"Medicine today is a profession whose interests either touch upon or embrace nearly all the vastly ranging concerns of man. Like Francis Bacon, the average practicing doctor must frequently feel that he can claim 'all knowledge as his province.'"

— Richard I. Nevin, Executive Director,
Report to the Society, 1953.

The immediate postwar years showed an absorption in materialism — housing for the veteran and his family, home equipment and automobiles that had been unavailable while metals had "gone to war." But the frenzied gaiety of the 1920's was missing, and, by 1950, it was clear that a war was to be fought in Korea. Numerous young doctors moved from internship and residency to the battlefield. Many homes included a bomb shelter, sometimes designed to serve as a recreation room until needed for survival.

Besides the comforts of the well-fitted shelter, there were other evidences of an affluent society. A New York State physician founded the Physician Pilots Association in 1955. Six years later, Dr. James Garofalo of West Caldwell announced a meeting of the Flying Physicians of New Jersey to be held in Atlantic City. Trampolines and other "bouncing" devices were so popular in backyards, play parks and gymnasiums that medical publications warned of their danger. Spinal cord damage with paralysis of arms and legs in several instances followed attempted backward somersaults on the contraptions.

Another trend of the times was shoe-fitting by X-ray, which physicians warned was unnecessary and particularly hazardous for children because the fascination of the X-ray caused prolonged radiation exposure.

Chlorophyll green

In 1951, Dr. Frederick S. Taber of New Brunswick carried out a series of tests and confirmed the effectiveness of chlorophyll in reducing menstrual odors and possibly other body and breath odors. Since chlorophyll is relatively non-toxic and no untoward effects were reported in the tests, he believed the usual dosage of one tablet four times a day could be increased for a brief interval.

Soon, toothpastes, chewing gum, patent medicines, and even dog biscuits were featuring the chlorophyll green additive which would, in the hyperbole of Madison Avenue, give the whole world of humans and pets immediate social acceptance!

The "communication media"

In a society where census takers counted more television sets than bathtubs, it was inevitable that physicians would protest the practice of unlicensed medicine that was booming on television screens. Dr. Robert B. Martin of Montclair commented in the *Journal* in 1959, "Subjects usually

discussed in the consultation room are aired with barroom candor . . . the implication of medical advertisers is that [the doctor] has already heartily endorsed the product. 'Approved by doctors everywhere' or 'endorsed by leading hospitals' are oft-repeated phrases . . . the thought occurs to me that doctors are being used, bilked, and hornswoggled, for we are indelibly linked with the pain-free, burp-free vistas of the television medical men."

At the same time, medical men commended the CIBA Corporation for the use of television channels to reach a nationwide medical audience on a professional level. Closed-circuit television was frequently employed to provide front-row seats in the operating room.

Perhaps the most common problem of all in the prosperous mid-twentieth century was obesity, with the concomitants of diabetes, hypertension, atherosclerosis and other ills. The wise words of aristocratic Dr. Nicholas Belleville were recalled in this connection. In the early 1800's, he had told how a group of fourteen Trenton friends, drinking and gormandizing, had commented on his leanness and his abstemious and careful habits. As he had forecast, all of the fourteen died long before he did. He remained alive and well to the advanced age of seventy-nine. On the matter of overeating, the French-born physician remarked, "In France, when I was there, men ate to live, but in this country, it seems to me, people live to eat. With a small piece of meat once a week, the people in France were satisfied. Here, every man's market basket must hold, daily, meat enough for a regiment." [1]

Better medical care

The war in Korea continued from January, 1950, until July, 1953, but the ratio of practitioners in civilian life was greater in the 1950's, thanks to the lessened scope of the conflict and the enabling legislation that had given World War II veterans assistance in continuing their education. In 1958, the A.M.A. reported the most notable increases in the number of physicians occurred in New Jersey, Puerto Rico and Tennessee. In no state was there a marked decrease.

Partly because doctors were available, people consulted them more frequently. The Health Information Foundation in New York found that in the 1930's more than half the people went a year with no medical service. In the 1950's the interval was six months. Because many modern diagnostic tools were not transportable, and auto travel was time consuming for physicians, better service and more complete treatments became available at the doctor's office. In 1930, 40 per cent of the physician contacts were in the patients' homes; by 1960, only 8 per cent were in the homes.

With better medical care, the death rate per 1,000 dropped from 15.9 in 1900 to 2.5 in the 1950's. Physicians said that the number of deaths among children under five years of age was one of the recognized indices of the degree of civilization attained by a community. It also indicated to some extent the degree of efficiency attained in the local sanitary administration. By such criteria, New Jersey medical practitioners had notable accomplishments. In diarrheal diseases of children, for instance, an average of 21.46 per 1,000 died in the years from 1879 to 1898; an average of 9.54 per 1,000 in the early 1900's; and by the 1950's, only 1,878 children in the entire 2,000,000 population — less than one per 1,000 — died from such causes.

The main causes of death for all ages in 1900 were pneumonia, tuberculosis and diarrhea – gastro-intestinal disorders; in 1960, the chief killers were heart disease, cancer and cerebrovascular lesions. In fourth place was a combined listing of influenza, bronchitis, and pneumonia, the last-named including pneumonia in the newborn.

In 1952, Dr. Harrold A. Murray listed among health needs, providing of hospital beds for acutely ill patients. With crowded conditions in many facilities, he recommended a plan for the effective use of all hospital space. He also sought the encouragement of home care with nursing and homemaker services for the chronic and subacute cases. Other needs of the chronically ill, including alcoholics, demanded the attention of the Medical Society, he added.

Dr. Elton W. Lance of Rahway in 1955 reiterated the need for a program to care for the aged and chronically ill. How well his recommendations were heeded could be measured in the remarks by Dr. C. Byron Blaisdell of Asbury Park in 1960. As chairman of the Council on Legislation he reported, "New Jersey's geographic and communications advantages, the ratio of hospital beds and trained and qualified health professions, the number of nursing homes, first-aid squads and volunteer home-care programs afford a security to its citizens that can be matched in few states – and probably surpassed in none."

By 1960, general hospitals had expanded by 33 per cent, to a total of about 20,000 beds, and nursing homes for the aged had the highest standards in the nation. These, plus rapid, efficient emergency ambulance and first-aid squads, excellent highways and air travel, and distribution of hospitals, gave the aged a security in illness or accident unequalled anywhere in the United States, Dr. Blaisdell said.

While individual health was better, lives lengthened and medical care improved during the first half of the twentieth century, higher quality brought higher cost. Dr. Kenneth E. Gardner of Bloomfield discussed the economics of medicine in 1959, acknowledging greater cost both for medical care and for the education that enabled a physician to provide such care. Dr. Gardner estimated that the total investment in training a medical specialist ranged from $50,000 to $75,000 with no income during the preparatory period, which might extend as long as ten to fifteen years after high school.

On the other hand, while standard-of-living costs had risen 101 per cent since 1950, the cost of medical care, exclusive of hospital costs, increased only 87 per cent.

"For every $100 spent for medical and hospital care by the average family," Dr. Gardner added, "at least $200 is spent by the same family for tobacco products, cosmetics, and alcoholic beverages. . . . Excessive use of tobacco is a recognized cause of coronary artery disease, peptic ulcer, and cancer of the lung; cosmetics have been shown to produce many allergic conditions; and alcoholic beverages are known to produce chronic alcoholism with its associated mental, moral, and economic disintegration, along with cirrhosis of the liver!" [2]

The inconsistencies of the 1950's and 1960's were cited by Dr. Jerome G. Kaufman of Maplewood in a presidential address in 1963. "These are

the best of times," he said, "because never in the history of civilization have members of our profession been able to render so many saving and almost miraculous services to our fellowmen. These are the worst of times because, despite the extension of the life span and the improvement of the average general health of our citizens, never have physicians been under more widespread critical attack than now. It is true we are not criticized for our professional incompetence or inadequacy because, even to minds antagonistically disposed, the record of triumphant performance makes undeniably evident that physicians and surgeons today routinely achieve results that were not dreamed of in the proximate yesterdays. Instead, we are blamed for not having been able, in the area of the cost of health services, to withstand the general inflationary trend. . . ." [3]

Doctors' fees, which caused perennial discussions through the entire 200-year history of the Medical Society, have become fairly standardized through rate scales developed first under E.R.A. in the 1930's and adjusted in succeeding years for uniformity in insurance payments, compensation cases and similar standardized allowances. This has helped to meet one recommendation made by Dr. Edward J. McCormick, president of the A.M.A. in 1954. In that year he encouraged average fee schedules as a basis for a vast majority of cases, expressing the belief that there had been as much public concern over the uncertainty of a fee for professional services as for the fee itself.[4]

Another reassurance for New Jersey residents was the continuing effort of the local medical societies to provide round-the-clock service. Counties varied the method according to the need. Some used a telephone exchange that maintained a list of available medical services for the community in emergencies. In less densely populated counties, regular practitioners rotated the stand-by responsibilities for weekends and holidays.

Dr. William H. Hahn of Newark in 1950 reported that at the suggestion of the Essex County Medical Society and the Newark Welfare Council, the County Service for the Chronically Ill had been organized. Physicians, dentists, nurses, welfare and social workers and representatives of local government worked together to develop the program. Financial support came from county chapters of the American Cancer Society, the Foundation for Infantile Paralysis, the Heart Association and from religious groups. The Service developed as a study, information and referral unit, leaving implementation of the program to existing agencies. Dr. Hahn believed that health maintenance centers, also proposed by the Essex County Medical Society, offered promise of eventual reduction in the number of chronically ill through prevention and early detection. Essex County had the further distinction of establishing the first Homemaker Service in the state, intended to provide home care for the chronically ill. The Auxiliary of the Society had an important role in the development of this program.

Other recommendations came to fruition at this time. Dr. James F. Norton, in his presidential report in May, 1950, mentioned the inauguration of new programs for improvement in medical welfare services, for polio control, public education regarding epilepsy and aid to the epileptic patient; a new code for autopsy procedures, and the initiation of a plan for the airing of grievances and the self-discipline of the profession.

Dr. Henry A. Brodkin had pleaded for facilities for the hard-of-hearing in 1948 as an integral part of rehabilitation. In 1953, the Henry C. Barkhorn Memorial Aural Rehabilitation Center was dedicated at the Newark Eye and Ear Infirmary. A second aural rehabilitation center was established in the same year in Newark at St. Barnabas Hospital, in conjunction with the cleft palate and harelip rehabilitation center. Through the two Newark facilities, speech and hearing abnormalities could be diagnosed, evaluated and treated.

A state Medical Society committee for conservation of hearing and speech, with Dr. S. Eugene Dalton of Ventnor City as chairman, in 1955 began a co-operative effort with the New Jersey Academy of Ophthalmology and Oto-laryngology. School and pre-school children were the primary concern, but the program was extended to older age groups also, in the hope of early detection and prevention of avoidable deafness and sight deterioration. Dr. Ralph A. Hall of Westfield in 1960 recommended audio check-ups as part of the routine physical examination.

Polio vaccines

In 1916, New Jersey had its worst epidemic of poliomyelitis; 1949 was another bad year, with 1,513 cases recorded and 121 deaths. For almost twenty years, hopes had stirred and ebbed as one vaccine after another failed to bear out its early promise. In 1954, the effectiveness of the Salk anti-polio vaccine was tested in Bergen, Cape May, Monmouth, Morris, and Warren counties. This time hope proved well-founded. A federal Poliomyelitis Vaccination Assistance Act of 1955 made funds available in ensuing years for the purchase of vaccine. The State Department of Health received the funds and made the purchases, distributing them to public clinics, child health stations and to private physicians through biologic distributing centers. In succeeding years, as Sabin oral vaccine became available, the logistical mechanism for mass feedings was established.

With a steady decline in cases reported, physicians and public health officers were showing guarded optimism that the means had been found to control another of mankind's dreaded diseases.

Shared responsibilities

A widespread participation in local public health programs developed in the 1950's. In Bergen County, the *Bergen Evening Record* and *Passaic Herald News* joined the County Medical Society in co-sponsoring public health forums. Audiences of 2,500 gathered for discussions of overweight, cancer, and modern medicine.

Communities took part in local blood banks. In Atlantic County, the Atlantic City Gas and Electric Company obtained a list of patients using iron lungs so that standby equipment could be substituted in case of a power failure.

The State Pharmaceutical Association and State Department of Health joined the Medical Society in establishing poison control centers offering round-the-clock service so that the active ingredients in thousands of poisons could be made known immediately and effective antidotes suggested.

Encephalitis

An outbreak of eastern equine encephalitis occurred in rural areas along the New Jersey seacoast during the late summer of 1959. The virus reservoir was apparently in pheasants and horses, and the vector in endemic mosquitoes.

Along the Jersey shore, where the golden days of autumn annually lure thousands of visitors, resort hotels stood empty, and the dune grass bent against the sand unnoticed by camera fan or artist. Few cars used the ocean highways, and if the gas tank ran low in that area, the motorist cautiously lowered his window less than a mosquito's breadth while he instructed the station attendant to "fill 'er up." Spraying against mosquitoes was scheduled twice daily, sometimes oftener, and teachers, store clerks, and others volunteered for this work in their free hours. In some counties, the fumes of kerosene spray were so potent that an inveterate smoker hesitated to light a match!

Public anxiety, stimulated by dramatized reports in the press, on television and radio, was soon allayed by facts and recommendations from the State Department of Health, organized medicine, and individual physicians. Appreciation of mosquito extermination programs was never so keen nor endorsement of further funds more enthusiastic.

In the period between August 17 and December 30, 1959, there were thirty-three clinically diagnosed cases of eastern viral encephalitis in New Jersey, mostly in children, with twenty-one deaths. All survivors suffered some degree of neurological damage.

Governor Robert B. Meyner said New Jersey had been both the victim and benefactor of state strength and resources. He spoke of the fact that while Dr. Daniel Bergsma served as Commissioner of the State Department of Health, he was a strong campaigner for better laboratory facilities for the study and identification of viruses. The governor urged the legislature to appropriate the funds, and the goal was achieved. "Then," the governor continued, "because we had this laboratory and a staff with curious and inquiring minds, and because we have in New Jersey physicians who are skilled in differential diagnosis, we identified early and confirmed the existence of eastern encephalitis among humans in New Jersey for the first time." The governor received letters and messages from all parts of the nation. He noted particularly the evidence of compassion from the public and a readiness to help in any way possible.

Physicians who had treated cases of encephalitis offered to share their knowledge. The United States Public Health Service, the Rockefeller Institute, Yale University and other agencies made specialists and facilities available to help determine the role of mosquitoes, birds, animals and humans in carrying the virus.

Dr. William J. Dougherty, Director of the Division of Preventable Diseases in the State Department of Health, noted that the affected communities were situated at the dividing line of salt marshes, fresh water swamps and second-growth woodlands. Veterinarian Dr. Oscar Sussman of the State Department of Health suggested that a number of circumstances combined to account for occasional outbreaks. Among these were a wet season, conducive to the propagation of mosquitoes, the density and movement of wild bird

populations, and the concentration of migrant birds near coastal areas. Subsequent studies by Dr. Sussman and others revealed the virus overwintering in deer mice and so destroyed some previous theories of a bird-and-mosquito cycle.

In January, 1960, when the New Jersey Public Health Association met in Princeton, the outbreak of eastern encephalitis was the theme of almost every report. Dr. L. Roberto Carmona of Tuckerton, a community of fewer than 2,000, described the six affected people under his observation, five of whom died. The sixth, who survived, was left with severe brain damage. Dr. E. Harrison Nickman, Chief of the Pediatric Department of the Atlantic City Hospital, reported on cases under his supervision and added, "One had the feeling that the press, television, and radio were more interested in giving a play-by-play description of a sports event than in assisting in the solution of a serious medical problem." One zealous television programmer asked permission to set up cameras in the room of a respirator case!

In a summary, Dr. Roscoe P. Kandle, New Jersey State Commissioner of Health, acknowledged there was much yet to be learned about eastern encephalitis. All were agreed that a coordinated and strengthened state-wide mosquito extermination program was necessary. The recommendations of the Medical Society more than half a century earlier and its pioneering efforts against mosquitoes were at last accorded full endorsement by professional and lay groups throughout the state.[5]

Hepatitis

The mysteries of hepatitis, with and without jaundice, prompted discussions among members of the Society with increasing frequency in the mid twentieth century. In the 1890's, brilliant medical detective work traced an outbreak of illness following a seashore convention to the eating of raw clams from a sheltered cove where untreated sewage drained. More recently, medical men and health officers declared that unless sanitary building codes were made more stringent, housing developments with improper or inadequate sewage facilities threatened to make New Jersey one vast cesspool. The problem came to the fore first along the seashore and necessitated the posting of polluted waters. Until they were apprehended by conservation officers or marine patrolmen, unscrupulous "bootleggers" harvested and sold shellfish from polluted areas. From time to time, outbreaks of one form of hepatitis have been blamed on this source.

In 1955, Drs. Carroll M. Leevy, Louise Fialkowski and Angelo M. Gnassi based their joint report to the Society on 184 cases treated at the Jersey City Medical Center between 1945 and 1953. The trio called control of viral hepatitis one of the major medical problems, because of the lack of effective prophylaxis, difficulties in diagnosis, absence of specific therapy and occurrence of fatalities and chronic liver injury in patients with the disease. Viral hepatitis might be due to oral-intestinal transmission or could be spread by inoculation, they noted. Contaminated water and food supplies were blamed for several epidemics of one type.

A second type resulted from contamination of laboratory materials or the injection of infected blood products. A paper in 1962 by Dr. Ronald Altman of Trenton gave general agreement and emphasized the possibility

that non-apparent infectious hepatitis (asymptomatic carriers) probably constituted a large source of transmission of the virus.

Medical-legal testimony

With the increasing complexity of industrial life in this urban state, the Society persisted in its efforts to develop better methods of obtaining medical testimony in court cases.

One approach to the problems of medical jurisprudence was the organization in November, 1956, of The Medico-Legal Society of New Jersey.

An early report of the organization explained, "Legal cases involving personal injuries require, for just disposition, the cooperative efforts of both doctors and lawyers. This applies both to proceedings in the regular courts and to actions before the Workmen's Compensation Bureau. Cooperative effort between doctors and lawyers is also needed in civil and criminal cases involving problems created by psychoses, epilepsy, or head injuries. To obtain justice for the public, both doctors and lawyers must not only understand the technics and principles which govern their professions in these matters, but they must be trained to cooperate with each other."

As noted earlier, the problem of obtaining impartial medical witnesses has been of concern to the Society for many years. Special committees and the Board of Trustees gave it their concentrated attention beginning in 1948. Conferences were held with representatives of the New Jersey State Bar Association and the New Jersey Supreme Court.

Dr. Luke A. Mulligan of Leonia reported that in 1959 the Medical Society had presented its plan to the Chief Justice of the Supreme Court of New Jersey and the Administrator of the Courts, urging a change in the rules of the court to permit members of a panel of impartial medical witnesses to be available at the call of the court. The panel, set up by the Society, "would examine and give testimony in cases in which there was marked divergence of medical professional opinion." A joint committee of the Court Rules Committee and the Medical Society was named to study the matter. Chief Justice Joseph Weintraub asked the group also to consider the possibility of a panel of doctors and lawyers to evaluate malpractice cases.[6]

After extended consideration, the Supreme Court adopted Rule 4:25A, providing for impartial medical experts, available at the call of the court, to be effective with the opening of the new term of court September 11, 1961. This provided that "the Rule will be applicable to actions instituted in the Superior and County Courts in Essex, Morris, Union and Warren counties to recover damages for personal injuries or wrongful death when the nature, extent, or cause of injuries or the cause of death are in dispute. The Administrative Director of the Courts will maintain a panel of impartial medical experts. The specialties to be represented on the panel and the number of experts in each specialty will be determined jointly by The Medical Society of New Jersey and an advisory committee appointed by the Supreme Court. The experts to serve on the panel in the several specialties will be designated by The Medical Society of New Jersey."

A list of eighteen specialties was submitted by the court's committee. The Medical Society cautioned that care should be taken to avoid nominating

physician-members whose practice involved such matters as extensive compensation work that caused them to appear frequently in court.

Chief Justice Weintraub urged that the panel be completed at the earliest possible date so that the three-year pilot experiment in the four counties could be started. In 1964, while acknowledging that little use had been made of the provision for impartial medical experts in the four-county test area, it was recommended that it be tried on a state-wide basis.

Geriatrics

The middle-aged and elderly have had increasing attention in recent decades as medical care and scientific knowledge extended the life span. With remarkable foresight, members of the Medical Society in 1850 had considered the effects of old age in physical and mental changes, memory, attention and reasoning.

In 1940, Dr. Frank Overton recommended that scientific programs of the county medical societies and the state Society include discussions on geriatrics. An issue of the *Journal* in 1948 noted there were now six times as many old people as babies, resulting in increasing work for cardiologists, cancer specialists, psychiatrists and urologists. "Geriatrics, in spite of its subject matter, must surely now be ranked as the youngest of specialties," the editor observed. In 1956, Dr. I. J. Sobel of Passaic emphasized the importance of hypertension as a geriatric problem. In the same year, the *Journal* quoted from an address by Dr. Eugene J. Houdry, American engineer and dean of catalytic scientists, when he said, "Catalysts in the human body hold the key to both cancer and the deterioration of aging . . . Oxidation enzymes are vital elements in the normal chemistry of life. They promote transformation of food into body energy . . . There is a remarkable similarity between organic enzymes and their inorganic counterparts, the industrial oxidation catalysts." He suggested that the effects of aging could be retarded by increasing the oxygen intake of the human machine.[7]

Governor Meyner called a conference on aging in 1959 and established a State Division of Aging. A second conference was scheduled by Governor Richard J. Hughes in 1965. The Medical Society, in 1960, joined with other professional agencies in the establishment of a joint Council on Health Care of the Aged.

Federal statistics in the 1960's showed that a group of one hundred Americans formed on the basis of age distribution in the United States, would have eleven under the age of five; twenty-six between five and eighteen; thirty-four between eighteen and forty-five; twenty between forty-five and sixty-four; and nine age sixty-five or older.

In New Jersey, more than 8 per cent of the population is over age sixty-five. By 1980, statisticians anticipate a population of 24,500,000 Americans over sixty-five, a 100 per cent increase since 1950.[8] Simply surviving a greater number of years is not enough, of course. The challenge to physicians and research scientists is to find ways not only to preserve but also to strengthen the aging person so that life can continue to be active and rewarding.

Modern medicine

Author Tom Maloney, writing about the American pharmaceutical industry in *The Merchants of Life,* mentioned the long-lived New Jersey guinea

pig living actively for 2,000 days—almost three times the normal span of 700 days—as evidence of what may be in store for humans through drugs, vitamins and hormone combinations. *New York Times* Science Editor William Lawrence predicted that the use of atomic medicine could enable people to reach the age of one hundred feeling as energetic as persons half that age.

Whatever medico-chemical wonders lay ahead, it was more than likely that a large percentage of them would be discovered or developed in New Jersey. Already the state was a recognized leader in pharmaceutical research. Dr. Selman A. Waksman of New Jersey was awarded the 1952 Nobel Prize in Physiology and Medicine for his pioneer work in microbiology, which led to such important antibiotics as streptomycin, neomycin, the tetracyclines and others.

The Rutgers Research and Endowment Foundation was launched through the generosity of Dr. Waksman and Merck & Co. of Rahway. A $3,500,000 building dedicated in 1954, was paid for entirely by royalties from streptomycin. Merck & Co. had provided Dr. Waksman grants-in-aid to continue his research at Rutgers. When he discovered streptomycin and its potential in combating some types of pneumonia and tuberculosis, as well as infections such as meningitis and tularemia, Dr. Waksman and Merck agreed that the patent rights for the discovery should go to the Rutgers Foundation. This they envisioned as a nucleus for graduate teaching and a world center for knowledge on microbiology.[9]

Older physicians recalled a time when one great discovery in medicine in ten years could be expected. By 1960, there were 400 to 600 new remedies a year coming from the medical research and pharmaceutical manufacturers, and of these at least ten annually proved to be notable.[10]

Many came from New Jersey where the chemical industry—including pharmaceuticals and research laboratories—holds top rank and has earned the state the title "Medicine Chest of the Nation." Within the state in 1965 were eighteen companies that were members of the Pharmaceutical Manufacturers Association, a national organization that accounts for about 90 per cent of the pharmaceutical sales of the country and an even greater proportion of the industrial research. New Jersey had more than six times its proportionate share of the 141 P.M.A. members.

In 1961, most of one issue of the magazine *New Jersey Business* was devoted to a review of this important segment of the state's economy. At that time, Dr. Kenneth W. Thompson, vice president for research at Organon Inc., West Orange, noted that many of the most important pharmaceutical developments of the last two decades had come from basic research conducted in the four counties of Middlesex, Morris, Union and Essex. Scientists in four firms, he said, had worked independently to produce many of the tranquilizers and anti-depressants in current medical use. Wallace Laboratories in Cranbury introduced meprobamate, a drug whose trade name Miltown, (named after a New Jersey community) is almost a household word. From Warner-Chilcott Laboratories in Morris Plains came two unrelated chemical compounds used in this general field of therapy—Nardil, an anti-depressant (psychic energizer) to relieve mild or moderate depression, and Pacatal for treatment of schizophrenia and other psychotic states.

Sandoz in Hanover was credited with the tranquilizer Mellaril; Hoffmann-LaRoche Laboratories in Nutley produced Librium for the relief of anxiety, nervous tension, hostility and other emotional problems, and Marplan, an outstanding anti-depressant. The same Nutley firm pioneered in synthetic and large-scale manufacture of vitamins, and in sulfa therapy with Madribon and Gantrisin used in urinary and upper respiratory infections.

CIBA, with its New Jersey headquarters at Summit, found a way to isolate reserpine from rauwolfia, a native plant of India. From the extract came the alkaloid Serpasil, effective in lowering blood pressure. Discoveries of hormone and tissue products have made Organon, Inc. a leader in still another field.

Merck, Sharp & Dohme are credited with important vitamins, vaccines and the first life-saving sulfonamides. Merck also was largely responsible for the early large-scale introduction of cortisone, a hormone that revolutionized the treatment of arthritis, allergies and a wide variety of illnesses. Diuril, (chlorothiazide) an oral diuretic effective against the water-logging of body tissues and a weapon in lowering blood pressure, was the result of sixteen years of research in Merck laboratories.

Parke-Davis & Co. in 1895 tested a digestive product, Take-Diastase, made by Dr. Jokichi Takamine of Japan. The chemist had been educated at Glasgow University and during a visit to the United States had met and married the daughter of an Army colonel. Through his acquaintance with Parke-Davis, Dr. Takamine later turned over to the company a product he had

The familiar story of penicillin and New Jersey's role in its development began in London in 1928 when Sir Alexander Fleming's cultures of *Staphylococcus aureus* were destroyed by a fortuitous negligence. A window had been left ajar and street dust drifted over the cultures, settling to form pencil-shaped spores of penicillium which produced a substance destroying the bacteria. The discovery was reported in 1929, but other research work had priority until wartime 1939, when penicillin studies were resumed.

Tried on "hopeless" cases of infection, the new drug was so immediately effective that the problem was to find speedy methods of mass production. Merck at Rahway, and E. R. Squibb & Sons at New Brunswick were two of the three chosen to meet the need. The third was the Charles Pfizer Co. of Brooklyn. In 1941, the first Fleming culture arrived at the Squibb Institute for Medical Research, and this New Brunswick site became the first to produce penicillin in deep fermentation tanks. Scientists at many developed which many had been seeking. Epinephrine was marketed for the first time in 1900 under the trade name Adrenalin. In the intervening years, it has been called one of the wonder drugs because of its efficacy in reviving a failing heart. The royalties that came to the Japanese chemist and much of the profits from his Takamine Laboratory at Clifton were used by him to improve Japanese-American relations. One visible effort was his gift of thousands of Japanese cherry trees, which still add a touch of spring beauty to many American cities. Dr. Waksman, the Nobel laureate, was employed at the Takamine Laboratory in World War I. After the founder's death in 1922, his two sons continued the laboratory until the death of one prompted the sale of the firm to Miles Laboratories, Inc. in 1956.[11]

facilities, including New Jersey's Radio Corporation of America, sought better means of processing the mold. These were found, and although adequate supplies were not available for civilian use until after World War II, local physicians were kept informed of progressive developments through reports and advertisements carried in the *Journal of The Medical Society of New Jersey*.

While microbiologicals and synthetic drugs were developed in the past quarter century, New Jersey's pharmaceutical work had started with such pioneers as Johnson & Johnson of New Brunswick, where research in antisepsis and asepsis began in 1888 with the earliest production of bandages, surgical dressings and products for the home and hospital.[12] It has held continued leadership in the field ever since. The first research director at J & J was Frederick B. Kilmer, father of the teacher and poet Joyce Kilmer, whose poem "Trees" allegedly was inspired by a mighty oak that grew not far from a present-day J & J installation on the outskirts of New Brunswick.

Leonard A. Scheele, senior vice president of Warner-Lambert Pharmaceuticals, Morris Plains, observed that the most rapid growth of the pharmaceutical industry in New Jersey and the nation occurred since 1935, and more specifically since the end of World War II. Between 1940 and 1953, came synthetic drugs against malaria, the first antibiotics, penicillin and streptomycin, drugs like isoniazid to combat tuberculosis, tranquilizers, psychic energizers, polio vaccine, oral antidiabetics, and steroid substances such as cortisone and its derivatives.

In the 1960's nearly one-tenth of the nation's 1,300 drug firms were located in New Jersey, and many of them served both the United States and foreign markets. They added well over $500 million to the state's gross production and employed more than 15,000 people, many of them physicians and research scientists, accounting for a payroll exceeding $90 million.

By 1970, Dr. Scheele said, the drug firm's annual expenditures for research were expected to reach $400 million to $500 million. High on the priority list of new products, he listed drugs affecting the central nervous system that would permit more effective prevention and treatment and cure of mental illnesses; drugs for the prevention and cure of heart disease and the cardiovascular ailments (high blood pressure and the circulatory ills, such as strokes and coronaries) ; chemical discoveries and cancer diagnostics to prevent and cure cancer; better therapies to control degenerative diseases and slow down the aging process; wider use of radioactive isotopes—not only in disease diagnosis, but also in treatment; drugs to treat alcoholism; and substances to decrease or prevent dental decay.

While there will be need for continuing research in medicine as long as disease exists, New Jersey has provided a remarkable climate for both basic scientific study and practical application of results. In addition to commercial establishments, laboratory facilities for pre-clinical sciences are provided in several universities in the state: large hospitals afford opportunities for clinical research, and specialized institutions—such as those for tuberculosis, psychiatric patients, and the Veterans Administration facilities—afford opportunities for research in chronic illness, long-term therapy, and other special fields.

The Society as coordinator

The major need was not for greater opportunity to do research, but for a means of giving it a sense of direction and balance, a service normally performed by a medical school. Lacking this, the Medical Society sought to some extent to fill this role. Its Medical Research Committee was established in 1952 to represent the Society in dealing with problems of medical research. Dr. Harrold A. Murray, then president of the Society, initiated the formation of the committee to focus attention on the research facilities available in New Jersey, to encourage medical research, and to make it clear that the Society had a positive program interested in all phases of health. The committee announced that, on request, it would act in an advisory capacity to potential research sponsors or to a facility such as a hospital contemplating a research activity. Experts would be utilized as consultants to the committee.

Initial work by the committee was the consideration of research evidence for the control of rheumatic fever and heart disease through early and adequate treatment of streptococcal infections and prophylactic treatment of individuals known to have had rheumatic fever. Other early committee sessions were concerned with field trials of poliomyelitis vaccine.

Heading the list of health needs and goals for the Society were attacks on the problem of mental illness, relief of the shortage of nurses, programs of rehabilitation, greater flexibility by states in the use of federal grants-in-aid for public health services, establishment of traineeships in public health, and extended research on air and water pollution.

Classifying mental disease as the No. 1 health problem of the world, Dr. Nolan D. C. Lewis of Princeton, in an address before members of the Society in 1956, said that while the only hope lay in research, more money was then being spent in studying the habits of the Hessian fly than in research on the human mind. He suggested two principal goals: to discover etiologic factors that would allow a direct attack on prevention and cure of psychoses and to determine and reinforce the capacity of people to withstand mental stress inherent in life. He reported the discovery at Tulane University (New Orleans, La.) of chemical protein substances in the blood of schizophrenic patients and noted the opportunity that tranquilizing drugs provided for patients to be treated inside and outside of hospitals.

A second guest speaker, Dr. Joseph M. Tobin, described the experimental program carried on at the State Mental Hospital in Trenton, which was enabling nearby patients to sleep at home and "commute" to the hospital for daytime treatment. Among the advantages were intensive psychiatric treatment to a selective group of patients with a minimal disruption of family life and consequent rehabilitation; closer liaison between the general practitioner and psychiatric facility; and the opportunity for psychiatric training and research at reduced operating cost in a tax-supported public institution.[13]

In the 1950's, Dr. Richard E. Gordon, Director of Englewood Hospital's Mental Health Unit, assisted by Katherine K. Gordon, his research assistant and wife, analyzed residential mobility in relation to emotional disorder in Bergen County and suggested that physicians take the lead, joined by other community representatives, in developing a more integrated community and in encouraging patients to re-evaluate goals, giving consideration to rewards other than merely the material.

In 1965, New Jersey announced plans for the first community mental-health center. It was to be built and operated with federal and state funds. Essex County was chosen as the site because it was found to have the greatest need. The center was expected to serve an area population of from 70,000 to 200,000 and was designed to include 120 beds for resident patients; part-time care for those who would stay either days or nights; twenty-four-hour emergency facilities; an outpatient clinic with special services for children and facilities for diagnosis, training, after-care and the administration of halfway houses and foster-home care.

An approach to mental disease through surgery was described by Dr. Harvey Bluestone of Cedar Grove in 1955. His study of prefrontal lobotomies performed at Essex County's Overbrook, the nation's largest county mental hospital, indicated a one-in-three chance of improvement in the violent behavior of chronic psychotic patients. Better results could be expected, he believed, if the lobotomy were performed earlier rather than as a last resort.

Surgical "first"

Medical Society members in 1955 were informed of other exceptional surgery by a team of Drs. Carl P. Guzzo, Charles Rich, Henry Wujak and Marilyn Cannon of the Surgical Service of the Martland Medical Center and the Pediatric Service of St. Michael's Hospital, Newark. They reported a dermoid ovarian cyst with torsion in a three-year-old child. It was the first such report in medical literature.[14]

Another case, only the second of its kind, was reported in the same year. It was scientifically identified as a papillary cystadenocarcinoma of a broad ligament by Drs. F. K. Bellucci, C. J. Ferri and Edwin H. Albano, all of the Departments of Pathology and Gynecology at Columbus Hospital, Newark. Dr. Henry A. Davidson suggested in the *Journal* that while malignancy of a broad ligament cyst was exceedingly rare, the case might arouse consideration of the etiology and possibly bring to light some others not previously reported. "It would seem that the prevailing opinion, that paraovarian cysts are innocuous, must be re-evaluated," he added.

More optimistic theories for surgery replacements also were developing as industrial processes held promise of freeze-drying human parts. In 1955, members of the Society learned that the F. J. Stokes Machine Co. of Philadelphia had perfected a freeze-drying technique to preserve arteries for grafting. Blood, bone, cornea and skin already had lent themselves to stockpiling, and in the near future, other tissues might be added.

Such possibilities prompted one physician to remark facetiously that it should not be long until the final triumph—a stock-pile of brains! But as Dr. Aaron E. Parsonnet of Newark wisely pointed out, in describing theories of practitioners of an earlier century, "It ill behooves us to laugh at some of their observations and conclusions. Remember that the future may laugh at us. Yet in their time, their theories and deductions were the order of the day, and though many of them were erroneous, they left some vestige of scientific truth to fire the imagination of generations to come."

Imagination is needed to solve some of the problems confronting modern man. One of the heaviest, literally, is the increasingly polluted air.

Even in the late 1800's, while physicians were still uncertain how to control and eradicate tuberculosis, they recognized the importance of clean fresh air. By the end of World War II, automobiles and factories had made air pollution a national problem. In 1952, Dr. Robert B. Marin of Montclair reported that "pollution of city atmosphere constitutes a health problem of the first magnitude and completely overshadows such factors as inadequate housing, overcrowding and poor nutrition." Dr. Frank L. Rosen of Maplewood described a three-day period in New Jersey in November, 1953, when atmospheric pollutants increased sharply. There was a three-fold rise in the number of bronchial asthma patients, yet he thought too few general physicians or even allergists gave enough consideration to the deadliness of air pollution. "It can kill quickly as it did 4,000 in London in one week in December, 1952; or 400 in London in one week in December, 1962. It can kill slowly with an earlier death from prolonged chronic illness like lung cancer, bronchial asthma, chronic bronchitis, or emphysema . . . The physician must initiate interdisciplinary conferences with other physicians, health officers, botanists, meteorologists, engineers and others," he said, "so that the urgency of this health problem can be related and research stimulated. The public must be alerted to demand appropriate funds for research and control measures against air pollution."[15]

Self-imposed ills

The harm people do themselves through excessive self indulgence—overeating, smoking, and the use of alcohol and narcotics—has caused physicians increasing concern in recent years. Almost a century ago, doctors had discussed the possibility that prescriptions using alcohol or narcotics could cause addiction and decided that the need and the results offset the remote likelihood of such effects.

The hypodermic needle was widely used by doctors after 1860, particularly for injections of morphine and its derivatives. For some physicians, there was rarely a day when the pain-relieving needle was not in use at least once. Drug addiction was discussed at the Society meeting in 1875, with digitalis suggested as a treatment of delirium tremens symptoms resulting from opium use. Chloral hydrate was advocated as a means of breaking the morphine habit. An elderly person may still recall running an errand, as a child, to buy laudanum at the village store for an aunt or neighbor with chronic "miseries." Such sales were halted by the Pure Food and Drug Act of 1906, and legislation in 1924 controlled all drug prescriptions that included narcotics.

In 1960, the Society showed its concern for the youthfulness of drug addicts. A *Journal* item reported that there were 195,000 known addicts in the United States in 1915; 70,000 in 1940 and 46,000 in 1960. But in 1940, the addict was middle-aged, while two decades later he was "probably male, in his mid-twenties and has been addicted to heroin since he was twenty."[16]

Legislative bills and discussions by special interest groups considered means of control and treatment in succeeding years. A *New York Times'* editorial in December, 1964, recognized the efforts of New Jersey's medical profession in the successful passage of Chapter 226, Laws of 1964. Entitled

"New Jersey Sets an Example," the article noted that "in New Jersey, legislators have taken a bold and humanitarian step toward a solution of the (drug addiction) problem. Governor Hughes has signed a law making New Jersey the first state in the country to offer convicted addicts, without restrictions, an opportunity of being hospitalized for sustained treatment instead of going to prison. In addition, any addict—in contact with the law or not—can get hospital treatment by voluntarily going into a hospital. . . . This effort is humane and psychologically sound—for doctors know the worth of encouraging the addict voluntarily to seek help. It is a bold attempt to find a medical solution for a medical problem."

In the same year, a Middlesex County delegate to the annual meeting of the state Society reported that his county group had been actively engaged in the study of the drug addiction problem in teen-agers, and proposed that the state Society "engage in a state-wide education program, in conjunction with our law enforcement agencies, to prevent drug addiction; and that the Society join and encourage the legislature in demanding more stringent laws concerning the imprisonment of people involved in the illegal sales of narcotics and drugs."[17]

In the 1930's members of the Society debated whether it was proper for their *Journal* to accept tobacco advertising, and decided it was not. By the early 1960's, the doctors' personal convictions were apparent in meetings conducted with scarcely a smoke ring in sight.

National and state pronouncements left no doubt that cigarette smoking was a danger to health. The Society's Council on Public Relations in 1964 distributed information to 1,430 P.T.A. organizations concerning the problems and hazards of smoking for young people. News releases issued by the state and county Societies outlined their opposition to cigarette smoking.

The alcoholic and his problems also will have continuing and increased attention from organized medicine in the years ahead. The Bergen County Medical Society took a forthright stand in December, 1964, by declaring, "chronic alcoholism is on the rise in Bergen County as well as in New Jersey and ranks among the four major health threats in our nation, along with heart disease, cancer and mental illness . . . organized medicine—which recognized the disease concept of chronic alcoholism—must be in the forefront of the universally accepted diverse approaches in the prevention, treatment and rehabilitation of the chronic alcoholic."

Medicine and religion

Recalling the dual role of several of the Society's founders and the continuing need for such a combined ministration today, Dr. Jerome G. Kaufman, during his presidential year in 1964, organized a Committee on Medicine and Religion. Guest speakers at the first round-table session, representing the Hebrew, Catholic and Protestant faiths, discussed physician-clergy relations regarding patient care. The Reverend Dr. Paul B. McCleave, Director of the Department of Medicine and Religion of the A.M.A., spoke of experiences with victims of catastrophic illness, and tragic accident, and with parents more ill than the retarded child they had produced. He cited the estimate of specialists at Mayo Clinic that 72 per cent of the people who went there as patients were not organically or physically ill; but sick people, nevertheless.

Bishop John J. Dougherty, President of Seton Hall University, discussed the deep wisdom and philosophy needed by both religious leaders and physicians. "It is the function of religion to provide us with the spiritual resources to follow the ideal," he said, "by walking among our fellowmen with healing hands and healing words. To such men the world will point and say, 'Behold the priestly doctors. How great are their powers of healing.' " "The Historical Character of the Partnership" was the subject of the talk by Ely E. Pilchik, Rabbi of Congregation B'nai Jeshurun of Newark and southern New Jersey, who reminded his audience that both physicians and clergy were instruments through whom God works.

The Reverend Cornelius P. Trowbridge, Chaplain at St. Luke's Hospital, New York City, pointed to studies the group might initiate, particularly concerning the role of religious faith in recovery and cure. He concluded, "The factors of fear, of guilt, of hate, of bitterness and resentment are all factors which we as clergy should be qualified to help patients overcome. And if those factors are removed from patients, you as physicians will have, I am sure, a much easier time in restoring them to health."

The ills associated with twentieth century pressures, including accidental or deliberate self-destruction by barbiturates, poisons and trauma, are among the responsibilities confronting the American physician today. Dr. Louis S. Wegryn of Elizabeth, elected to the presidency of the Society in 1962, discussed the medical profession and the challenging problems this generation of physicians has to face. "The American physician of today," he said, "in common with other physicians of all times and places, is bound by the age-old, ennobling obligation to develop in himself, by constant study and training, the knowledge and skill necessary to use all available modalities of science and art to restore the sick or stricken person to health, to help prevent the occurrence of illness or accident, and to extend the span of life for men and women in order that they may enjoy the fullness and the richness of their days."

". . . He must, in a professional sense, serve and care for his patients. But over and above all this, as a citizen—for his own and his children's sake—for his country's sake, he must encourage citizens not to surrender to government their personal independence or responsibility, but to insist instead on protecting themselves and the government from irreversible commitments that would inevitably be disastrous for them, for our country, and for the world."

A time will come, Society President Dr. George T. Welch of Passaic predicted in 1893, when physicians "will be consigned the preservation of the nation, the fighting and eradicating of the microscopic enemies that menace more lives and destroy more victims than all the standing armies of the world." Then, he believed, "physicians, as a body of public men, will be the true generals of the commonwealth."

In that bright future, The Medical Society of New Jersey will continue to add new victories in the quest for happier and longer lives, upholding its purpose, as it has since 1766, ". . . for mutual improvement, the advancement of the profession, and the public good."