No form of state, regimented, or mass production medicine can ever replace the primary vital factor of medical care — that is the function of the mind of the individual physician through the process of contemplation and cogitation whereby he alone, or with other minds, helped by apparatus and other aids, diagnoses the condition and then outlines the orderly procedures of treatment along lines of knowledge with the wonderful hospital facilities and implementations and expert, kindly nursing care.

— Dr. Edward W. Sprague,
Response to Edward J. Ill Award, 1945.

As the Medical Society approached its 175th anniversary in 1941, the *Atlantic City Press,* as in many past years, was preparing a special edition on medicine and health, honoring the doctors of the county and state assembling for another convention in the resort city. There were ample statistics attesting to the Society's achievements in improving public health. The average individual in 1940 could expect to live to age sixty-four—fifteen years longer than his counterpart of 1900.[1]

Dr. Charles H. Schlichter of Elizabeth credited these achievements to the physicians' determination to move ahead in gaining better health for all. "It was the spirit of the early men of medicine who were ready to throw off the belief of yesterday and accept the teaching of today that has given us the marvelous record of progress and scientific achievement of the past fifty years," he said. "Diphtheria, scarlet fever, gastro-enteritis (the so-called 'summer complaint' in infants), trachoma, typhoid fever, yellow fever, tuberculosis, syphilis, malaria and appendicitis are no longer scourges. We may all take a pardonable pride in the work of our profession to benefit mankind. We live longer and under better conditions than did our parents and grandparents, all due to the unselfish, altruistic spirit that has motivated our profession and made it the respected one it is." [2]

The physicians' work was far from done, however. Still to be conquered were cancer, heart disease, cerebrovascular accidents, and mental illness.

While Society anniversaries had often sensed the militancy of the country's mood, this time war was visible and audible as the physicians crowded into Haddon Hall or slipped out for a brisk stroll on a Boardwalk bristling with cannon. On the famous white-sand beaches, "the Forty-fourth" grimly practiced defense of the shore-line. Anti-aircraft maneuvers and the sight and sound of mortars and Army vehicles were the backdrop for the convention in 1941.*

The Selective Service Act of September, 1940, had required the registration of all men between the ages of twenty-one and thirty-five and provided for the induction of 900,000 men annually for a year's military training. Again the health of selectees concerned physicians, who found only half

* As for major anniversaries in the past, war clouds are heavy on the horizon as the Society's two hundredth observance approaches. United States military action in Vietnam already has necessitated medical doctors at the front to serve the sick and wounded.

the 23,000 New Jersey registrants meeting the requirements of America's peacetime Army. Dental defects caused more than one-fourth of the 12,000 rejections; eye defects accounted for another 1,800.[3]

Jackson-Whites

The gross deficiencies found in military examinations of earlier war periods were less frequently seen. For the first time, improved transportation and communications enabled Uncle Sam to summon draftees from the remote settlements of America. The young men of the "Jackson-White" settlement in New Jersey's Ramapo Mountains lined up at the draft board offices in larger numbers than ever before. Drs. Spencer T. Snedecor and William K. Harryman of Hackensack, examining Bergen County men, had an exceptional opportunity to note certain hereditary physical traits in the men from those isolated communities. They found polydactylism and syndactylism — additional fingers or toes, sometimes fused or webbed to others, as well as a disproportionate tendency to albinism.

The heritage of these mountain men was nearly as old as the Society. The Ramapos afforded shelter and a vicarious livelihood for Hessian deserters during the Revolutionary War. While the men were garrisoned in New York, an English sea captain named Jackson was commissioned to bring in a cargo of women. He delivered a motley group, chiefly derelicts from the London streets, possibly shanghaied. Those who fell ill and died enroute were replaced by Negresses from the West Indies. Some of these women, with the Hessians, fled to the mountains which already sheltered remnants of Indian tribes and runaway slaves.

Intermarriage, exclusion from conventional community life, inadequate housing, dietary deficiencies, and lack of education were general. Drs. Snedecor and Harryman learned there had been traits of albinism and the extra fingers and toes in the early nineteenth century — more than a hundred years before. The latter were transmitted by both parents and developed in about half the second and third-generation children and in seven out of nine in the fourth generation, even when each mating was with a normal individual.[4]

In many cases, surgical correction was possible, and the young Ramapo men served in World War II. When they returned home, they brought a desire for improvement, and a recognition that education, steady employment, adequate housing and diet could mean a better way of life.

Long-range goals of community health were important to the members of The New Jersey Medical Society, too. They were determined that even if war came to the United States they would not lose sight of these ultimate aims.

Dr. Thomas K. Lewis of Camden, newly elected president in 1941, advised the profession to "stop talking about socialized medicine in the abstract and do something concrete." He urged his fellow practitioners to cling fast to two fundamental principles: that high-grade medical care must be universally available, and that there must be no impairment of the free practice of medicine.

Recognition of the accomplishments of individual physicians working together in the Medical Society came from the state legislature on May 20th,

1941, with concurrent resolutions of commendation from the New Jersey Senate and the Assembly.

Dr. Wells P. Eagleton underlined the importance of the communication. "No other state society," he said, "has ever received such a commendation for its work for the health of the people, for the benefit of the people, by the legislative bodies of the state. . . . It shows that gradually the legislators . . . have begun to realize that whatever The Medical Society of New Jersey has advocated has been for the good of the State of New Jersey. In my opinion, this is the greatest compliment that has ever been paid to the work, the spirit and the activities of the Society." [5]

President-elect Dr. Elias J. Marsh of Paterson recognized the compliment as also a charge for continuing responsibility and performance. He prompted the Society to make its own pledge to the profession for the years beyond the war. He asked for the establishment of an endowment fund for the support and encouragement of original investigations by Society members to compensate for the lack of generally available teaching or research institutions in the state.

The endowment fund also would serve to spur the scientific interest and work of the members of the Society at home. In addition, Dr. Marsh said, he wanted to encourage the development of every hospital in the state as a teaching hospital because of the stimulating effect on the staff, the resulting benefit to the patients and the discussion of the best scientific technique among the non-hospital staff members in the profession. In the following years, Dr. Marsh's suggestions were carried out in various ways.[6]

The proposal of the endowment fund was evidence of the financial stability the Society had attained in its second century. No longer was it necessary for the treasurer to report "good" money and "bad" money or to ask for personal donations when Society delegates attended conferences outside the state.

At the 175th anniversary meeting in 1941, Dr. George J. Young of Morris County reported the state Society had a cash balance of $60,600; M.S.N.J. and A.M.A. assessments totaling $64,261 and total receipts of $142,673. The annual state dues were $16.

In 1965, as the Society neared completion of two hundred years, Treasurer Dr. Daniel F. Featherston reported a cash balance of $223,063; M.S.N.J. and A.M.A assessments totaling $562,465, and total receipts of $812,934. The state dues were $40. Membership in The Medical Society of New Jersey on January 1, 1965, totaled 7,316. In the same month, the *Directory* of the A.M.A. listed a total of 8,954 physicians in New Jersey—a proportion almost precisely the same as the fourteen "signers" out of seventeen medical men present for the founding of The Medical Society of New Jersey in 1766.

Foretaste of war

For Morris County residents and physicians, a foretaste of war came on September 12, 1940, when an explosion at the Hercules Powder Co. near Kenvil killed fifty-two and injured many more. As in other disasters, the medical men later reviewed procedures. The Morris County Medical Society heard reports from Dover Drs. William F. Costello, Augustus L. Baker, and others. Dr. F. Clyde Bowers of Mendham summarized the findings for the

state group. A definite plan for handling disasters was essential, he said, with specific functions designated to the Medical Society, the hospitals, the Red Cross and laymen. Experience from the Hercules explosion showed that fractures should be splinted at the scene of the accident, and when possible pre-reduction X-rays taken. Even without previously formulated routines, Morris County medical men and others working at the scene won high praise. Despite obstacles and difficulties in carrying out normal sanitary and precautionary measures, there were no cases of tetanus or gas bacillus wound infections.[7]

Medical preparedness was increasingly emphasized as anxiety arose that the United States itself might be attacked. By October, 1940, physicians felt the Society's most acute problem was the part to be taken by the profession in the defense of the nation. A year later, as the Japanese struck at Pearl Harbor, theoretical propositions became academic: the problem was at hand.

The Society in wartime

Dr. Watson B. Morris of Springfield, Society president, was suddenly confronted with the burden of certifying medical personnel for more than 200 draft boards, a dozen advisory boards, and, at one time, as many as four induction stations. An outstanding man for the job, Dr. Morris in 1948 would complete fifty years of practice and be designated by Governor Alfred E. Driscoll to represent New Jersey at the First Western Hemisphere Conference of the World Medical Association in Richmond, Va. At the outbreak of World War II, Dr. Morris appointed a committee for the draft board work headed by Dr. Charles H. Schlichter of Elizabeth. The difficult job was done so promptly and efficiently that citations came from officials of both the Selective Service System and the War Department.

Dr. Schlichter served in a dual capacity as Chairman of the State Procurement and Assignment Service and also of the Committee on Medical Preparedness. An advisor to the Procurement and Assignment Service was appointed in each county, and he provided the names of medical men who enrolled with a view to immediate commission in the Armed Forces.

When the war started, the Committee on Medical Preparedness became the Committee on War Participation, and Dr. Schlichter continued as chairman. In 1944, he reported that 2,000 medical men from New Jersey, including non-Society members, were serving in the Armed Forces. Of the total Medical Society membership of 4,328, 30 per cent were in uniform. Dr. Schlichter assured New Jersey civilians that their ratio of homefront physicians was adequate however, since the federal government had determined that a safe minimum for the United States was one physician to each 1,500 civilians. Even in peacetime, he added, many nations had no more than one doctor for 1,700 to 2,000 people.

Dr. Schlichter had seen service in the Spanish-American War and in World War I, and during the latter was for a time the commanding medical officer at Camp Dix. After World War I, he was made a colonel in the Army Medical Reserve Corps and a member of the New Jersey Defense Council. In World War II it was natural that he should for the third time serve the nation.

As a specialist in eye, ear, nose and throat diseases, he was on many committees of the state Society and on national boards for sight conservation. For nearly half a century he had served the community on the Board of Water Commissioners, where he undertook a strong personal campaign for mosquito extermination, inspired by his association with General William C. Gorgas in the Spanish-American War. At his death in 1948, one colleague remarked that Dr. Schlichter was "one of the grand old men of a grand old age; an age when doctors could be healers, public spirited citizens, top-notch administrators and – in every sense of the word – gentlemen."

Like Dr. Morris, Dr. Schlichter recognized the many advances in medicine, even between World War I and II. He was able to report that lives were being saved in the front lines. Of every one hundred wounded in World War I, about fifteen died; in World War II, only three of every one hundred wounded were lost. "Our young men are doing their work on the fringe of battle and are doing it well," he said. "They are administering plasma right where the man falls, and they are doing operative work only a few hundred yards further back." Quick air evacuation to hospitals continued the effective medical care.

The toll of medical attendants was inevitably higher, and attention to the needs of members' families at home was a continuing responsibility of the Society. It was one of many duties added along with increased case loads, delays and shortages of civilian supplies, extra calls for community service and added complications from travel restrictions.

Those physicians who remained at home in 1942 urged the governor to reconvene the Governor's Health and Welfare Conference and to direct an immediate and continuing study of all wartime health needs of New Jersey citizens so that specific measures might be taken to increase and maintain a high degree of physical fitness, essential for victory in the war.

The Medical Society also agreed to participate in an experiment to provide for medical care of the families of men in service. Payment for such care was to be made by the government when the military man's dependents themselves were unable to pay.

The Society suspended the dues of members in military service as a token of its appreciation of the sacrifice they were making.

Dr. George A. Wildman of Trenton was the first Society member to lose his life in combat in World War II. He died during an amphibious landing behind the German lines in the Volturno River section of Italy. Among those killed in France during the battles of October and November, 1944, were Dr. Edmund S. Kanses of Rumson, Dr. Harry Paul Singley of Ventnor, and Dr. Edward J. Hackett of Westfield. Dr. Amos A. Plante of Maplewood died in an Army plane crash in France. Dr. Orrin F. Crankshaw of Wyckoff, previously wounded and a recipient of the Bronze Star for treating soldiers under heavy enemy fire, lost his life in the front lines in Germany. Dr. Howard B. Mason of Freehold died as the result of a heart ailment suffered while on duty in the South Pacific. As always, New Jersey physicians served valiantly in every branch of military service, practicing their healing art at battle posts around the world.

In the state Society office, as in business and industry, women were asked to assume the duties of the men who were absent. The services of Mrs. Edith

L. Madden, acting executive officer (1942-47), and Mrs. Miriam N. Armstrong, assistant editor (1940-62), were particularly noteworthy.

Annual meetings of the Society during the war years were continued with difficulty. In 1942, Under Secretary of War Robert P. Patterson permitted a three-day session in April at Haddon Hall, with certain restrictions. "The partial blackout of Atlantic City has been ordered to provide safer passage of ships which would be silhouetted against the bright light of the city," he explained.

Transportation further complicated the problem in 1943, so an evening and one-day convention was scheduled at the Essex House in Newark. Many members came by bus or train.

Trains also carried the delegates to Atlantic City in 1944 for meetings at the Claridge and a tour of Haddon Hall, which was serving as England General Hospital for convalescing servicemen.

Only a token session of the Society was held in Atlantic City on May 23, 1945, as the War Committee on Conventions prohibited a gathering of more than fifty. Permission for even a one-day meeting of the House of Delegates was denied, so the nominating committee and Board of Trustees alone maintained the continuity of Society conventions. In 1946, peace had returned and a three-day session was permitted. The following year, Governor and Mrs. Driscoll accepted the invitation to join the members of the Society at their banquet session in Haddon Hall. It was the first time the state's chief executive and his lady had attended a meeting of The Medical Society of New Jersey.

In his address, Governor Driscoll called the members of the Medical Society "part of New Jersey's Board of Directors." Referring to the reorganization of the Department of Health under the new state Constitution, he added that he anticipated new projects designed not to promote socialized medicine but, on the contrary, to promote sound public health. "I consistently oppose socialized medicine at all levels of government. I have an abiding fear of big government," he added. To out-going President Dr. Frank G. Scammell, the Governor said, "The whole state respects you and respects the office which you have held. The whole state is glad that we have the fine men and women who make up our Medical Society. Your welfare is our welfare. Your interest is the welfare of our citizens. Your service is a great service to the state, to all of its citizens." [8]

First emergency hospital

Preparation for medical care in case of emergency was advanced in August, 1942, with the establishment of Emergency Base Hospital No. 1 at Gladstone. It was a two-story carriage house on the 6,000-acre estate of Mrs. Charles Suydam Cutting, who converted it at a cost of about $750,000 and presented it to Dr. Schlichter, State Director of the Emergency Medical Service, and Leonard Dreyfuss, Director of the State Defense Council, for use in case civilians had to be evacuated from metropolitan hospitals. It afforded space for 300 to 400 beds, and Dr. Schlichter described its facilities as better than those in many hospitals. Staffs were to be loaned from Jersey City, Newark and surrounding areas, with nurses' aides from Somerset and Morristown hospitals. Future bases were scheduled at Drew and Princeton Universities, Lyons Hospital and other sites in the least vulnerable areas near urban populations.

More meaningful internship

Established hospitals in New Jersey at this time had a total of about 42,600 beds, 16,500 of them in general hospitals, 3,600 for tubercular patients, and 4,500 for chronic and convalescent patients.[9]

All were experiencing a shortage of help, and particularly a lack of interns. Dr. Schlichter personally called on deans of medical schools in a search for interns. He knew they were in such demand that they could "shop" for the hospital that would offer them the most learning opportunity. He and his committee on intern training recommended a detailed program of continuing education with practical experience during internship, calling for cooperation between the attending staffs and administrators in the hospitals.

This thoughtful and farsighted plan brought praise from Dr. Malcolm T. MacEachern, associate director of the American College of Surgeons, who wrote: "Your plan is excellent because it will be state-wide, it will standardize internships to a practical extent. . . . It is what we need in every state in order to keep internships on a proper level." [10]

At a time when staff shortages in hospitals were severe, Dr. Roland T. deHellebranth of Ventnor made a helpful discovery based on careful records. Getting patients out of bed in the first days after major operations, he found, meant fewer complications and an earlier recovery and return to work. Military practice confirmed the findings, and hospital stays since World War II have been notably shortened.

Qualifications are criteria

Representatives of the New Jersey State Medical Association, an organization of 128 Negro physicians, accepted an invitation to appear before the Welfare Committee of the Medical Society in 1944. The Association indicated its members could relieve some hospital staff shortages, but it felt that as a minority group Negroes were not given sufficient opportunity to practice medicine in the hospitals. Once again, as it had in the 1870's, the Society declared proper qualifications were the one essential for medical practice. Although the Society admitted that final appointments rested with the administrative authorities of each hospital, its Medical Practice Committee in 1945 officially recommended that the privileges of participation in hospital work be granted to qualified Negro physicians. In the years since, many hospitals have added qualified Negroes to their staffs. The Society has never classified its membership by race or nationality, but the energetic participation of its Negro members has been noteworthy.[11]

Children's welfare

While solicitude for children is basic in society, it is often intensified in wartime. Physicians extended particular consideration to youngsters who had been sent from overseas to relatives and friends in this country.

Coincidentally, it was a time when the essentials of "Tender Loving Care" gained professional status in New Jersey and the nation. The treatment was prescribed in all seriousness. Dr. Ralph Neil Shapiro of Newark found a simulated mental retardation in babies who lacked an emotionally adequate environment. Those in institutions or in other physically satisfactory accommodations, who did not receive personalized attention, were dull, apathetic and unresponsive. Motor habits were retarded, and temper tantrums

alternated with shyness and withdrawal. A woman acting as a "mother substitute" effected remarkable improvements within two months. Babies given such care became more robust and alert, with improved motor, adaptive and language behavior. The enriched emotional environment resulted in healthier, brighter babies.[12]

A camp for blind children was established in Morris County in 1948 with Essex County Drs. Royal A. Schaaf and Harrold A. Murray among the prime movers. The camp was unique in concept, affording the children experiences in outdoor living, athletic training and team work, along with specialized instruction, wholesome food and medical supervision.

At the same time, New Jersey was experimenting with a mobile eye health service, using a specially designed bus staffed with an ophthalmologist, assistants and diagnostic equipment for the examination of patients, particularly children, in rural school districts lacking such facilities. The Sight Conservation program was sponsored by the New Jersey Commission for the Blind and jointly endorsed by the Department of Education and the Medical Society. The Woman's Auxiliary actively promoted the program.

Childhood diseases gained attention as Dr. Israel J. Wolf at the Barnert Memorial Hospital in Paterson introduced the use of massive doses of Vitamin D in the treatment of rickets, and the Child Health Committee of the Medical Society secured a full-time pediatrician to direct the state program for the prevention and control of rheumatic fever.

Military medicine aids civilians

Medical services first tried in war were put to use for both children and adults in civilian life as soon as supplies were available. One device was the stainless steel Stader External-fixation Splint for bone fractures. Devised by a veterinarian, it had been tried successfully on animals in 1926 but had gained wide use only after Pearl Harbor. It was made in several sizes for both military and civilian use.

Tantalum was one of the metals "gone to war" until intercession by the Johnson & Johnson Research Foundation obtained release of sufficient quantities to permit civilian as well as military physicians to use it in repairing bones, cartilage, and other tissue defects. Unsightly drooling from facial paralysis was corrected by use of tantalum thread to tuck up the corners of the mouth. Cleft palates were repaired using tantalum mesh, and motor nerves in arms and legs were sutured with the same metal.

Blood plasma was widely used for the first time in World War II, and it was promptly adopted for peacetime needs as the military demand lessened. Dr. William D. Creece, president of the Essex County Medical Society in 1946, proudly reported his county as the first to operate a central blood and plasma bank and to be licensed by the National Institutes of Health. The Essex County blood bank in that year was serving 800,000 people and functioned with the endorsement and cooperation of several civic organizations; including local Red Cross chapters, private and public hospitals.

Before World War II, the Rh factor was unknown. It was important therefore, in 1946, to have Dr. Frederick P. Lee and members of his laboratory staff at Paterson describe their procedures and results in making Rh determinations for the blood bank of the Passaic County Hospital. Of 749

specimens tested for the hospital blood bank, they found 14 per cent were Rh negative, and these specimens were used to form a nucleus for the hospital's Rh negative Donor's Club.[13]

In 1956, the Blood Bank Committee of the Bergen County Medical Society reviewed experiences and made recommendations. It was formed in 1949, but with the outbreak of the Korean War, its first efforts were directed to the needs of the national blood program and the American Red Cross. In 1952, with the help of interested lay people, the committee was able to study the idea of a centralized blood bank for civilian use. A basic plan, modeled after the community blood bank, was adopted by the Bergen County Medical Society. The blood bank was to be controlled by medical and lay representatives, and was to be non-profit and self-sustaining from fees kept on a unit-cost basis to be paid by the patient. Although the method of repayment was optional, blood replacement was encouraged. The success of the program prompted the Bergen County Medical Society to recommend regional centralized blood banks in New Jersey, sponsored by one or more county medical societies, with strong lay support. The State Department of Health was suggested as the agency that could establish standards for the technical control of blood banks.

In 1957, Dr. Kenneth E. Gardner of Bloomfield called attention to the increasingly important role of blood banking in the health of every community, estimating the blood used at about one pint for every twenty-five persons in the state. The need for uniformity, he said, was first recognized by the New Jersey Society of Clinical Pathologists who brought it to the attention of the Medical Society. The Board of Trustees then authorized the Society of Clinical Pathologists to study the problems on a state-wide basis. It also was recognized that any such state project should be integrated with the Civilian Defense program. The result was the New Jersey Blood Bank Commission.[14]

A committee in each county medical society studied local needs and problems. In 1960, Dr. Nathan S. Deutsch of Plainfield, president of the Union County Society, reported that a credit system had been established with the approval of the National Institutes of Health, to assist patients both in and out of the county.[15]

Various systems of collecting, processing and storing blood were tried and in 1963, the State Department of Health was made responsible for the control of blood banking in New Jersey.

Writing in *Public Health News* in July, 1964, Dr. Roscoe P. Kandle, State Commissioner of Health, urged strengthening of the volunteer donor system in local communities. "The risk of hepatitis from blood secured from commercial donors is appreciably higher than from that secured from voluntary donors," he said.

Dr. Kandle estimated that blood banking in New Jersey was a million-dollar-a-year business with 117 licensed blood banks and about 170,000 units of blood available annually for transfusions. He said 41 per cent of the blood was purchased from commercial donors or out-of-state sources, 12 per cent came from community blood banks, 18 per cent from the Red Cross and 29 per cent from hospital blood banks. The need for volunteer blood donors

to reverse this trend was underlined by the 90 per cent increase between 1961 and 1963 in units bought from commercial blood banks.[16]

Hepatitis, leprosy and malaria were appearing in New Jersey in the war years, chiefly carried by military personnel. Hepatitis was discussed with Medical Society members by doctors from Halloran General Hospital (Staten Island, New York) who found that blood serum occasionally contained a virus responsible for the disease. Malaria and leprosy were associated with tropical climates, although Drs. J. J. Greenglass of Paterson and Irving Silverman of Clifton found New Jersey averaging about one case every second year, prior to World War II. In subsequent years, cases occurred with somewhat greater frequency as increasing numbers of inhabitants from semi-tropical islands migrated to the United States and settled in the industrial centers along the Atlantic Coast. Quinine continued in use for malaria, with the synthetic anti-malarial drugs – atabrine and plasmochin – proving their worth during the war. Scientists developed D.D.T. and other insecticides to destroy mosquito larvae in breeding places.

On the home front, too, physicians were finding more modern ways to combat age-old diseases. Scarlatina, for instance, was treated as a systemic infection by Dr. Lawrence H. Rogers, who had retired from surgical practice in later life to become the much-loved superintendent of the Donnelly Memorial Hospital in Trenton. Convinced that scarlatina was but one form of a streptococcosis which could occur with or without skin rash, Dr. Rogers treated the patient and exposed contacts with sulfadiazine to prevent absorption of toxins and ensuing damage. In this way he reduced mortality rates and eliminated serious complications. In erysipelas ("surgical scarlatina") he used local disinfection of the wound and streptococcal antitoxin to eradicate the infection.[17]

In 1945, the Nagasaki (Japan) Unit of the Commission for Investigation of Effect of Atomic Bombs was stationed at Shinkosen Hospital, a converted schoolhouse damaged by bombing. Major Samuel Berg, M.C., A.U.S., of Newark, *center front*, was in charge.

Veterans' prosthetics

Again, as at the end of World War I, Dr. Henry H. Kessler was recognized for his outstanding contribution to the rehabilitation of the war injured. He was cited by the United States government and presented with a $1,000 award in 1944 for his development of an artificial arm and the accompanying operation permitting use of live muscles. From his post as chief of staff at the Hasbrouck Heights Hospital, he had entered active service in 1941 as a Navy Lieutenant Commander. After fifteen months in the South Pacific, treating casualties from Guadalcanal and New Georgia, he was transferred to a U. S. Naval Hospital on the West Coast and placed in charge of orthopedic rehabilitation. Shortly after the end of the war, he was instrumental in the establishment of a new American Board for the Certification of the Prosthetic and Appliance Industry, Inc. Designed to protect veterans and others needing artificial limbs and braces, prosthetic makers had standards established by the Board. These included two years of special training and one year of experience, under qualified supervision, or four years of actual experience.

The electroencephalogram as a useful diagnostic tool in suspected mental disease was introduced in 1929. Dr. Morton M. Stern of Newark, in 1946, described its potentials and limitations. He believed that it would be of value to the internist as well as to neuropsychiatrists. He particularly recommended it where there were vague or conflicting symptoms, since abnormal tracings would point to organic disease. "It is of great value," he said, "in the diagnosis of epilepsy, the localization of brain tumors and head injuries." E.E.G. tracings proved important too in patients with headache, dizziness, fainting spells, convulsions, drowsiness and other symptoms pointing to cerebral dysfunction.[18]

Medical care for veterans

Long before the war was over, New Jersey medical men pondered the best way to provide continuing health care for veterans. As always, they were determined that there should be free choice of physicians and avoidance of regimented medical care. The plan proposed by the Monmouth County Medical Society was so well devised that it was approved on a trial basis by General Paul Hawley, Chief Medical Director of the Veterans Administration. It became the prototype of all subsequent arrangements between the Veterans Administration and state medical groups.[19] Basically, it provided that a veteran with a service-connected disability could consult his own physician and that the physician would be reimbursed by the government.

Monmouth County President Dr. Otto R. Holters initiated the study in 1944 when he appointed a committee to work with the Monmouth County Veterans Service Committee to consider the needs of men returning to civilian life. E.R.A. had proved that it was feasible and desirable for patients to have a free choice of physicians, with those physicians submitting appropriate reports entitling them to government payment. The Monmouth County plan went on trial in November, 1945, and after nearly three months the state plan was signed. An essential service was Monmouth's sorting clinic, established with the approval of General Hawley and composed of specialists to determine the medical needs of returning veterans. The specialists, led

by Drs. William G. Herrman and Granville L. Jones, gave their services free from October, 1945, until March, 1946. Free services also were contributed by two hospitals, by nurses and by the Monmouth County Social Service staff. Veterans Administration agreements with the Medical Society altered the needs, but the V.A. renewed arrangements for the Monmouth clinic when difficulties arose in getting area men examined. In reviewing the arrangement in 1947, Dr. Edward T. Yorke, of Linden, the Society liaison officer, said, "There is more to the idea than the simple project of examining veterans for pension. As the plans are being established in other counties, patterned after the one in Monmouth, they are opening a way for the Veterans Administration to carry a load which it could not handle under any other circumstances. More veterans will be examined; more physicians will be called upon to make examinations. . . . The medical profession in the counties has met the need and has maintained the integrity of its own physicians in dealing with government." [20]

On a larger scale, the Medical Service Administration, acting for the Medical Society, signed a contract with the Veterans Administration on January 29, 1946, providing for medical care of veterans with service-connected disabilities by the private physicians of the veterans' choice. At the time the arrangements were completed, an estimated 142,000 New Jersey veterans awaited examination for service-connected pensions. A fee schedule was established, ranging from $3.25 for the house visit not exceeding three miles from the office to $10.80 for an electrocardiogram with interpretation; and $5.40 for a clinical laboratory culture examination for bacteria or fungi.

New drugs appear

While analytical laboratories were called upon to confirm a diagnosis of tropical fungi brought from equatorial jungles, research laboratories, given impetus by the war, continued to investigate and refine those so-called "miracle drugs" that had been an essential factor in victory and had proved their efficiency in maintaining life and health in otherwise unwholesome climates and regions. In civilian life, chemical therapy was controlling a number of common diseases as well as the rare ones carried from remote corners of the world.

Sulfa drugs had been launched after initial observations on a bacteriostatic dye, prontosil, in 1935 by Dr. Gerhard J. P. Domagk, in Germany. There were toxic effects, however, and in 1937, more than seventy people in America died after taking "Elixir Sulfanilamide." A chemical in the elixir, not the sulfonamide itself, was identified as the poison. There was no way that the most careful reader of labels could have been forewarned of the danger, because a listing of the contents of the elixir was not then required.

In 1934, a joint committee of the Medical Society and the New Jersey Pharmaceutical Association devised a means of informing the two professional groups about new medicines. They initiated publication of the *New Jersey Formulary*. Its purpose was to standardize new and non-official remedies of proven worth until they could be added to the *U.S. Pharmacopeia*, then published at ten-year intervals. The *New Jersey Formulary*, based on the *U.S. National Formulary*, gave physicians uniformity of dosage and flavor in a definite formula that provided the advantages of a proprietary while it reduced the cost and the tendency to self-medication.

Laboratory studies on sulfonamides were carried out by many pharmaceutical houses. These resulted in a family of sulfa drugs effective within certain limits and with notable precautions. Sulfathiazole was perfected and proved in large-scale tests, becoming known as the five-day cure for gonorrhea. In February, 1942, Surgeon General Thomas Parran of the U.S. Public Health Service credited it with the potency to cure 80 per cent of all gonorrheal infections. Of the remaining 20 per cent, he said, many could be cured by a repeated course of the same drug.[21]

Less than a year later, Dr. J. Lynn Mahaffey, director of the New Jersey State Department of Health, and Dr. Glenn S. Usher, chief of its Bureau of Venereal Disease Control, jointly reported on their findings and offered a new service to the physicians of the state through the use of the state laboratory for cultures for the detection of gonococci. There were then twenty-six gonococcus culture stations in the state. The importance of tracing the source and contacts of infection was emphasized as the means of stopping the spread of the disease.

Sulfonamides and related substances were the subject of an address at the 1944 annual meeting of the Medical Society, when Dr. Benjamin W. Carey, director of the Lederle Laboratories, Inc. of Pearl River, New York, identified sulfamethazine, sulfapyrazine, phthalylsulfathiazole and others. Remarking upon their wide use he said, "A striking commentary on the rapid strides taken in the field of chemotherapy may be made when it is considered that [the sulfa drugs] all developed within the past five years, have become so familiar that it would seem odd to describe them as new." [22]

However, it was penicillin, even more than the sulfas, that captivated both the medical profession and the public. In the mid-1940's, *Journal* advertising sections were crowded with full-page displays by the leading pharmaceutical manufacturers. With salesmen at war, the companies relied on the *Journal* to carry information on the mold product first noted by Sir Alexander Fleming of England in 1928. Produced in great quantities for use as an antibiotic in World War II, penicillin proved effective against staphylococcus, streptococcus, gonococcus, meningococcus, and pneumococcus, because it was non-toxic; moreover, it could be given to infants and children as safely as to adults. Penicillin was a weapon so effective against pneumonia that within a decade that disease was pushed from third to eighth place as the leading cause of death. By 1960, there were fewer than 1,800 pneumonia deaths for the entire state population of over six million. In 1935, with four million residents, pneumonia and influenza had claimed 3,000 lives.[23]

Two other deadly diseases of the past, diphtheria and whooping cough (pertussis), in 1942 were getting a double knockout with a combination that provided immunization against both. While New Jersey physicians reported that reactions from the combined antigens were no more severe than from the use of diphtheria toxoid alone, they agreed that three or four injections at monthly intervals would be a wise precaution until longer experience assured them there were no inherent dangers or side-effects from larger doses. Subsequently, tetanus toxoid (alum-precipitated) was added to diphtheria toxoid and pertussis vaccine to provide "triple" immunization of infants against three dread diseases.