers for a three-month or a six-month period to work with the specialists in the various clinics. These physicians would work in rehabilitation, in physical medicine, and in the laboratory and learn some of the things that can be done. We might consider establishing, on a national basis, the sort of program that has been going on for a number of years in New England. I am sure that there are a number of other areas in which this type of graduate traineeship for practicing physicians is receiving support. Through this approach, we might take the initial step in improving communication and in getting the motivation of physicians more clearly defined.

Then, perhaps, there should be support for something that might be termed "community education plus consultation clinics," in which teams of specialists would go to communities and conduct exemplary clinics, on the spot, in various hospitals. The physicians could come with their patients so that the educational program would be reinforced in the community set-

ting. These principles, and analogous ones, might also be utilized for associated professional personnel, at least on a trial basis. This approach might avert some of the hazards that all of us fear when we think of the grand scale, single disciplinary center.

DR. POLLEY: The regional medical center, however it's described, is certainly most likely to be located in a teaching center and have facilities that are available at both undergraduate and graduate levels for communication and teaching between physicians in the adjacent areas and the comprehensive care center.

DR. HILL: I would like to second this very emphatically. I congratulate you, Dr. Polley, on your presentation.

DR. ROBBINS: I don't know how many family physicians or surgeons or anybody else can get away for three months. We have had quite an educational program along these lines in cancer, and to try to do something for more than a month, we found, is quite impractical.

DR. WILLIAM CLARK: First of all, I want to add my word of compliment to you and your group for what I think is an outstanding report. I think it's something we will want to read and weigh carefully,

because, obviously, each comment represented a great deal of thought. I also want to compliment Dr. Robbins on his comments.

Also, it would seem to me that any differences between the recommendations of your panel and Dr. Engleman's panel may be due, entirely, to semantics. First of all, the definition of a center does not require a rigidly structured physical or personnel organization table. It is, rather, an island, or focal point, of concentrated interest, and, as such, will always be the leading edge of progress against any disease. Dr. Polley appropriately and carefully used the word "prototype." If we can solve the problems of the disease, as well as of the *approach* to the disease, there will be similar emphasis in other areas.

Secondly, the idea of a regional medical center sometimes frightens people because "regional" often seems to suggest a number of quite different things: Federal research regions, judicial regions, and Army or military regions, for example. What we want is to relate these programs to population concentration. It is a fact that medical schools also relate to population concentrations. We are really talking about a region or an area around those

concentrations that will make these facilities available and accessible to the largest possible number of victims of arthritis and to the physicians who care for them.

Finally I think that Dr. Engleman's group should give some consideration to deemphasizing the concept of a commission. I question, very much, if we need another organizational structure at the top to bring this about. I think that the function of such a structure can be brought about by an assumption of responsibility, on a broad base, by individuals who work in the communities and in the medical schools. Thus, the two reports can be reconciled, and I think that we would all agree that a strong recommendation should come out of it for the support of this kind of program.

DR. GLENN CLARK: I was a critic of Dr. Engleman's report, as I listened to it, but the more I look at it, the more I think it is a good idea. It is what we need now, and I don't think Dr. Engleman's report, other than the few disturbing words that have been mentioned, does anything but exhibit the feeling of our group—that we need to incorporate what we already have into an expanded and well-supported program.

DR. COLLEN: I would like to strike while the iron is hot. Dr. Polley's report was excellent; the similarities between it and Dr. Engleman's report are really, now, quite apparent to all of us. There is no question that everyone at this conference came for the purpose of improving the care of the arthritis patient. We have, perhaps, approached this important objective from different viewpoints and, perhaps, used different words. Some people are more visually-minded than others, while others, perhaps, prefer to express things in less rigid manners. But let us not jeopardize our objectives by semantics and symbols and so forth.

To summarize, we are all interested in the care of the patient; and we recognize that the physician who takes care of the patient is the key figure in getting the care to the patient. Furthermore, we are agreed that the assistance he needs should come from the established areas that are close to him. Local centers, or local hospitals, in turn, need assistance from a regional area. Some persons place a dreadful connotation on regional medical centers. But they are, in fact, in existence; and we all work with them. Nowhere in his report did Dr. Engleman recommend the establishment of,

construction of, or expenditures of monies for new facilities. He very carefully spoke of utilizing existing centers to develop additional support for the assistance of physicians in giving care to their patients.

We wanted to assist the progress that is being made in this difficult field by trying to standardize terminology. For this reason, we recommended registries that would gather information together and, in so doing, utilize recent advances in automation for the benefit of physician and patient, alike.

Dr. Polley's presentation helps to support Dr. Engleman's report; they are, indeed, very similar. It would be unfortunate if positive recommendations were lost or discarded because the chosen symbols and signs were improperly understood.

DR. BRINKLEY: The Vocational Rehabilitation Administration has teaching grants and traineeships in physical therapy and occupational therapy and in most of the paramedical fields. One of the problems we find among college students and high school students is a lack of sufficient interest in going into these fields. I feel that our recommendations should include programs to encourage students to go into these fields for their careers.

DR. POLLEY: We did discuss that, too.

DR. TRAEGER: I just want to emphasize one point that you made, Howard, and that is that the distance from the laboratory to the bedside is increasing.

DR. POLLEY: Thank you.

DR. CAUGHEY: I am very much interested in the fact that there has been so much emphasis placed on the importance of the personal or family physician in the management of the arthritic patient to prevent disabilities; but I hope that this group recognizes that, unless something is done about the education of our physicians, we are talking about a disappearing group. Furthermore, most of us are helping the disappearance by the way we plan the educational program. You all know the statistics; there are steadily declining numbers of people who are fulfilling this role in the care of patients.

I hope that this conference will put appropriate emphasis on the fact that, today, most medical schools do not have the resources or the personnel to set up excellent models of comprehensive patient care—units in which the students and house staff have a chance to observe and to participate in excellent comprehensive care. Furthermore, as far as I know, none

of the medical schools will be doing this in the next decade, unless there is support for it that is equivalent to the strong support that has been given for 15 years in building up the more academically-oriented research personnel.

Nobody has mentioned the fact that some of the best postgraduate education comes from full exploitation of the referred patient. When a consulting group makes full use of the opportunity that is presented by a referred patient, they are helping the physician give excellent care to the patient that he has referred for consultation, and this is a most effective means of educating physicians.

DR. AMOS JOHNSON: Dr. Polley did a most excellent job of reporting the ideas and problems that were discussed in our section. I am in accord with everything that was reported.

I do believe that those of us who are in family practice would be very anxious to see these proposed plans implemented in some manner and would be most cooperative with such an effort.

DR. WEDGWOOD: I was delighted to hear your talk, particularly the emphasis on flexibility. I would like, first, to emphasize more strongly the need for direct

support of educational programs, at the undergraduate, graduate, and the continuing level, for physicians and for paramedical personnel. We have had a great deal of difficulty in supporting this type of education over the past few years.

Next, medical schools and regional centers have got to become involved in providing the training for first line or family physician care. Otherwise, we are left in a situation comparable to that of having departments of theoretical surgery, in which no surgery is done.

Finally, we have to look very directly at the need for funds for construction of appropriate facilities within which to provide the type of teaching that is necessary, in centers that are designed for the care of ambulatory patients.

If funds are not made available to provide optimal teaching facilities, as well as to support teaching personnel and educational processes, we will find it very difficult to provide the manpower that will be necessary to carry out the purposes of this meeting.

DR. POLLEY: I want to thank all of the discussants for their comments.

Clinical Investigation and Training

Chairman: John L. Decker, M.D.

The assigned task of our panel was clinical investigation and training. This is not an easy area to report on to an audience of this type. What we attempted to do was to have a look at the clinical investigation that is currently going on that is of the type that we believe pertains to the prevention of disability from arthritis. As we went through this rather large mass of material, we tried to spot areas in which we believe deficiencies exist. We ended the discussion with a consideration of the investigator himself. We did not formally vote or spend too much time on formal recommendations, with the exception that the Chairman has attempted to bring a consensus in that regard, which I will present to you at the end.

We defined clinical investigation of arthritis as the study, in the broadest perspective, of the biology of disorders that affect joints and related structures. Such study requires an interdisciplinary approach and must include, among its pur-

poses, the definition of disease, efforts to discern their etiology and natural history, and continuing analysis of their management, with special references to the prevention of disability.

The clinical investigator was described as a physician who is committed to the understanding of a disease or to the understanding of a group of diseases of man. The tools that he uses, the training he may bring to bear, and the level at which he elects to work were all thought to be less pertinent to his effectiveness as a clinical investigator than is his commitment to a disease area.

This approach to clinical investigation has produced an abundant and diversified body of knowledge in recent years. But the emphasis has, for a variety of reasons, been on fundamental studies of biochemical, immunologic, and morphologic aspects of disease. Support for these studies has been available and should continue to be available. In the long run, they are of the utmost significance.

Nevertheless, there has been some tendency for these fundamental efforts to overshadow clinical studies, to preempt the attention of investigators, junior and senior alike, and, thus, to inhibit work that

is more directly applicable to patient needs and to the prevention of disability.

The Workshop felt that both spheres are worthy of full attention. However, the charge to the Workshop was interpreted to be a consideration of clinical investigation that is directly pertinent to the patient. And this was the area to which we confined ourselves.

The inadequacy of clinical work and planning, which is currently to be noted at some of our better medical centers, was said to be evident in the poor quality of applications for support of outpatient, or ambulatory, investigative efforts, in which new techniques and new approaches are greatly needed. It was felt that the excellence of current, short-term, inpatient, acute problem studies had not been duplicated, nor even approached, in outpatient work with chronic disease, such as the rheumatic diseases.

The Workshop turned to a discussion of examples of problems that were suitable for this type of study and of some of the factors that make them difficult.

It was felt that the definition of the rheumatic diseases would require the recognition of specific disorders in their earliest phases, prospective epidemiologi-

cal analysis of genetic and environmental factors, and the setting up of diagnostic criteria. The American Rheumatism Association diagnostic criteria for rheumatoid arthritis were cited as a tremendous advance; and it was noted, with approval, that groups are now working on criteria for gout, systemic lupus erythematosus, and juvenile rheumatoid arthritis. The need for constant revision and updating is apparent and should be done systematically. Efforts to evaluate the criteria, one-by-one, should be fostered; and the results should be incorporated in updated criteria.

The imperfection and imprecision of some of our clinical methods were discussed. And pleas for standardization were heard. This is especially needed in terms of standardizing serological testing in rheumatoid arthritis. But there was also noted to be diversity and disagreement in regard to such mundane matters as the measurement of joint motion or the grading of joint damage by X-ray.

There was much interest in the role of epidemiologic studies and in the definition of these diseases; and the conclusions of the National Foundation Center Conference of 1964 were cited in this regard. Population studies have been of two types.

First, the one-time study of the population, which is designed to obtain prevalence figures, as well as information about geographic or familial aggregation of cases; and, secondly, the continuing study, in which all the inhabitants of a carefully selected area or community are repeatedly studied; for example, biannually, over many years.

Prevalence studies in some of the temperate zones of the earth have not revealed striking divergencies in the frequency of rheumatoid arthritis. It was thought to be desirable to apply the same survey techniques to areas that represent greater extremes of climatic range. Some believed the disease, rheumatoid arthritis, to be uncommon or, perhaps, absent in tropical areas.

The continuing type of study that provides information on incidence, as well as on prevalence, permits the earliest type of casefinding, and, thus, the best information on environmental factors that surround the onset of the disease. And, later, it will allow the correlation of early and minor signs and symptoms with the eventual progress and outcome of the disease.

Such studies do, of course, have their problems and limitations. The rate of

attrition, that is, the rate of emigration from the geographic area, constitutes a problem that may be surmountable with the use of some form of national registry. There is some evidence that the mere surveillance of chronically ill people may alter the disease patterns to the extent that the validity of the results is impaired. Finally, such work is costly, perhaps too costly when evaluated on the basis of the useful facts that are obtained per dollar spent.

The Workshop group felt that there was a place for the clinician in studies that are designed to determine the cause of rheumatoid arthritis, although it was granted that this is an area of strength for the fundamental or exclusively laboratory worker. The observer who is concerned with etiology of cause must always be aware that his observations may bear only on a mediating factor, important in itself, but, possibly, distinct from the ultimate cause or causes.

The discussion, here, centered on the study of events that surround the onset—that is, the period of transition from health to disease. Data are needed on such factors as time of year, physical activity, presence of a deficiency state, intercurrent infections, and the possibility of exposure

to toxic, environmental factors, such as air-water pollutants.

This kind of study is greatly improved by the ability to study prospective patients—people who will get the disease. This is possible in continuing population studies, but it involves the examination of a thousand normal persons in order to have prospective data on four or five future patients. The data, which can be practically recorded on the one thousand, must, obviously, be very limited.

We would be in a better position if such studies could be carried out on susceptibles—if there was a way to pick out, for example, one hundred normal persons, with the certain knowledge that even ten or five percent of them would develop arthritis.

There is no way to do this. But it was pointed out that the selection of susceptibles and their subsequent study could be based on a hypothesis under test. If the hypothesis were genetic it would be well to analyze mono- and dizygotic twin pairs. The available evidence hints that concordance is so low in identical twins as to cast substantial doubt on most genetic hypotheses. Blood relatives of families with two or three victims of rheumatoid arthritis might be studied, although it is possible

that such groupings should, at the outset, be regarded as an atypical form of the illness.

If the hypotheses involved infection, perhaps the spouse of the rheumatoid arthritic should be studied. If one's hypothesis involved trauma, persons who are subject to the form of trauma that is involved should be evaluated prospectively.

The next point in this matter concerns the problems of educating the public. It is to be noted that all of the above work requires a high degree of cooperation from perfectly healthy people who, particularly in a poorly-informed society, may flatly refuse the pertinent examinations.

From etiology, the Workshop turned to a consideration of the natural history of the disease, rheumatoid arthritis. This includes the study of its long-term evolution, with a view to achieving more reliable prognosis and, thus, more reliable evaluation of remedial measures that are directed toward the prevention of disability. It was believed that the medical world is now, more than ever before, capable of handling truly vast amounts of data with machine methods. This means that correlative patterns can be sought with incredible speed among the several hundred variables

that might be recorded. Stated simply, it may become possible to say, for example, that if joints A and B are active in a 35-year-old woman with an elevated sedimentation rate and a positive rheumatoid factor test, there is a ninety percent chance that joint C will be involved within the next six months.

The example is crude, but some of the Workshop felt that the possibilities thus opened are infinite. Obviously this kind of prediction is not possible until we have stored in our machine's memory the pertinent data on a rather considerable number of 35-year-old women with elevated sedimentation rates. And there is the rub. We need a massive, persistent, and painstakingly accurate data collection system. Surely, such an effort should involve many clinics and, thus, we again run into the problem of standardization—of standardizing the data to its most trivial detail. No amount of fancy computer technology can give good answers from sloppy clinical observations.

The maintenance of interest, the assurance of accuracy, and the persistence of the examiners are all problems. But the Cooperating Clinics Committee of the American Rheumatism Association has

shown us that these ideas are not visionary, that the work could be begun now. There are objections. The individual investigator feels that he is giving up some of his freedom and initiative, often precious to him. And that is true; he would be. There are advantages. Many have found that in conducting work of this kind in their clinics, the result has been a sharp upgrading toward clinical excellence for all patients, not just for those under study.

One of the thorniest clinical problems in the field is in reference to psychological factors. These may play a role in producing the disease. Certainly, they modify the degree of disability that results from it. And they are, in turn, themselves greatly influenced by the morbid process.

The control of this factor in clinical investigation has not been achieved. Several studies were cited. It has been found impossible to predict, on the basis of an extensive series of pain perception and psychological tests, which patients will do the work that is required in recovering from knee surgery and which will not. Efforts are now being made, prospectively, on the basis of monthly interviews, to determine whether or not a patient's mood has an effect on the flaring of disease activity in

systemic lupus erythematosus. Studies of this type are very much needed.

It was pointed out that the kind of physician that is required (someone with training in psychiatry and in rheumatic disease) is in short supply. Until supply more nearly reaches demand, it was the feeling of the group that extended and detailed evaluations of a few patients, with attempts to understand the processes that are involved, were more appropriate than were the more superficial survey types of analyses of many patients.

The final form of investigation that was discussed was that which directly pertains to the prevention of disability. It was pointed out that disability usually has at least three elements—psychological, constitutional, and that which is due to changes in the muscular skeletal apparatus, specifically, the joints or local damage.

Again, the work of the Cooperative Clinic Committee of the American Rheumatism Association was cited as having provided a standard of uncommon excellence in trials of medications that are directed toward reducing inflammation and constitutional signs of activity.

The lack of controlled work in the use of splints, heat, exercise, braces, and like

modalities was noted. Despite the regular observation of short-term improvement with such treatment, it seemed pertinent to suggest that long-term results should be evaluated critically.

The problem of suitable controls in surgical therapy was touched upon. No easy answer is available; but it was pointed out that detailed knowledge of the stages of progressive disease of the knee, for example, could be used to project a probable outcome, and that the result of surgery could be compared with this hypothetical outcome.

One of the major factors that restricts study of the effects of physical and surgical modes of therapy is the lack of investigative bed space. Such studies require extended hospitalization, and this key factor is simply unavailable in the amount that is required.

Three types of important inpatient facilities were discussed. It was considered mandatory that all three be in or near the center of investigative work. A few beds providing maximum services for acute, severe disease, are needed. These would be the most expensive type of general hospital beds. There is a need for more beds that provide the level of services that are

required in chronically active rheumatoid arthritis—a middle price range facility, perhaps. The least costly beds would be those in which there could be a considerable degree of self-service, but in which physiotherapy and occupational therapy would be available. It was estimated that a group of four or five active investigators, working together on problems in management, could appropriately use between fifteen and twenty beds for the investigative program, alone.

The final hours of the Workshop were spent on a consideration of the man who is to do all of this investigating. What must he be?

It was felt, first, that he must be a well-trained physician, that we can't take a shortcut and drop out portions of current curricula. He must be a complete physician, but his specialty interest or training is not necessarily pertinent. He must have interest in these problems. He must have interest in patient care, in clinical investigation, as we have talked about it, and in teaching clinical methods.

Where are we to find such a person? In this regard, it was felt that this field should face the fact that we are in a rough recruiting fight for the interest and capaci-

ties of these men. There are other programs, other areas of interest, other areas of, perhaps, more excitement; and unless we face this fact we are going to fall short. We felt that one of the ways to approach this was to work out a program, a training program, a recruiting program, with appeal to it.

We felt that it was worthwhile to establish and maintain contact with prospective trainees, beginning early in their medical career—the first and second year of medical school, for example. We felt it worthwhile to encourage summer research projects for medical students and to be able to support them. All of us wanted to inject excitement and challenge into the work of our units. We wanted to keep the program wide and flexible, so that a man could find an area of interest that coincided with his own within the overall work of the program.

Money was considered. This is a tough program. We don't simply want to buy the man. Such a person is not what we want. And yet these young men come along at a time when their needs are great. In many instances, they are deep in debt for their medical education. And there were some in our panel who felt, very strongly,

that, under certain selected circumstances, money should be available for the support of residency training. Men do not ordinarily enter a special investigative area, such as the rheumatic diseases, until they have completed two years of residency. It is very common for us to find able young men who simply do not have the financial wherewithall to manage two years of residency. Support for those individuals is needed.

Another point in the problem of recruiting is what is the future, in terms of jobs, for this individual? What does he have to look forward to? It was felt that if there were a clear picture of how and where he was to apply his prospective skills, the recruiting effort would be improved.

Next, we turned to the matter of training this individual. And here our ideas paralleled many of those that Dr. Polley has brought out. It was felt that the training would have to be largely preceptorial—simply watching someone else do it or being closely associated with someone else who is carrying on investigation. It was felt to be wrong, however, to insist, exclusively, on the preceptorial method and, thus, to disregard a more formalized ap-

proach to such problems as experimental design and biometrics. It is crucial that studies be designed with knowledge that is not generally available to the average physician. In this area, there are statisticians and specialists in experimental design who have much to give. The provision for such people, available to the trainees, was felt to be crucial.

The possibility of rotations to other services of the university was discussed. If the training program is under the aegis of the department of medicine, for example, it seems quite obvious that the trainees should have some time in connection with orthopedic surgery and in connection with physical medication and rehabilitation services. The possibility of rotation to other units across the nation, especially those providing special skills, was also discussed. Some felt that this kind of move would have to be for at least a year if it was to be worthwhile.

The possibility of providing special courses in connection with the Rheumatism Section of The Arthritis Foundation (formerly, ARA) or with other national meetings for the young investigator in training was discussed. In the last analysis, however, we felt that the most impor-

could be brought to bear on clinical investigation; and (c) clear and forthright support of clinicians of proven capacity who are in a position to give and to teach excellent patient care and to conduct clinical investigation. Such support is deemed appropriate for both medical schools and for large voluntary hospitals.

The Workshop believes that support for personnel in these three areas would greatly enhance the quantity and quality of investigation that is directed toward the prevention of disability from arthritis.

It is also recommended that careful and thorough consideration be given to the great need for bed services in investigative programs in arthritis.

Finally, it is recommended that the present law pertaining to research training grants be redrawn to expand support to include the training of teachers and physicians who are concerned with patient care as a research and teaching activity.

Discussion

HELEN ANDERSON: I would like to say that I thought this was an excellent report; and I am delighted to see emphasis on clinical research. However, just as we recognize that the patient needs many

workers other than the physician in order to be treated for his arthritis and to meet all the problems of the patient and the family, I would like to say, for all of the associated personnel, that I was a bit disappointed to hear only physicians included in the section on clinical investigation. I suggest that there is much research that those in the associated professions can do to contribute to meeting the problems of the arthritic patient.

DR. DECKER: I think that that is an excellent suggestion, and I really do feel rather apologetic about it. We have been, as Dr. Wedgwood says, parochial; and I apologize. I don't think that there was a physician in the group who had considered the possibility of attempting to carry out a clinical investigative program without the support of all associated personnel. But I also feel that there is a great breadth of opportunity for each of these groups, social workers, occupational therapists, and so forth, to run their own studies, not "managed" by a physician, in any sense. There is a tremendous need for that kind of investigation.

DR. SHULMAN: I would like to pursue this really important feature. For those of us who are in the medical situation, I

would say that I applaud everything that you have said.

First, before getting to my point, I would like to congratulate, from the bottom of my heart, Dr. Decker, for just about the most concise and thorough resume of an eight-hour discussion that I have ever heard. There is not one single point that was brought up during our discussion that was of any importance that was omitted from his unusually competent summary.

But I would like to get to the point of the associated personnel. The associated personnel are concerned with names, to some degree. And we who were on this particular panel were trying to do the best with the extremely difficult problems that we knew something about.

I know nothing about the social service aspects of arthritis. And the reason I know nothing about the social service aspects of arthritis is that, in spite of repeated efforts to obtain such services, and in spite of being in an optimal, from a relative standpoint, situation with respect to it, I don't feel true cooperation or interest from the parent organization of some of these paramedical personnel. And I would like to support, in the most general manner and, really, in the most construc-

tant element of the training is something that we already have before us, the research training grants program of the National Institutes of Health. This program has been modestly successful in turning out the kind of clinical investigator in which we are interested. However, its emphasis has been overwhelmingly on fundamental, basic investigation.

I have indicated, and others have, too, that there is nothing wrong with this, but that this is not all that is needed. The group felt, very strongly, that so long as the emphasis persisted to be confined to this area, we would be failing in the training of clinicians, clinical teachers, and people who are interested in clinical—by that I mean bedside—investigative work. We think that a better framework for the future can be built by a modification of that program.

Finally, we dealt with the question that was originally raised in considering recruitment, of where this investigator would go. Where would he work? Here, it was felt that the medical schools can, and should, consume—I guess I can use that word—can consume a number, a large number, of these individuals. When we face the fact that very few of our schools

are actually involved in any teaching in reference to this area of disease, that is particularly apparent.

The opinion was also expressed, however, that such people are needed by voluntary hospitals. Here, I am thinking of some of the excellent, topflight, large voluntary hospitals, which are gradually swinging, in many instances, to a more full-time system. It was felt that these were most suitable places for centers of excellence in arthritis and that this type of investigator could take a full-time position, under those circumstances, if support was available.

I come, finally, to the recommendations. First, it is recommended that a research committee be formed on a national basis. This body would be envisaged as including two or three full-time physicians who do nothing but serve this unit. At least one member of the full-time group should be an epidemiologist. Another might have special interests in information and data handling. The duties of this committee would be to coordinate and assist the work of those investigative units that were interested in cooperative clinical work, of any kind, in the rheumatic disease field.

Among the services that the committee

would direct would be the provision of standardized sera to be used in controlling laboratories across the Nation, the maintenance of such national registries of arthritic patients as were deemed appropriate, the maintenance of a drug information service, which would be kept instantly up to date by a standardized reporting system, and the maintenance of epidemiological data that would be in parallel with information that was available on regional facilities. The latter function would prepare the committee to advise regional university and local medical groups of unfilled needs and opportunities.

Next, it is recommended that the funding of the type of investigation that has been surveyed here be on a competitive basis with like clinical studies, but not in competition with fundamental or laboratory studies.

It is further recommended that support for personnel be given in the following three areas: (a) Relatively small amounts for support of promising house staff physicians who would, otherwise, be financially unable to complete the required training for investigation; (b) provision for suitable biometrical staff in those institutions in which the skills of such individuals

tive manner, the notion that much needs to be done at the home office. And much really does need to be done. You should plan to return from this meeting and go to your national organization, as we will be going to our national organization, with these recommendations—and I mean your national professional organization—to try to help stimulate the provision of the assistants that we sorely need to carry out our job.

DR. REDFORD: I would like to mention a point that was brought up in the discussion, particularly since it was a thought of mine: A physical therapist should participate in studies of arthritis and of some of the therapeutic modalities that are used in the area. I think that this is very important, because the motivation of physical therapists who have interest in areas other than just patient care can, perhaps, be greatly enhanced if they are used in programs in which investigative work is being done. They will go on even further, perhaps, into other fields, such as physiology and so forth.

I would like to state, for the record, that we are most interested in stimulating this kind of activity among paramedical personnel.

DR. STILLMAN: I think that Dr. Shulman made a very good point about the encouragement from the home office. But I think that even more important is encouragement in the individual unit in which the paramedical personnel are working.

Our social worker, in the unit that is associated with the study of children, is coming out, shortly, with a paper that was the result of her own endeavors. She was helped out by the other members of the group, just as every member of the group who comes out with a study is helped by the other members. But I think that they need encouragement to do this.

DR. TOONE: I would like to speak to one point in your report, and that is the part that deals with altering the training grants that are now offered by the National Institutes of Health. I think that this is a very important point, a very strong point, and I think that this should include the words "clinical traineeship." I think that, in many ways, this already is being done. I think that this would rectify the situation that is already in existence.

Furthermore, I think that this would aid us in our recruitment of new men. Some of these people are frightened by the term "research"; they feel as if they have to

take an entire laboratory training.

DR. DECKER: This is exactly the view of the group that discussed the matter, Dr. Toone, especially that point about being frightened. There is some feeling abroad that, unless you know about messenger RNA, you are just not there. And that, we would like to discourage.

DR. WHEDON: I would like to know where to begin. But I think it is important for me to try to tell you that not only do we have the authority, within the laws and regulations that govern our training grant procedures and activities, to do the things that you recommend, but we, in fact, heartily support, the fact that, and try to make that support as clear as we can, training grants for research, which does, most definitely, include clinical investigation. And there is no regulation against the inclusion of careful and detailed clinical care and clinical management as an integral part of a training grant for research.

Now, I am really disturbed about this because, obviously, we have not gotten this point across clearly. And we must go back, and we must apparently rewrite our pamphlets and our handouts and revise our telephone messages to make this per-

fectly clear.

Investigation at the bedside of indices of variation and change in clinical disease is clearly within the realm of what can be supported and is actively being supported, certainly in other fields of clinical medicine and, I believe, in some of the training grants within this area.

But please do not go away with the idea that there is some rigid barbed wire fence around the training grant programs of the National Institutes of Health or of the National Institute of Arthritis and Metabolic Diseases that excludes active investigation of the patient, as supported by our training grant programs.

DR. DECKER: Thank you, Dr. Whedon. I think this is very well and very fairly said.

The recommendations are probably written too much in terms of legalisms. To some extent, this is a matter of the mind, a state of mind, or a frame of mind for which no particular person or body is responsible.

DR. GLENN CLARK: I realize that everything that Dr. Whedon says is true, and I am not sure that it is the fault of the law or of our attitudes that programs for clinical investigation don't become better

funded. I think that the reason is probably, as was mentioned, that of having clinical programs compete with basic science programs. It is very, very difficult, in this newer field, to design a clinical program that looks as nice on paper, that has as good controls. In rheumatoid arthritis, for instance, they ask, "Where are your controls? How are you going to get a patient with rheumatoid arthritis who doesn't go down to the drug store and get aspirin?"

I would like to have the study committees look a little bit more into some of the new and, perhaps, less stereotyped ideas for clinical research. I would like to see them put a little seed money into, perhaps, a different and less well-organized, at first, approach to clinical investigation. Above all, as you mentioned, these grants should not have to compete with basic science grants in the study committees. That is extremely important.

DR. FENNINGER: It seems to me that through all of the presentations and discussion, one recurrent theme has come up: advice, education, and recruitment. And I think that part of the dilemma that we all face has to do with the piecemeal way in which we have approached the whole ques-

tion of health care, of rendering health services, of research in the various fields that are related to health, and of the support of education and the support of residency programs and postdoctoral traineeships. It seems to me that the time has come to decide what the fundamental issues are.

The first issue, I think, is the general support at the undergraduate level of education in the health professions. I was very glad to hear Dr. Polley mention this in his report; and Dr. McEwen, I think, mentioned it in his report.

Second, the exploration of the range of investigation in the clinical field, which, I believe, is as fundamental as is dealing with molecules or portions thereof, requires, in our present cultural setting, some kind of general support of research within institutions that are designated by the members of the institution.

So, it would seem to me that there should be fundamental support of education at the undergraduate level. And there should be fundamental general support of research at the institutional level, in addition to the other mechanisms that we now have, such as the programs and projects that are supported on a national basis in national

competition. But while I think that it is extremely important that we retain present programs and projects, I think that they need a much broader foundation in the support of education and in the support of research at an institutional level than is now provided.

I think both science and society demand that we reexamine the bases of support and put them in their proper perspective.

DR. WILLIAM CLARK: I will make it brief.

There is a very fundamental problem here. You stressed in your report, Dr. Decker, that it will be necessary to collate or integrate a vast amount of clinical observation, that the basic problem we have is in collecting reproducible observations by standardized criteria.

Now, we know that it is a fact that these observations on the patient are going to have to be made by a clinical observer who will not be supported as a fellow, committed to clinical investigation. In practice, in most instances, these men go off into a clinically-oriented career that is devoid of investigational opportunities. This is a basic deficiency and many of us know the policy of the National Institutes of Health very well; and we know that these fellows

will not qualify for fellowships, nor will their projects qualify for research grants in clinical investigation. It is a deficiency that we must make up, or the observations that we are making on rheumatoid disease will always be garbage.

DR. BLAND: It seems to me that, because so very much has been brought together at this meeting, we are about to get off the ground. Since the gears of government shift slowly, I suggest that all of us make known to our Senators and Representatives the conclusions of this meeting, in the next few weeks, rather than at a later time.

DR. SHULMAN: Just one plea. After hearing the comments of Dr. Whedon and, then, of Dr. Glenn Clark, I would only make a plea. Tremendous gains have resulted from the quality of the efforts that have been engendered largely through the support of the National Institutes of Health and The Arthritis Foundation, and we, in extending our efforts to clinical training and recruitment, must insist on the same quality. I don't think this has been emphasized.

The danger exists that because of the demands of the public for increased efforts in this area, we may risk the irreparable damage of impeding our actual goals by

not insisting on the type of quality control that should be exerted.

DR. LAMONT-HAVERS: Dr. Decker, I should like to second that. There is no sense in just training or in just giving grants in clinical investigation or in supporting people for clinical medicine. You have to look at the product. You have to look at the trainer. And I think that much of the lack of support or the suppression or taking away of support at the present time is not due to the fact that this type of investigation cannot be supported; it is the product that is being turned out that is not worth the support.

DR. DECKER: I think that is pertinent.

MRS. KINOY: I just wanted to speak briefly on what some of the other people, earlier in the discussion, talked about, and that is this question of the team approach to basic investigation. I think that we have come a long way toward the use of many different kinds of paramedical personnel, or whatever we wish to call them, in working out followup and long-term care of patients with arthritis. But I don't think we will be able to attract people from many other disciplines to work in this whole area of arthritis unless they feel that they are in on the ground floor of planning the basic

kinds of community research. And for this reason I think we have to make a special plea to include them in this whole area of research.

DR. CLEVELAND: I want to wish you God Speed in your search for this superman in research that you outlined in your background paper. If you don't find him, there may be some models that are already available that will be of help, especially in the area of investigating psychological research and of investigating psychological factors in arthritis in various parts of the country, where psychologists are already collaborating with rheumatologists and pediatricians in this area with some degree of success.

In California, I think, there is a psychologist by the name of Rudy Moos who has done some work recently with Dr. Engleman. In Boston, Dr. Stillman's group is working in this area; and in Houston we have something going. We do have some communication among the psychologists who are involved in this area, and I think we might be able to offer something, here, in terms of a group that is already working in this area who have some communication among themselves.

But I think, in terms of responding to

Dr. Shulman's earlier remarks about this, that the psychologist will need an invitation from the medical people who are in the field who are administratively responsible for these positions. The psychologists are very busy people, too, and I don't think that they will spontaneously become involved unless they are invited.

DR. DECKER: None of my remarks should be interpreted to mean that we are trying to exclude anybody by training one person to do everything. That is obviously ridiculous.

DR. BLAND: I am concerned that we are creating the impression that a clinical or a patient-oriented investigator is very different than a basic investigator in medical sciences. They are all the same people. And I wager that there is no one in this room who doesn't have a basic program, meaning one that is wholly non-patient oriented. I work with a colonizing amoeba, and I relate it to the bedside physician.

I certainly wouldn't want to come off with the notion that the bedside doctor is a very different person than is the precipitator of proteins, because he really isn't.

Voluntary and Public Agency Activities and Programs

Chairman: William D. Robinson, M.D.

Our Workshop, which is concerned with voluntary and public agency activities and programs, had representatives from agencies that perhaps were not as well represented on other panels. Not only did we have the formal health departments represented at the national, regional, state, and county levels, but we had representatives from the Council on Voluntary Health Agencies of the American Medical Association, one individual who was concerned with professional relationships in the Blue Cross Association, and representatives of the Visiting Nurses Association and the physical therapy fields.

Our Workshop started off with the following premises: That we could regard rheumatoid arthritis as the prototype for the development of a program that would automatically include other crippling diseases, and that prevention of disability in rheumatoid arthritis could, quite clearly, be related to the institution of care early

in the course of the disease and to the provision of continuing medical and social support.

We started by visualizing the course of a hypothetical patient with rheumatoid arthritis, with an attempt to project the stage in the evolution of the disease that brought the patient into meaningful contact with the programs of the various voluntary and public agencies. Intertwined with the review of the current status of such activities was emphasis on what can be done to bring these efforts to bear more effectively on the patient in the prevention of disability.

Much attention focused on the mobilization of present and potential activities, so that they can be brought to bear on the patient earlier in the course of his disease. This broke down into several components, the first of which covered efforts to decrease the interval between initial symptoms and the first medical contact.

We have chosen to use the term "first contact physician," or "first medical contact," rather than "general practitioner" or "family practitioner," because, in realistic terms, the first medical contact and the personal physician may frequently be an internist, a pediatrician, an obstetrician, a

surgeon, or a man in any other field of medical practice. Decreasing this interval is, quite clearly, a matter of public information and interest—an area in which the recommendations of the first panel become particularly important.

The second point centers on efforts to make this first medical contact more effective in leading the arthritis patient to prompt and adequate care. This involves the basic training of the physician, which has been discussed eloquently in previous panels. It also involves the post-graduate educational effort that must be made if the practicing physician is to be kept up-to-date in the field of arthritis. It implies the availability of resources for early and accurate diagnosis and the availability of facilities for the provision of total, or comprehensive, medical care that is adapted to the needs of the individual patients.

Some patients may require referral to an arthritis center, in order that special skills and resources can be brought into operation. Others can be adequately cared for in the local community. But it is important, here, that the community resources be brought to bear early in the course of the disease, rather than later, as is too often the case at the present time.

A third point dealt with the problems of providing early and adequate hospitalization for the arthritic patient and with the adequacy of hospitalization, in terms of both duration and quality of care. Often, an initial period of hospitalization can be provided in a community or general hospital. Such hospitalization provides an opportunity to bring to bear on the particular patient the following principles of treatment: Rest; adjustment of medication to the needs of the particular patient; application of mechanical principles and devices to prevent deformity; indoctrination of the patient in the use of physical therapy to maintain function; and careful attention to all the factors which can exert a deleterious effect on either the physical or psychological health of the individual. We were not particularly enthusiastic about the so-called "halfway house," as the facility in which the initial activities in management of the patient with rheumatoid arthritis should be carried out.

A period of hospitalization also serves most effectively to educate the patient about the nature of his disease and to introduce him to the essential features of his long-term care program.

The fourth component dealt with the

provision of continuing medical and social support for the patient. This is the area in long-range care that brings the physician who is concerned with prevention of disability into contact with many agencies that have a responsibility in the area of chronic illness—a responsibility that is not focused exclusively on the patient with arthritis. At the present time, such continuing support is seldom brought to bear until relatively late in the course of the disease. The groundwork for such support can often be laid during the initial period of hospitalization. But such support can, and should, be applied when appropriate, soon after the first medical contact.

The principal ingredients of this program of long-term care are continued surveillance by the physician, aided by the home care program, as implemented by visiting nurses or public health nurses, supervision of the physical therapy program, and utilization of the aid of social service workers, dietitians, and vocational, occupational, and recreational therapists, when appropriate.

In the course of reviewing the current activities of public and voluntary agencies, it was apparent that several are concerned with public information. This is a major

activity of The Arthritis Foundation, both at the national and chapter levels; and the Foundation has been active in the preparation and dissemination of authoritative information on arthritis. It has also been a concern of the Public Information Service of the American Medical Association, the Division of Chronic Diseases of the U.S. Public Health Service, and their counterparts in the State and local health departments.

Patient education, as distinct from public information, is also a major function of The Arthritis Foundation, which not only provides pamphlets for patients with various types of arthritis, but, particularly at the chapter level, functions as an "information, counseling, and referral service." Patient education is also an objective of the Patient Information Service of the American Medical Association.

In considering professional education, members of our panel also pointed out deficiencies in the opportunities for medical students to experience exposure to the problems of chronic diseases, including arthritis, to participate in long-term care of patients, and to become familiar with the community agencies whose resources must be brought to bear in the management

of such patients.

In postgraduate education, several organizations are concerned with the effort to keep the medical practitioner up-to-date with respect to advances in diagnosis and management of rheumatic diseases. This is a place where the Rheumatism Section of The Arthritis Foundation (formerly, American Rheumatism Association) certainly takes a major role. It is also the concern of the Committee on Continuing Education of the American Medical Association's Council of Voluntary Health Agencies, which is particularly concerned with improving the effectiveness of the "first contact physician."

With respect to the training programs of the National Institutes of Health, it is correct to say that they are not in a position to support training for the development of clinical proficiency. They are in a position to support training in clinical investigation and, of course, training in other aspects of research.

The problem of training the allied medical and health professions also came up for consideration. We appreciated the problems of recruitment and of support. We did feel that a very worthwhile function was served by symposia, frequently

sponsored jointly by chapters of The Arthritis Foundation and by public health agencies, to provide public health nurses, visiting nurses, nutritionists, physical therapists, social service workers, and vocational, recreational, and rehabilitation workers with information regarding the particular needs of the arthritic patient; and we felt that some arrangement for short-term training programs of a few weeks or more for such individuals, with attention placed on the needs of the arthritic patient, would definitely be worthwhile.

New to many of us was the matter of therapeutic recreation, with the objective of maintaining the handicapped individual as an active participant in society. This addition to the community agencies that can be brought to bear on the long-term management of arthritic patients was explained to us by the representative of the National Recreation Association. It has been demonstrated that, in cooperation with the responsible physician, arthritic patients can be included in regular recreational programs, that recreational programs can aid in getting the homebound arthritic back into community activities, and that such recreational activities can be success-

fully coordinated with nursing home programs.

There are two or three somewhat disjointed points that came out in our panel discussion that may be of interest to all members of the Workshop.

It was the public health officers in our panel who pointed out that, although the magnitude of the problem of arthritis made it a public health problem, it could not be realistically approached by "mass methods," in either diagnosis or treatment. The diagnosis of arthritis rests on evaluation of the history and physical findings that are obtained by the physician who is aided by X-rays and selected laboratory tests, rather than by any single criteria. Similarly, management depends not upon a single modality, but on a program that is carefully individualized to the needs of the particular patient. This is a process that obviously has to be done by the physician and can not be accomplished by mass methods. Therefore, the role of a State or local health department was visualized as a supportive one for the practicing physician, providing the resources when, and where, they are lacking in the community, for the physician to carry out diagnosis and treatment. The health departments are

also able to contribute to the coordination and development of community resources that are needed for long-term care.

Another point that is worthy of reporting is the fact that, in considering the special problems of the arthritic related to hospitalization, it appeared that agencies that are concerned with hospital insurance and medical care insurance can be expected to be responsive to the needs, both for hospitalization and for certain aspects of home care, as they are defined and requested by the practitioners in the particular community or region that is served by such insurance plans. As a matter of fact, whether we were discussing the activities of a community health department, the activities of the visiting nurses or public health nurses, or the programs of various other supportive agencies, it was brought out, repeatedly, that the most effective way to bring these agencies into meaningful activity in the arthritis field is to develop the demand for such services at the community level, by the physician that these agencies have been designated to assist and with whom they are accustomed to work.

It was interesting to note that the incorporation of arthritis as a categorical pro-

gram, a special interest program, into already existing programs presented the same types of problems in all areas—from medical school curricula to the activities of a county health department. The problem of introducing a categorical interest into a program that was already under way and integrated consisted of the usual basic difficulties—limitations of time and money, shortage of trained personnel, and competition of a new program with ongoing responsibilities, which were already overtaxing the available resources. In each instance, it appeared that the integration of activities that were directed toward the arthritic into programs that were concerned with chronic illness was the most feasible and practical solution. I, personally, do not fear that arthritis will lose its identity by following such a course. It is quite clear that arthritis can serve as the prototype for the development and focusing of resources that are needed in many other types of chronic illness.

We do not have a series of carefully enumerated recommendations. However, I find that, in some way or other, most of them have been covered in reports of previous panels.

After careful consideration, this panel

does recommend that existing programs be supported, strengthened, coordinated, and expanded to the geographic areas in which they are lacking. In contrast to the development of a new structure, we believe that building along the strengths and bolstering the weaknesses of what we now have is not only a more practical approach, but, in the long run, will be more effective.

Because, at every turn, we came up with the fact that the educational program, at all levels, would be instrumental in providing the resources that are necessary for the adequate care of patients with rheumatoid arthritis, we recommend that voluntary agencies, in cooperation with public health agencies that are interested in arthritis, spearhead a more extensive public, patient, and professional information and education program that will utilize imaginative and creative techniques. All channels of health education should be used. The Arthritis Foundation may well play a leading role in this effort.

It is our impression that the preparation and formulation of authoritative information in the field of arthritis has been well accomplished. The channels of dissemination of this information, in the form of pamphlets, brochures, and so forth, have

been well developed. But the primary problem is one of really getting this information across to the public, to the first contact physician, and to the medical student. The real problem is getting this information across in such a way that it has a meaningful impact.

The need for a recruitment program in the paramedical professions has already been mentioned. It was felt that recruiting in this field might well be the primary responsibility of the voluntary agencies, who are in a key position to have an impact at the time of career choices. Financing may well be an area for consideration of governmental support.

There are, essentially, two ways in which interests in arthritis can be stimulated in State health departments. One would be the addition of arthritis to the categories in which formula grants can be made to State health departments; at the present time, such grants are restricted to heart disease and cancer. The other is stimulation by chapters of The Arthritis Foundation of activities in the State health department that are appropriate to the field.

Again, as far as activities in local health departments are concerned, the stimulation by chapters of The Arthritis Foundation

would appear to be a logical recommendation.

There are grants available in the Public Health Service for planning and survey of community resources under the Community Health Service and Facilities Act. These are short-term grants that are usually concerned with efforts to decrease the need for hospital beds and hospitalization and with utilization of home care plans and nursing homes. It appears that such grants, for purposes of surveying and planning a community's resources for the chronically ill patient, could well be recommended.

I hope that other members of the panel will not hesitate to add to or modify the report as I have presented it. Thank you.

DR. MCDONALD: Dr. Robinson, I want to express my appreciation to your group for defining, so well, the appropriate relationship of the public health agencies to the practicing physicians. The people whom I think are smart are those who agree with me, but can express it better. So, therefore, I think you are a very smart man.

DR. ROBINSON: Frankly, it was an education to me to learn what the divisions of authority and responsibility at the various levels of the public health activities in this country actually are. I am impressed

with my ignorance on the subject. Perhaps this should go into medical school curricula, too.

FROM THE FLOOR: Hear!

DR. BLAND: There has been so much discussion in New York about the need for professional education that I think it may pay to emphasize, again, some of the opinion that was expressed, both here and in our panel. Frequently, what happens is that the best treatment goes to the sophisticated, aggressive, and educated patient. Certainly, one of the functions of the voluntary agencies in the field is to motivate, educate, and train patients to make maximum use of existing community health facilities. Frequently, it is not only a question of the lack of availability of facilities, but also the poor utilization, or misutilization, of facilities.

I think, also, that, in light of the kind of discussion that we have had through most of the reports from these Workshops, beginning with the very first one, with recognition that financial support is a major problem that faces the arthritis field and that with the recommendation of Workshop One and the view that voluntary agencies, in cooperation with the governmental agencies, have a responsibility to

advance the educational program on all levels, that it seems to me that it is worth thinking, for a moment, about the somewhat unique aspect of the voluntary agencies in advancing the public's restlessness with the present level of care.

The ultimate responsibility, I think, for an increased flow of Federal, State, or local money, from both public and private sources, is going to depend very heavily on an aroused public. And it seems to me that a part of the community education and public information and education function of the voluntary agencies is to arouse the public, not only to knowledge about the disease, but to a desire to see that the necessary funds flow promptly to those areas where they are needed.

MR. WARTOFSKY: In your rundown of the information distribution points, you omitted the National Institute of Arthritis and Metabolic Diseases. I do know that we have an active special education program and exhibits, brochures, and so forth. I do hope that you will include it in your report.

DR. ROBINSON: I spent a fair amount of time on that point in the background paper, and the role of the National Institute of Arthritis & Metabolic Diseases in

professional education was emphasized there. In the report, today, I attempted to bring out, primarily, those things that had not been covered in the background paper. I am sure that by proper adjustment of the two sources we shall have a more complete review of present activities.

Socioeconomic Aspects *(Financial Resources)*

Chairman: Ronald W. Lamont-Havers, M.D.

One of the most effective means of judging the profound impact of arthritis on the patient, his family, his community, and the Nation is to examine its associated socioeconomic problems.

Statistics

The extent of the socioeconomic factors that are associated with the arthritis problem can be realized by a review of the statistics that are obtained through the National Health Survey and from other sources.

Table I shows the latest estimates of the number of people in the United States who maintain, during lay interview, that they or a member of their household have aches and pains that are related to the muscular skeletal system. This figure is now 12,668,000; but when it is compared to more intensive community surveys, a total of over 13 million people who suffer from muscular skeletal complaints is obtained. This means, in effect, that 13 million people think they have, or think that members of their family have, something that is wrong with their joints or muscles.

A more meaningful figure is the one that shows that some 3,300,000 people in this country maintain, on household interview, that they have limitation of activity of some sort.

Of interest is the fact that although the number of arthritics who are over 65 years of age is less than the number who are under 65, the percentage of those with limitation is greater in the age group over 65. Limitation, therefore, increases with age. In fact, if we break down the statistic that shows 3,300,000 persons with limitation, we see that there is a great increase in the amount of limitation in the age group

over 65 and that this increase occurs particularly among the female population. These data are in Table II.

Table III shows that the arthritis that does cause limitation interferes with the patient's major activity.

It should be emphasized that these statistics from the National Health Survey do not relate, in any way, to any of the diagnostic categories of the rheumatic diseases.

This conference has pointed out, very clearly, that one of the problems in the rheumatic diseases is that of nomenclature. At times, during the deliberations of the past few days, arthritis has meant any muscular skeletal ache or pain. At other times, it has meant, specifically, the severe rheumatic diseases, or again, it has been equated particularly with rheumatoid arthritis. The statistics and discussions that relate to these three interpretations are not really comparable.

There has been a mention, today, of the need to have a registry, or some central gathering point, of all diagnoses of rheumatoid arthritis and followup information on patients. The Canadian Arthritis and Rheumatism Society has done something like this. Information on all patients who have received treatment through the So-

ciety is recorded in a central record file, in Toronto. From this source, Dr. Robinson, Medical Director of the Society's Medical Centre, was able to collect data on 10,000 cases of rheumatoid arthritis, which had been referred by physicians to the Canadian Arthritis Society for therapy, chiefly physical therapy.

The age of admission of these patients increased by decades. It peaked at the 50-60 decade. The increment of each decade was added to that of the following decade. An analysis of this shows that approximately 500 new cases are added a year. Whether this means that the incidence of rheumatic arthritis in Canada in this group is 500 a year is another matter. It may be. The dropoff after the age of 60 reflects that fact that people begin to die at that time of life; it doesn't mean that their disease is getting better.

Dr. Robinson was also able to show that the amount of disability increased with age in rheumatoid arthritis. This fits in very well with the data for all persons with arthritis from the National Survey. In Dr. Robinson's study, there was a precipitous rise, by decades, so that by the sixth decade, approximately 50 percent of all patients with rheumatoid arthritis had

major disabling conditions when they were referred to the Society.

Table IV confirms the statement that arthritis is a condition of the lower economic groups. As gross family income goes down, the percentage of arthritis and, also, the percentage of individuals in the limited group goes up.

There was some question about whether this increase was related to the age of the patient or to the fact that as the patients got older, particularly over age 65, their income dropped off. Therefore, Table V was computed. This table shows that while it is true that persons who are over 45 do have more limiting arthritis, it is also true that those over 45 years of age with family incomes under \$4,000 have even more than do those with yearly incomes in excess of \$4,000. Thus, it can indeed be said that limitation from arthritis is associated with lower income, regardless of age, although it is also associated with increasing age.

Table VI and Table VII are an estimate of the costs for arthritis and rheumatism in millions of dollars. They really represent the minimum figures, not the maximum. There is every indication that the real cost is even greater than this. Again,

this is direct cost; and it does not include the indirect costs.

The figure of \$435 million for drugs and other remedies was obtained from the report of Ruth Walrad, which was made in 1961. Included in this amount is the sum of \$250 million, which was estimated to have been spent for products that were falsely and misleadingly advertised.

The National Health Survey has done some experimental tabulation of data on arthritis as part of a multiple diagnosis. It is well known that in the older age group, particularly, arthritis is usually but one of multiple conditions. To get the true socio-economic impact of arthritis, therefore, one must consider not just those cases in which arthritis is the primary disease, but, also, those in which it is associated with other illnesses. These statistics are extremely difficult to interpret, at the present time, and discussion would not be profitable. They do present a challenge for the future, and the National Health Survey is trying to work out techniques and means by which the various multiple diagnoses on patients can be evaluated.

As far as the indications of indirect costs are concerned, they must be tremendous. The recommendation of our

Workshop with respect to a detailed study of the indirect, or economic, costs of arthritis is significant in this connection. Data are not available at the moment for estimating the indirect costs of this long-term illness. To do so, correctly, would necessitate taking into account losses in output that would range from the time of the onset of the illness. We would estimate the present value of future losses and would

Table I Persons with arthritis or rheumatism, by age, sex, and activity limitation, United States, July 1961—June 1963. (Civilian noninstitutional population)

Age and sex	Number persons with arthritis or rheumatism (in thousands)	With activity limitation due to arthritis or rheumatism	
		Number persons (in thousands)	Percent of total
Total	12,668	3,300	26.0
Under 65	7,661	1,641	21.4
65 and over	5,009	1,659	33.1
Males, total	4,400	1,202	27.3
Under 65	2,655	623	23.5
65 and over	1,744	579	33.2
Females, total	8,268	2,098	25.4
Under 65	5,003	1,018	20.3
65 and over	3,265	1,080	33.1

Source: Unpublished data, and chronic conditions and activity limitation, United States, July 1961-June 1963. Estimated annual average. U. S. Department of Health, Education, and Welfare, Public Health Service Publication No. 1000-Series 10, No. 17, May 1965. Washington: U. S. Government Printing Office.

compute the losses that are associated with the person, or child, who contracts the disease at an early age. We would also take into account his future losses, in terms of a spread over a period of time.

There is, however, one figure that should be emphasized. This is the number of work-loss days of patients who are usually working—12 million. This figure does not include the housewife.

Table II Percent distribution of persons with arthritis or rheumatism who are limited in activity, by age and sex, United States, July 1961—June 1963. (Civilian noninstitutional population)

Age and sex	Persons with arthritis or rheumatism who are limited in activity	
	Number (thousands)	Percent distribution
Total	3,300	100
Under 45	327	10
45-64	1,314	40
65 and over	1,659	50
Males, total	1,202	36
Under 45	120	4
45-64	503	15
65 and over	579	17
Females, total	2,098	64
Under 45	206	6
45-65	811	25
65 and over	1,080	33

Source: Chronic conditions and activity limitation, United States, July 1961-June 1963. Estimated annual average. U. S. Department of Health, Education, and Welfare, Public Health Service Publication No. 1000-Series 10, No. 17, May 1965. Washington: U. S. Government Printing Office.

In reality, these statistics can give but an indication of the problems. A great deal more information is needed if a better delineation of areas for greater concentration of efforts is to be obtained. What can be done, and what needs to be done, is shown very effectively by the background studies in the economics of heart disease, cancer, and stroke, which were prepared prior to the DeBaKey Report.

Table III Persons with arthritis or rheumatism who are limited in activity, by degree of limitation, United States, July 1961—June 1963. (Civilian noninstitutional population)

Degree of limitation	Persons with arthritis or rheumatism who are limited in activity	
	Number (thousands)	Percent distribution
All degrees	3,300	100
With limitation, but not in major activity	714	22
Limited in amount or kind of major activity	1,888	57
Unable to carry on major activity	697	21

Source: Chronic conditions and activity limitation, United States, July 1961-June 1963. Estimated annual average. U. S. Department of Health, Education, and Welfare, Public Health Service Publication No. 1000-Series 10, No. 17, May 1965. Washington: U. S. Government Printing Office.

Recommendations

It is recommended that a much more detailed study of economic costs be made, as a concomitant activity to further planning of means of overcoming the effects of arthritis.

The details of medical care could not be discussed by our Workshop. It was recognized, however, that the care of the arthritic patient represented a continuum of services that involve diagnosis, medication, and rehabilitation, with its physical,

Table IV Persons with arthritis or rheumatism who are limited in activity, by family income, United States, July 1961—June 1963. (Civilian noninstitutional population)

Family income (annual)	Persons with arthritis or rheumatism who are limited in activity	
	Number (thousands)	Percent distribution
Total	3,300	100
Under \$2,000	1,269	38
\$2,000-\$3,999	764	23
\$4,000-\$6,999	605	18
\$7,000 and over	478	15
Unknown	184	6

Source: Chronic conditions and activity limitation, United States, July 1961-June 1963. Estimated annual average. U. S. Department of Health, Education, and Welfare, Public Health Service Publication No. 1000-Series 10, No. 17, May 1965. Washington: U. S. Government Printing Office.

mental, and social aspects.

The increasing degree of disability with the length of time of the disease gives rise to the conviction that early diagnosis and treatment, with continued supervision, could limit the effects of later disability. This, of course, has been the dominant theme of this conference. Even though such comprehensive care, given early in the disease, would result in increased initial expenditures, it was our belief that this would be more than offset by the de-

Table V Comparison of persons with limitation of activity from arthritis or rheumatism with total population, by family income and age, United States, July 1961—June 1963. (Civilian noninstitutional population)

Annual family income and age	Total population (in thousands)	With activity limitation due to arthritis or rheumatism	
		Number persons (in thousands)	Percent of total
Total	¹ 181,964	¹ 3,300	1.8
Under \$4,000	56,390	2,033	3.6
Under 45 years and over	34,897	114	.3
45 years and over	21,493	1,919	8.9
\$4,000 and over	115,056	1,083	.9
Under 45 years	87,299	200	.2
45 years and over	27,757	883	3.2

¹ Includes unknown incomes.

Source: Chronic conditions and activity limitation, United States, July 1961-June 1963. Estimated annual average. U. S. Department of Health, Education, and Welfare, Public Health Service Publication No. 1000-Series 10, No. 17, May 1965. Washington: U. S. Government Printing Office.

creased need for more comprehensive and expensive services later in the disease. It should be emphasized that while this was the deep conviction of the Workshop, nobody knows whether this will, indeed, be true.

It is recommended, therefore, that studies should be undertaken to evaluate the extent to which early diagnosis and treatment would prevent, delay, or limit disability from arthritis.

Such studies should include the role of

Table VI Estimated expenditures for arthritis and rheumatism (annual).

Item	Amount (millions)
Total	\$645
Hospital care (short-stay hospitals)	\$ 60
Physicians' visits	150
Drugs and other remedies (nonprescription)	435

Table VII Estimated work-productivity loss to national economy because of arthritis or rheumatism (annual).

Item	Amount (millions)
Total	\$520
Among arthritics who work but lose time because of arthritis	220
Among arthritics who are unable to work because of arthritis and who receive disability benefits	300

early hospitalization, as one of the methods of control, of management, and of patient education.

This recommendation recognizes the need for further studies to make more feasible the early detection and diagnosis of those patients who would become disabled.

An attempt was made to arrive at the cost of disability, particularly with some estimate of the direct cost that confronts the patient with disabling arthritis. It was recognized, immediately, that these data were not available. And the advisability of making it available was incorporated into the first recommendation.

Nevertheless, some figures were arrived at that are of interest. The initial medical workup, for example, was estimated at between \$35 and \$150. This was obtained from a practicing physician. The data from the outpatient department at one volunteer hospital in New York City indicate that the average cost to the patient for the initial workup is \$100.

Continuing medical care, based on the need for weekly visits for, say, gold injections, was estimated at from \$20 to \$50 per month. Hospital costs for active beds was averaged at around \$40 a day, although there

is a wide variation in costs in this area.

There was discussion of those types of minimum care units that would cost less. This area needs a great deal more exploration.

It was recognized, by the way, that the shorter the hospitalization of the patient, the greater the per diem rate to the hospital. There was discussion as to how hospital rates were set. The multiple factors that are involved in this topic were so complicated that no recommendations were made.

Apparently, there are no reliable figures that apply to the arthritis patient who is treated in the outpatient clinic. One figure, however, was obtained from the Los Angeles Welfare Department, which pays six dollars a visit.

There was consideration of the role of the nursing home and of its changing status. With the increased services that nursing homes are attempting to give, both in diagnostic and rehabilitative measures and in other functions, there is obviously a change in rate schedules. At present, the average nursing home cost is anywhere from \$200 to \$250 a month, and this is low. It should be mentioned, in this connection, that the majority of such nursing

homes, as opposed to hospitals, are proprietary. There is an attempt, at the present time, to achieve a closer working relationship between nursing homes and hospitals, although there are many problems associated with this.

There was also discussion of home care services. This type of service, with its multiple functions, can play an important part in the care of the arthritic patient. Fifty-five percent of the population of the United States lives in areas that are supplied by such services. But less than one percent of this population actually receives such services.

Even though the need for home care services is probably much greater than we think—how much greater, nobody knows—it cannot be met because of the gross inadequacies of staff and facilities at the present time. Certainly, a study should be conducted in this area.

The average cost per visit for home care services was four dollars in 1964. This was an increase of over five percent from the preceding year. So, here again, increasing costs are associated with the care of the patient.

Arthritic patients in a Philadelphia study received, on the average, the largest num-

ber of visits of the various disease groups, including hypertensive heart disease. On the average, the arthritic patient needed 22 visits per year.

It is recommended, therefore, that means of extending home care services should be explored.

A particular problem, which should require greater recognition and further study, is that of providing household assistance. Also, of equal need are means to combat isolation and the problems of the chronically ill older person who lives alone. Further experimentation should be done with means of providing methods of contact with community resources.

The problem with the very poor is the fact that they are not sophisticated enough to seek help. An added problem with the aged is that they become withdrawn. They have ambulation problems, to which their arthritis contributes. The need for more meaningful data on community resources for these people is apparent.

The payment of medical care comes from many sources. These include direct payment; insurance that is provided by the sponsor, such as Blue Cross or Blue Shield; insurance from commercial sponsors; insurance from independent or consumer

sponsors, such as HIP (Health Insurance Plan of New York); governmental or tax supported insurance, which includes welfare, veterans, vocational rehabilitation, and crippled children programs; and, of course, Medicare.

Approximately 129 million persons, about 70 percent of our population, are covered by some form of voluntary health insurance. Sixty million persons have Blue Cross and 50 million have Blue Shield. It should be noted, however, that much of this coverage is very limited and that of those who are over the age of 65, only 50 percent are covered. In the lower income groups, coverage is even less. And insurance that is provided for these people is grossly limited for services other than those that are provided in the hospital.

The arthritic is particularly concerned with problems that occur in areas that are related to the chronicity of the disease and to treatment that takes place outside of the hospital. This applies, especially, to such things as ambulatory care, home care, rehabilitation, nursing homes, chronic beds, chronic bed care, and, in general, diagnostic services and drugs.

It is recommended, therefore, that encouragement be given to the exploration

of means of achieving flexibility of insurance mechanisms. These mechanisms should include an appropriate welding together of both public and private financing to cover the full range of care, including the home, ambulatory, hospital, and rehabilitation needs of the arthritic patient and of persons with chronic disease, generally.

It was mentioned that such a plan should probably contain a deductible clause. It could not be expected to cover everything, however, primarily because of the increased costs to the insured, in such circumstances.

Since a large proportion of all arthritic patients have inadequate incomes, there is a need for tax support to cover a full range of care for many patients. Among plans to provide this support is H.R. 6675, the pending legislation for health insurance for the aged. If this legislation is enacted, it may be helpful to the aged section of the economy. But it will not solve all of the needs of the chronically ill patient. This brings up the question of how much of the gross national income can be allocated to health care. Of course, nobody knows. At the present time, approximately six percent of our gross national income does go into some form of health care.

This is much higher, as a matter of fact, than it is in such countries as England, where, even under a socialized medicine scheme, four percent is spent.

It is assumed that in a society as affluent as our own more of the gross national product could be spent on health care—perhaps, up to 10 percent. This, of course, would depend a great deal on other factors, such as expenditures for defense. It was believed that there should not be fragmentation of the provision of health and welfare services by disease or patient pedigree; rather, there should be collaboration of a sort that would lead to coordination of health services, where geographic location is the determining factor.

It was pointed out that, at the present time, a social worker really needs an advanced college degree to comprehend and manipulate all of the many “ifs, ands, buts, and maybes” that he encounters in the various services that are offered. The patient must be either blind, but not lame, deaf, but with no gastric ulcers, Presbyterian, but not United Church, or one thing, but not another, if he is to qualify for care.

There is an obvious need for coordination, and there are many channels through

which it can be achieved. It may be brought about by one of many organizations with a wide interest in the community. These include the community health welfare councils, hospitals, and local health departments.

It is recommended that further study and exploration be given to the matter of making the extensive health and welfare services of the core, or central, community available to the satellite regions for purposes of forming a coordinated and cooperative program.

It was pointed out that health services are frequently stopped at city boundaries, which, in the modern organization of urban areas, have little real meaning.

Such available services should include a wide range of treatment and care disciplines, including physicians and associated professions—volunteer health and welfare agencies, hospital and related institutions, and governmental agencies, including public health and welfare departments and vocational rehabilitation services.

Health services should be included under the present antipoverty campaign. At the present time, health services frequently are not even considered in this campaign.

The Workshop ranged over a wide va-

riety of topics. They did consider one final recommendation:

It is recommended to the Surgeon General that arthritis be recognized as a major health problem to the Nation that warrants a concerted effort to overcome it by all available means.

Discussion

DR. REDFORD: I really appreciate this report because I think it reveals a lot of things that I may have had questions about for a long time.

One point you made, though, that you did not have any figures on the cost of rehabilitation services, somewhat surprised me, because there are such figures. I am sure that the Vocational Rehabilitation Administration can give them to you. I think, for instance, that the cost of these services is considerable.

One program that I know of in Minneapolis has what we might call a model program, with very comprehensive services for all disabilities, including arthritis. The cost comes to about \$55 a day. I think we ought to think about this a little bit. This is pretty high priced and it may be rather significant.

DR. STILLMAN: During our Work-



shop sessions, all of us physicians were concerning ourselves with the economics of patient care and with the problem of cutting down on costs by rehabilitating people or by getting them out of the hospital quickly and into a cheaper facility. But one person said that we may actually increase the cost of care—very likely increase the cost of care to the whole community. He said, though, that the worth of a program should not be measured by its cost, alone, but by what it accomplishes for the individual. This man was a lawyer who is now directing a Blue Cross Plan, which I thought was very interesting.

DR. LAMONT-HAVERS: Yes, I think the emphasis was on the fact that we cannot keep saying that because of our increased technology we are going to decrease the amount of money that is being spent for health. We are going to have to face the fact that we are going to have to increase the amount of money that is spent for health. But the population will be healthier, yes.

Review of Surgeon General's Workshop

By Cornelius Traeger, M.D.

I was asked to come to this meeting to act as sort of an elder statesman, to review the results of your labors, and to define any gap areas that may have been overlooked. My assignment was to cover all the Workshops. I managed to spend about two hours with each of the Workshops, and I hope I was able to sense the trends that were developed in each of them.

Before I get into details, there are a few ideas that I would like to discuss with you. About one-half century ago the problem of arthritis was simple. If you had arthritis and you had a lot of money, you went to a spa. If you were poor, you went to a clinic where you were given a large box of salicylate tablets and a pint bottle of oil of wintergreen and told to come back in

six months. Since then, we have come a long way. But a wide gap area still exists; and that is the distance between the laboratory and the bedside. I hope that, as a result of this conference, this gap will be narrowed.

You must remember that arthritis begins, and is, in the patient. The disease falls into four definite classes: the ambulatory patient, the patient with walking aids, such as the cane or crutch, the wheelchair patient, and the bedridden patient; and each of these presents a special problem. These cannot be dealt with en masse. In other diseases, such as tuberculosis, diabetes, and incipient glaucoma, it is easy to run mass surveys. The same is true of cancer detection clinics. Early detection in these mass programs has been most successful.

These techniques are not feasible in dealing with chronic arthritis. This is an individual business. Attempts to develop arthritis registries or to devise means of finding susceptibles are fraught with all sorts of difficult and, perhaps, even insurmountable complications and would involve an enormous effort, in terms of personnel, criteria, storage, retrieval of information, etc.

Because of the nature of the disease, the

first place where the patient seeks help is not always the family doctor. It is quite frequently the corner druggist. He is the man to whom the patient goes for a bottle of liniment or a box of pills, or for some remedy that he has heard about on the radio or television. Sometimes he goes to a spa or to a chiropractor. Frequently the first contact the arthritics have with their physician may come after the disease has been present for a few years. The differential diagnosis is not simple. There are 66 different diseases which have as their presenting symptoms pain, swelling, and limitation of motion. They are not all arthritis; and it is in this area of differential diagnosis that the romance of arthritis manifests itself; it is here that the teacher can make his first impact on the student.

I was surprised by the omission of quackery in these deliberations. Quackery does not exist in such diseases as diabetes and pneumonia. Quackery thrives only in an area where the etiology of the disease is unknown and where there is no specific therapy. Quackery thrives in cancer, in many of the neurological diseases, and it certainly thrives in arthritis. One would suppose that quackery could be eliminated by public education. Unfortunately, this

has not been true. "Information, such as we have, is and has been reaching the public for the past ten years in all media. The preparation and formulation of authoritative information in the field of arthritis has been well accomplished. The channels of this information have been well-developed." Public apathy with respect to arthritis simply does not exist. That the public is motivated and is interested in the problem of arthritis is indicated by the fact that this same public spends millions of dollars a year in quackery and nostrums. Why? Simply because the public is discouraged. They see no progress in the scientific field. They are frequently discouraged by the lack of knowledge and the lack of interest when they visit the doctor. The public is confused by the lack of agreement among doctors with respect to the various types of therapy. Unfortunately, we all know this to be true. There is still controversy among rheumatologists with respect to steroids, gold, phenylbutazone, splinting, and even salicylates.

"What is really needed is to arrive, if possible, at some agreement regarding early diagnosis and specific therapy. Many of our concepts of therapy need accurate evaluation. If and when such agreement is

achieved, the next order of business is an educational program."

This program must begin in the clinical years of the medical school. Inspired teachers can, at this level of medical education, stimulate sufficient interest in young medical students to arouse their curiosity and to develop in them a desire to follow through in this most important and fascinating area of medicine. It is from these young students that the Training Grant Programs will best obtain their recruits. The attempt to buy interest in arthritis by subsidizing postgraduate students has not been very successful. "The training of doctors depends on the trainer. The product that is turned out is worth support only if the trainer and the trainee are motivated by a scientific desire that cannot be equated in terms of financial support." You can't buy the man, and you really don't want such a person. The need today is for teachers who are knowledgeable and enthusiastic and who can transfer the excitement of rheumatology to their students.

As I have gone around the country to visit medical schools, I have found that the subject of rheumatic disease gets pretty short shrift. When I was on service at the Hospital for Special Surgery, we would

get two boys—a junior and a resident—from Cornell Medical School to rotate on our service. When they arrived on the Rheumatic Diseases Service, they knew only two things about rheumatoid arthritis: that gold was no good and that phenylbutazone was worse. Most of them were just ticking off the days until they could get off our service. Now, Cornell is a good medical school, and I consider Dr. Freyberg to be one of the best teachers of rheumatology. However, only rarely could we light fires under these boys. The only way we are ever going to get manpower is to develop, in the medical school, teachers at the third-year level with the ability to inspire their students with the romance, the importance, and the challenge that is presented by the rheumatic diseases. At one time, the Training Grant Programs of the National Institute of Arthritis and Metabolic Diseases included 49 Centers. Today, there are only 38; and recruitment remains the big problem. Why?

Almost all of the doctors here present were never recruited, were never subsidized. Nobody proselytized them. They came into this dreary field of rheumatic disease because they wanted to. If there had not been such men as Ralph Pember-

ton, Walter Bauer, and Phil Hench, this meeting might have been delayed 10 years hence. You are not going to make rheumatologists and you are not going to provide personnel by running up and down the highways and byways and bribing young men to come into a Training Grant Program, to come into a Research Grant Program, or to get into this field at all, because they are going to get paid. Unless they are moved, unless they have a feel for this dreary disease, there is no use getting them in the first place. It is very easy for doctors like Mike DeBakey to obtain recruits. Their field of endeavor is spectacular. Their patients are either dead or better in short order. But in the rheumatic diseases, responses to therapy are frequently very slow, and observation and progress reports may extend over several years. Patience, dedication, and genuine interest are necessary in this tedious field.

I remember being approached by one of the pharmaceutical houses to carry out a clinical trial of a new steroid. They asked me how long it would take to get this work done. When I replied, "Five years," they were not much interested, and neither was I. They finally settled for four years. The rheumatic diseases are a dreary business;

and if you are not geared to thinking in these long terms, it is best to stay out of it entirely.

To my mind, there is no greater challenge to the medical student than the one that is presented by these diseases. It is at this point that one can light the spark. The further along a medical student gets in his career, the less interest he is apt to have in the rheumatic diseases. The further along he gets, the greener the pastures look in the fields of cardiology, gastroenterology, etc. Our efforts as senior citizens (I am talking about myself, now) should be to look for the great teachers in the medical schools and to get them to seek out those students whom they think could be inspired to go on to work in rheumatic diseases.

With respect to training, Dr. Whedon indicated that training grants for research include clinical investigation. "Please do not go away with the idea that there is some rigid barbed wire fence around the Training Grant Program of the National Institute of Arthritis and Metabolic Diseases against the investigation of patients as supported by the Training Grant Programs." This is true; but the Training Grant Programs' directors are still loath

to take trainees who are primarily clinically oriented. This is a real gap area that needs further clarification and extension.

Another gap area has to do with the continuity of patient care. What so frequently happens is that a patient comes to a clinic, a history is obtained, and a physical examination is performed. (And I must say that in most of the clinics I have visited the history and physical are very well done.) Then there is the laboratory work and the X-ray studies and, occasionally, in a case of special interest, a clinical conference is held. At this point, all too frequently, the patient is seen on his return visits by another physician who happens to be on duty that day. This is especially true if the patient is referred to either physiotherapy, vocational therapy, psychiatry, etc. The original doctor may not see this patient for a long time. It is my firm belief that it is the doctor's responsibility to followup his patients until the relationship is finished, either when the patient is discharged, when he moves to another locality, or when he succumbs to some intercurrent disease. This is the only way for the physician to learn about the natural history of the disease and the efficacy of his treatment.

It is only by these means that reliable and authoritative knowledge can be presented to the physicians of this country. "The physician is charged with the key role in the management of his patients. All plans for care center about the patient, and his needs are the general responsibility of the physician working with other professional personnel who will meet the needs as they arise."

In this connection, it is important that the physician be thoroughly knowledgeable regarding the availability of all community resources. The physician must make real efforts to find the ancillary resources that are afforded by the community and to use them to their fullest extent.

And now we come to statistics. I do not believe that statistics in arthritis are at all meaningful. We talk glibly about twelve million arthritics. These are really only people who think they have arthritis. A little over three million would be a more realistic figure, since this number includes those who have definite limitation of activity. In any event, statistics are not truly important. If statistics were meaningful at all, the common cold would occupy the sole attention of medical science, and we would have to stop building automobiles and good roads.

The problem of establishing regional centers and satellites was discussed in great detail. The whole problem is fraught with many complications and difficulties, which were adequately discussed. I agree with several of the Workshop Chairmen who suggested that it might be easier and wiser to examine all of the presently existing facilities for the diagnosis and adequate treatment of the arthritic—to evaluate their strengths and their weaknesses. The strong ones could be made stronger, and the weaker and less efficient ones could very easily be brought up to the level of the first-rate clinics. This will do away with committees, coordinators, etc. It will make diagnosis and treatment accessible to all patients in all localities. It will be much cheaper and much more efficient in the long run. "Existing programs need to be supported, strengthened, and coordinated and expanded to geographical areas where

they are lacking. To build along the strengths and bolster the weaknesses of what we have now is important and practical."

In some of the other discussions, a suggestion was made to attempt to curtail the advertising claims of salicylate derivatives, so commonly heard on radio and television. This, of course, is not our province at all. This is the job of the Federal Trade Commission's Bureau of Deceptive Practices.

In closing, I want to make one other remark, and that is that we talk a great deal about cooperation between the rheumatologist, and physiatrist, the occupational therapist, the vocational counselor, the social worker, etc. The truth is, however, that we don't cooperate with them. How often do we discuss a problem case with a social service worker? How often do we discuss problem cases with the psychologist or psychiatrist? How often do

we go to the plaster room and discuss the problems of splinting to correct deformity? The answer: We don't! But we keep talking about it. We come to meetings and talk about team work and collaboration, but, for the most part, that is all we do about it. I think the only answer is that all ancillary medical and paramedical personnel should make it a point to heckle the clinician.

This conference was called "The Surgeon General's Workshop On Prevention of Disability from Arthritis." We have talked about everything else, but I suppose that is only natural. But much more has, and will, come out of this meeting. With clear vision and an intelligent evaluation of the facts and the suggestions that were placed before our Group, I predict great progress in the alleviation of the sufferings of our arthritic fellow citizens.

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