Joseph W. Mountin, Architect of Modern Public Health

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This biographical reflection is based on a lecture on Dr. Mountin's career and achievements, presented by Dr. Roemer as part of the observance of the 50th anniversary of the Centers for Disease Control, Atlanta, GA, October 30, 1992.

Articles and reports by Dr. Mountin cited in this paper are listed in the bibliography of 163 items in "Selected Papers of Joseph W. Mountin, M.D." (*1*). Other items are identified in the references. Dr. Mountin's articles printed in periodicals, bulletins, and other publications are listed in an undated informal publication issued by the Public Health Service, "The Writings of Joseph W. Mountin. An Annotated List of Publications in the Field of Public Health, 1925-1950," compiled by E.G. Kleinsmith.

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When Joseph W. Mountin died in 1952, three national health leaders wrote that "the American people lost a devoted public servant, the public health profession lost one of its most stimulating philosophers, and the world health movement lost a pioneer." Then, as if to underline this faint praise, they added (*1*):

> His reputation does not rest on any single outstanding accomplishment. His name is not associated with any great medical or research achievement, nor with the discovery of a new cure for disease, nor even with the administration of a particular health program that had immediate dramatic results. His contributions were varied, all-embracing, identified with a wide spectrum of public health. The measure of his stature may be found in this very diffusion, in the catholicity of his interests and influence.

Now, 40 years later, we can see the faint-heartedness of this assessment. Joseph Mountin stands out, in fact, as the greatest architect of public health in 20th century America. He was not only a creative philosopher of public health; he contributed enormously to the implementation of new ideas. He vastly broadened the scope of organized health services to serve the needs of people. In a free market society, he greatly strengthened the role of government as the most effective instrument for enhancement of health.

In this paper, I aim to show how Dr. Mountin's achievements grew out of his thorough understanding of the U.S. national health system. Because he appreciated the role of all the interdependent parts of the system, he directed his energies to promoting improvements in each of its components in American society.

The U.S. Health System

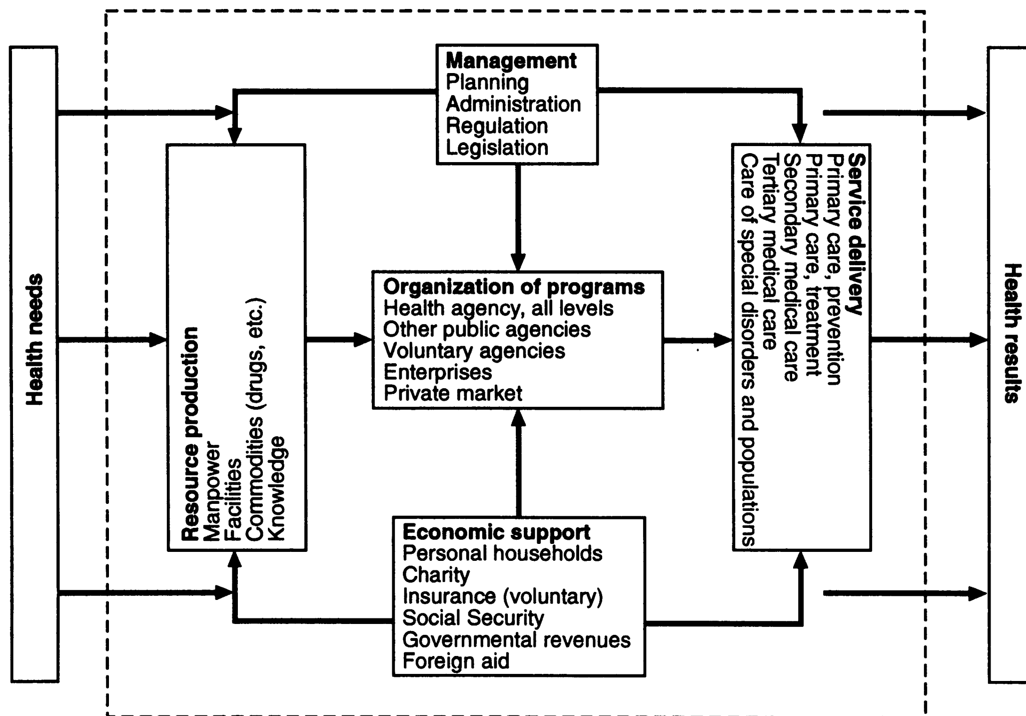
The United States, as most countries, has a national health system, despite the occasional rhetoric about a "non-system." Because of its historic development, the health system is very complicated, but it still can be analyzed. By recognizing its main components, strategies can be designed for social change.

In the figure, I depict the health system in a graphic form. Health needs, of course, are determined by countless factors in the environment and the individual. If the needs enter and pass through the system, they come out as health results, which may or may not be desirable. It may be noted that there is a central flow from Resources to Programs to Services, with two supporting components: Economic and Managerial. Within the system, the end-point is the Delivery of Services (preventive and therapeutic), but it is quite obvious that all four other system components must function adequately if proper services are to be provided.

Joseph Mountin's health work was directed to the strengthening and improvement of all five components of the U.S. health system. The sequence was not dictated by any theoretical model, but by the social and political scene, which brought certain issues to the foreground. Although he lived only 61 years, his lifetime achievement was to improve greatly the operation of the U.S. health system. He did this by a strategy of social organization in general and enhancement of the role of government in particular.

How did Dr. Mountin improve the functioning of each health system component? This can be seen most clearly, if we trace his contributions from 1917 to 1952 in chronological order. As a short-cut to recognize the socio-political environment in which he worked, the flow of his activities can be

Model of the components of a National Health System, showing their relationships to health status



related to the four Presidential periods of his professional lifetime.

Joseph Walter Mountin was born in Hartford, WI, on October 13, 1891, one of seven children in a middle-income farm family. He went to college at Marquette University, earning a medical degree at Marquette in June 1914. He served internships at the Milwaukee County Hospital and the Chicago Lying-In Hospital. In August 1917, he entered the Public Health Service (PHS). He started as a Scientific Assistant, with an assignment to work in extra-cantonment areas, helping to safeguard the health of military personnel and workers in defense industries. In July 1918, he was commissioned as an Assistant Surgeon in the Regular Corps of PHS. As customary, he was initially sent for training in a Marine Hospital and in quarantine duty. The First World War was just coming to an end. The rest of Dr. Mountin's life was spent working in PHS. We may follow his career in relation to the administrations of the Presidents during his service.

1921–32 (Harding, Coolidge, and Hoover)

Dr. Mountin's first assignment in public health work, in 1921, was with the Tri-State Sanitary District in Joplin, MO, where he worked until 1926 on the organization of county health units throughout Missouri. He developed local programs for the control of malaria, trachoma, and tuberculosis, and promoted State-level health services in sanitary engineering, public health nursing, maternal and child health, and vital statistics.

In 1925, Dr. Mountin published his first paper, "Preventive Medicine in Private Practice." This was an aspect of the Delivery component of health systems. His second paper was on an aspect of Management (records); his third was on an aspect of Resources (personnel training). These were diverse and innocuous subjects in the conservative days of President Coolidge. In March 1929, Herbert Hoover, an engineer, became President, and 6 months later the stock market crashed. This ushered in the most severe economic depression the nation had known. The focus of Hoover's leadership put greatest stress on improving the efficiency of production as the solution to the profound economic problems.

In Joseph Mountin's health work, the major emphasis also turned to improved efficiency. Some of his papers were explicit, such as "Measurements of Efficiency and Adequacy of Rural Health Services," but efficiency was also the theme of various papers on the organization and administration of State and county public health programs. In the health system model offered here, and shown in the

figure, promotion of efficiency is an aspect of Management. It is noteworthy that in 1932 the theme of the American Public Health Association annual meeting was "Maintaining Health Efficiency in Times of Distress."

In the period before the New Deal, Dr. Mountin initially explored ideas that were more fully developed later. These were on the financing of public health activities, an aspect of Economic Support, on hospitalization (traditionally outside the orbit of public health), an aspect of Service Delivery, and on the basic concept of "public health needs," which led to the whole issue of equity.

1933–36 (Roosevelt, Term I)

The election of Franklin D. Roosevelt marked a turning point in the role of government in American society. Almost for the first time at the Federal level, except for earlier antitrust legislation, government moved from a neutral or passive role in the economic system to an active regulatory role. Laws were enacted to ameliorate the worst problems of the system and adjust it to meet the needs of people.

In the health field, this philosophy gave rise to various leaders. In government, the titular leadership was provided by Thomas Parran, Surgeon General of the Public Health Service. In academic and intellectual spheres there were many bright stars, of which the brightest was probably Professor C.-E.A. Winslow, of Yale University. In the implementation of the New Deal spirit for health service, no one was more effective than Joseph Mountin.

In 1933–34, Dr. Mountin was sent to Washington to head a new PHS activity: the Office of Studies of Public Health Methods. To emphasize the research focus of this unit, it was placed within the Division of Scientific Research. Several local surveys were conducted to examine the administrative efficiency of county and State health departments.

In October 1934, Dr. Mountin decided that evaluation of health departments could no longer be based on an administrative review from the top. It was necessary to survey a sample of families in the local area, and determine exactly what services they had received. This measurement of *process* (as Avedis Donabedian later called it) was better than an accounting of *outcome* for two reasons: morbidity data were lacking or unreliable, and outcomes could be due mainly to factors outside the public health intervention. In a 1936 paper, "Evaluation of Health Services," Dr. Mountin said:

> The efficiency of health organizations in accomplishing specific objectives is undoubtedly, from the standpoint of health administration, the subject most in need of evaluation . . . activities in any type of service are rated according to percentage attainment of the quotas that have been established.

Such evaluation of performance, based on measurement of *activities*, is an aspect of the Management component in the health system model.

At the same time, Programs, the central component in the health system model, became a more prominent concern in Dr. Mountin's work. The principal social issue within organized health programs in the climate of the New Deal was their content regarding medical care. In July 1934, Dr. Mountin summarized an analysis, "Modern Trends in Public Health Administration County Health Work":

> Up to the present time, health departments have been concerned primarily with the prevention of disease. Education and regulation are the principal instruments used in this approach. It is now being recognized that preventive and curative measures are closely related and that each scientific advance necessitates a larger amount of personal service in administrative practice.

The extension of public health programs to include the administration of medical care became a major thrust of his work for the rest of his life.

In 1935, a major strategy of the New Deal was launched, with the enactment of the Social Security Act. Inclusion of health care insurance had been considered, but rejected by Roosevelt, for fear that it might jeopardize the passage of the whole bill (*2*). There were included, however, Title V on maternal and child health services and Title VI on general public health services, which authorized Federal grants-in-aid to the States. These grants provided economic support for State and local public health programs on a scale far greater than ever before. They were administered by other Divisions of PHS and the Children's Bureau in the Department of Labor, so that Dr. Mountin was not involved until later on.

1937–40 (Roosevelt, Term II)

In 1937–40, President Roosevelt's second term, the New Deal moved into high gear. Hardly 3 years

after the Social Security Act, work began in the Federal Government on "The Need for a National Health Program." Dr. Mountin sat on the Interdepartmental Committee to Coordinate Health and Welfare Activities, which reported on this. In the Aesopian language required at the time, the Committee concluded (*3*):

> The problems raised by sickness costs present two clear-cut needs: (1) For people with incomes, ordinarily self-sustaining in respect to other essentials of living (food, shelter, and clothing), health and sickness services must be made more extensively available through measures that will lighten the burden of sickness costs. This requires appropriate arrangements to minimize the impact of these costs on individual families through distribution of the costs among groups of people and over periods of time. To what extent the result shall be attained through more extensive use of tax support and to what extent through social insurance, or through a combination of both, is not at issue. . . . (2) Larger financial support is needed for services to be furnished to people who are without income, who are unable to obtain necessary care through their own resources.

A special recommendation of the Interdepartmental Committee called for "national and regional planning in the field of hospital expansion and construction." Response to this need became the major focus of Dr. Mountin's work in this period—analysis of the nation's hospital resources.

Just before embarking on the hospital studies, in 1937, Dr. Mountin wrote one of the classics among his analyses of health needs in a rural locality. The title was carefully phrased as "Relationship of a Rural Health Program to the Needs in the Area." In accordance with his method of evaluation through survey of the families served by a health department, he quantified the services received. In addition, he quantified general sickness experience and the medical care provided; he found, for example, that among illnesses confining a person to bed in the previous year, 40 percent were unattended by a physician.

In September 1938, Dr. Mountin published the first national survey of U.S. hospitals that reported their major characteristics: control (sponsorship), size, equipment, and utilization (occupancy). These data provided a base line for further studies of this major aspect of health system Resources. Subsequent studies reported on hospital incomes, expenditures, and personnel. In the period 1938–41, Dr. Mountin produced 12 analytical reports on hospitals, which laid a statistical foundation for enactment of the Hospital Survey and Construction Law (Hill-Burton Act) of 1946. It may be noted that data in those years came from the American Medical Association and the Bureau of the Census, rather than the American Hospital Association.

In 1939–40, Dr. Mountin published four more papers on special features of hospitals, papers that are not covered in the references. He spoke and wrote also on a variety of other subjects. Relevant to Resources, he wrote several papers on the training of public health personnel. With respect to Delivery of Service, he analyzed dental programs and public health nursing. Two papers of 1939 were not on health systems, but on the epidemiology of cancer.

Finally, in the second term of President Roosevelt's New Deal, Dr. Mountin did further work on his favorite issue: the place of medical care in public health programs. Since "medical care" was a contentious phrase, it was often replaced by the broader term "personal health service." A paper in 1939 was "The Scope of Personal Services Given by Representative County Health Departments." In February 1940, Dr. Mountin analyzed the handful of programs for the medical care of the indigent, ordinarily in welfare agencies, assigned to health departments. Later in 1940, he addressed the public health personnel of West Virginia on "Selection of Items for a Public Health Program." Ninety percent of his talk was concerned with conventional health department activities. Only in the last paragraph did he speak of "recent improvements in local health organization," adding:

> Gradually, and as their structure is perfected, it would seem logical and in the public interest to utilize these departments for the administration of those elements in medical care which are accepted as a public responsibility.

However contentious Dr. Mountin's views, he presented them with consummate diplomacy.

1941–44 (Roosevelt, Term III)

In President Roosevelt's third term, the Second World War dominated the world scene. After Japan's attack on Pearl Harbor, in 1941, the United States became fully involved in the war. The major enemy shaping America's attitudes,

however, was fascist Germany. The fight against fascism abroad strengthened a spirit of humanism and democracy at home.

In this environment, with resources allocated to the war effort, problems at home intensified. Hospitals, neglected in the great Depression, deteriorated further. Physicians and nurses entering military service accentuated domestic shortages. In response to these problems, Dr. Mountin carried on focused research. He continued working on hospitals, their financing, utilization, and relationships to health centers. He embarked on several studies of physicians' locations, characteristics, and movements.

With respect to the Programs component of the health system, Dr. Mountin launched a nationwide study of the structure of specific health programs in State governments. Various aspects of tuberculosis control, for example, might be responsibilities of several State agencies, of which the health department was only one. These studies pointed to the great need for coordination.

In late 1943 and throughout 1944, Dr. Mountin continued to pursue his major objective of broadening the scope of public health to include organized medical care. In Great Britain, the Beveridge report had been issued in 1942, calling for a comprehensive, universal National Health Service; news of this soon spread to America (*4*). Dr. Mountin's work and words acquired a new passion. He testified to Congress that "Better Public Health Awaits Better Medical Care." He challenged the opposition with a speech posing the question: "Medical Care: A Private Enterprise or a Social Service?"

Aside from these major thrusts of Dr. Mountin's work, other special problems were not neglected. He wrote about the role of nurses, problems in health education, safe childbirth, and vital statistics. A small but widely quoted vignette of 1942 described the very menial "Housing of Health Departments," and stimulated efforts for improving the community image of public health. Plague and malaria were two serious vector-borne diseases, still found in the United States, and their control concerned Dr. Mountin.

The problem of malaria in the southern States led to the organization in 1942 of the program of Malaria Control in War Areas, with Dr. Mountin named as Director. Under his leadership, the program was broadened in 1946 to the Communicable Disease Center, with concern for all communicable diseases. In 1941–44, of course, there were the ever-present problems of the war. Although the continental United States saw no hostilities, there were many impacts on American society. There were social problems around military bases, losses of trained health personnel, shortages of supplies, and generally strained morale. The demands of wartime dramatically exposed the great weakness of public health organization in many parts of the country. All this stimulated further leadership by Dr. Mountin ". . . for complete coverage of the country by full-time professionally staffed health units."

Finally, in the early 1940s, and perhaps for the entire decade, there was a major contribution of Dr. Mountin not reflected in his publications. First, as head of the wartime Emergency Health and Sanitation Program, later as Associate Chief of the Bureau of State Services, Dr. Mountin had considerable freedom to assign personnel to explore new ideas. Perhaps it would be more accurate to say that he took advantage of his positions to be innovative. His strategy was to support young PHS officers to explore and develop new public health ideas. One such appointment was Dr. Vane Hoge in the hospital field; others were Dr. Robert Felix in mental hygiene and Dr. Herman Hilleboe, who had been working for many years in tuberculosis control. Dr. Mountin helped to staff the longer-term epidemiologic studies of heart disease in Framingham, MA. Colleagues spoke of these men as "Mountin's boys," and most became the chief actors in programs that were subsequently implemented.

For a 2-year period in 1946–47, I served as one of the more junior of Mountin's boys. My assignment was in medical care administration (MCA), of which there were three aspects: to respond to requests from the States for advice in this field; to promote MCA appointments in other units of PHS, as for example, in industrial hygiene or dental health; and to work on preparation of a "manual of operations" for a National Health Program (the Wagner-Murray-Dingell Bill), should it be enacted. The third role was essentially to serve as staff to a committee of officials of the PHS, the Social Security Board, and the Children's Bureau, as well as to members of Congress. The manual included sections on administrative structure, source and allocation of funds, eligibility, providers of service, benefits, payment for services, controls over quality, and appeals and enforcement. That document is still locked in some filing cabinet for fear that, if and when a National Health Program was enacted, it might be dusted off and acted on.

As everyone knows, the issue of medical care coverage, or more broadly, a National Health

Program, has not yet been settled in the United States, although the enactment of Medicare and Medicaid in 1965 were major steps. The access of people to health service, through both private and public insurance, however, is much greater today than when Dr. Mountin supported the 1940s version of National Health Insurance.

1945–48 (Roosevelt, Term IV, and Truman)

In 1945, the Second World War came to an end in Europe and, a short time later, in Asia. After President Roosevelt's death, Harry Truman became President, and the atmosphere immediately changed to one of postwar planning, with Dr. Mountin playing an active part. Ideas that had been advocated as idealistic objectives now became plans for immediate action.

Dr. Mountin's several previous studies on hospitals concluded with a major report, "Health Service Areas—-Requirements for General Hospitals and Health Centers." That classic study mapped the entire United States with a plan for "health services and facilities . . . integrated through a system of base, district, and rural hospitals and health centers." A fresh emphasis was put on health centers for organized ambulatory care and their relationship to hospitals. The passage of the Hospital Survey and Construction Act in 1946 was a successful climax.

Based on the hospital studies, the numbers and locations of physicians were investigated more thoroughly than ever before. In 1945, Dr. Mountin wrote in the Journal of the American Medical Association that "Relocation of Physicians" (was) "a Prerequisite to Better Medical Care." In discussing such matters, he did not hesitate to be frank, and said:

> Let me comment briefly on the peculiar attitude of the medical profession toward government. . . . A person unfamiliar with our scheme of political organization might easily infer from statements made that government, and particularly the Federal Government, is some sort of alien institution imposed by forces from abroad. In a democracy such as ours, government is a creature of the people, having only such powers as are given to it.

Other health matters attracted Dr. Mountin's attention in the early postwar years. To achieve more effective and efficient local health departments, he wrote about city-county health agencies, improved training of nurses and other public health personnel, merit systems, topical fluoride dental programs, the operation of the Federal grant-in-aid program, records and reports, and the whole organization of governmental health services in America. Most spirited, however, were Dr. Mountin's further analyses and advocacy of medical care administration within the jurisdiction of public health agencies at Federal, State, and local levels. (I am proud to have participated with Dr. Mountin in some of those studies.)

In 1946, Surgeon General Thomas Parran was invited to testify before the Senate Committee considering legislation on a "National Health Program." Dr. Parran was away and Dr. Mountin was sent in his place. Dr. Mountin's testimony was, in my opinion, one of the most brilliant summaries of health needs and proposed solutions of the New Deal period (*5*).

> We must face the fact that a highly inequitable cash barrier now keeps medical care from millions of our citizens. . . . As a result, we find that medical services received bear only a casual relationship to health needs. The lowest income groups, among whom illness occurs with greatest frequency and longest duration, actually receive the smallest volume of medical services.

After reviewing the inadequacies of voluntary health insurance, Dr. Mountin concluded:

> All of these considerations have led the Public Health Service to the conclusion that only a nationwide program of medical care, under official auspices, holds the promise of assuring adequate medical care for all the people.

In terms of the national health system model shown in the figure, Dr. Mountin's strong advocacy of a "National Health Program" concerned mainly the Economic Support component. It also concerned the component of organized Programs and even some aspects of Management. Quite deliberately, however, Dr. Mountin's advocacy avoided patterns of Service Delivery, which to private physicians were most contentious.

Another crucial event of 1946 was the establishment, through Dr. Mountin's leadership, of the Communicable Disease Center (CDC) in Atlanta, GA. As noted, this grew out of the Malaria Control in War Areas Program. In its new role, the Center became the headquarters for epidemiologic

intelligence for the nation. Later, as the noninfectious chronic diseases became subjects of epidemiologic study, the Atlanta program became the Centers for Disease Control.

In 1947, Dr. Mountin travelled to western Europe to study National Health Insurance (NHI) in practice. He was especially impressed with the incorporation of voluntary health insurance agencies in NHI operations, an administrative practice that he thought had relevance for the United States.

In 1948, Dr. Mountin provided the leadership for a special aspect of Service Delivery in America. He mobilized a committee of the American Public Health Association and the American Hospital Association to issue a joint policy statement; this explained how hospitals and the public health agency in a community could contribute to fulfilling each other's mission. Also in 1948, Dr. Mountin provided the main leadership for the organization of the Arctic Health Research Center in Alaska.

1949–52: Harry Truman

When Harry Truman took over the Presidency, and was elected in 1948, the innovative spirit of the New Deal was tapering off. Winston Churchill had made his Iron Curtain speech in 1946 in Fulton, MO, and the Cold War with the USSR was under way. In 1947, Truman issued the first Loyalty Order for government employees, which eventually produced a chilling effect on all liberal thinking in America. By 1949 "McCarthyism," named for the Senator from Wisconsin, was a term applied to assaults on free speech around the world (*6*).

In this atmosphere, Joseph Mountin carried on his work without fear. Perhaps there were less passionate pleas for a National Health Program, but Dr. Mountin continued to make solid contributions to preparing Resources, Programs, and Economic Support for the eventual implementation of such a program. In 1949, he wrote somewhat cautiously:

> The nation's greatest and most insistent need in the field of public health is still to strengthen existing local health departments and local health services, and to extend professionally directed public health services to areas now lacking such protection.

Toward this objective, Dr. Mountin brought to a conclusion the series of studies on the structure of health services in State governments. In fact, his final paper, published in 1953, after his death, was a retrospective review, "State Health Organization Today and a Decade Ago." In 1950–52, there were other overviews of health service organization in State governments.

Another major study, winding up previous work, was "Health Service Areas: Estimates of Future Physician Requirements," published in 1949. That paper applied techniques similar to the previous studies on hospitals. It went further, however, to estimate whether the expected future output of physicians would meet the expected demand, and concluded that it would not. As stated:

> Indications, at present, are that graduates from existing recognized medical training facilities in the United States, plus recruits from other sources (will be inadequate). . . . Estimates of future physician use are far in excess of anticipated resources in 1960.

An anticipated shortage of physicians led to increased enrollments in U.S. medical schools, acceptance of many foreign medical graduates, and other U.S. health manpower policies of the 1970s and 1980s.

In these final years, Dr. Mountin also seemed to show greater concern for public health administration at the local level. In 1949, he testified to Congress on "Local Public Health Service" and he wrote eloquently about "Changing Concepts of Basic Local Public Health Services." That paper did not refer to medical care organization, but to programs of mental hygiene and chronic disease control. Several reports summarized the experience of local health services in military areas during the war. The local community was the place for integration of hospitals and public health. New ideas and "opportunities for leadership" referred mainly to the extension of local public health strategies to cancer, heart disease, and other principal causes of death.

Nevertheless, Dr. Mountin continued to serve as spokesman for PHS on national health insurance. In 1949, he testified to another Congressional committee on a "National Health Plan."

Obviously related to Dr. Mountin's emphasis on chronic disease control was another formulation taking shape in 1950 and 1951: health services for the aged. He wrote about community health services for older people, health promotion in the older years, and public health and the aging, all general topics interpreted with respect to the needs

of the elderly. With the state of knowledge at this time, Dr. Mountin was cautious about the value of multiple screening in the detection of noncommunicable chronic disease.

A final aspect of Joseph Mountin's work was in international health. This was not reflected in personal publications, because he served as a member of various teams. In 1944, he was a special adviser to the Bhore Commission, planning a national health system for India (*7*). His Western European studies of national health insurance, published in 1946, have been noted. In 1947, he represented PHS on the Social Security Mission to Japan. In 1949, he was adviser to Colombia for the World Bank. In 1952, Dr. Mountin served on the World Health Organization's Expert Committee on Public Health Administration (*8*).

I saw Dr. Mountin at that meeting in Geneva a few weeks before his death in 1952. He was in excellent spirits at the time, and at a dinner in a fine Swiss restaurant, with Ira Hiscock, he enjoyed the chance to tell his jokes after the formality of an Expert Committee meeting.

A few months after he died, Mrs. Genevieve Mountin sent me a picture of Joe, one that he had promised. In her letter, Mrs. Mountin said:

> This is the picture, which I've mentioned. It is the last one he had taken, just a few days before he died. I think it is an excellent one of him, and has a very pleasing expression (letter, Genevieve Mountin to M.I. Roemer, Nov. 4, 1952).

This is the same picture of Joe, with a polka-dot tie and a faint smile, with which we are all familiar.

One of Dr. Mountin's last published papers, in April 1952, was "Meeting World Health Problems: The Need for Sound Program Planning," which he ended with the following:

> I would conclude . . . with the need for increased exchange of experience and knowledge among all the countries of the world. Certainly, we in this country have as much to learn as we have to contribute to worldwide development. No single nation can lay claim to all the competence and all the wisdom. Moreover, public health programs everywhere—and certainly this country is as guilty as any other—are limited and rather narrow in scope. We have often failed to add new services to meet current health needs and to take advantage of new methodology to further the cause. We must thus raise our own sights as well as look toward the problems and needs of the rest of the globe. With a true spirit of cooperation, with a basic understanding of needs, and with the efforts of enlightened groups everywhere, we can push forward to new frontiers of world health and well-being.

A few weeks after this plea for world health was published, Joe Mountin died, on April 26, 1952.

Summary and Interpretation

It is difficult to summarize Joseph Mountin's work, because its content and purposes were so diverse. In terms of the health system model offered, his studies and his advocacies contributed to the strengthening of all five health system components. His greatest contributions were probably to the components of Resources, Programs, and Management; they were more limited on Economic Support and Service Delivery. Regarding patterns for delivery of medical services, the issue was even avoided, since in relationships with the medical profession, this was usually the most contentious issue.

If we attempt to see Dr. Mountin's work as an entity, it was a combination of research and action, designed to improve the U.S. health system, to adapt it to the needs of the population. Dr. Mountin was no revolutionary, but a practical idealist who tried to promote feasible social change.

The research carried out was always directed to a problem on which the findings would contribute to policy formulation. This resulted in research with four general attributes: the subjects selected for study were important in the health system, and their investigation was feasible; the methodology was descriptive (with quantification when possible) and analytical among variables; the policy implications were supported by the evidence; and the research findings were communicated by published reports and speeches at meetings.

The social action side of Dr. Mountin's work is what is most remembered. It was expressed in three ways: advocacy of policies that were firm and clear, yet diplomatic in relation to the time and audience; implementation of policies through changes in established programs or complete innovation (sometimes legislation); and the achievement of enduring policy goals through stressing their meaning in social ethics and health equity.

This combination of research and social action was not contrived. Even though Dr. Mountin's work was directed to a great diversity of problems, it was straightforward and harmonious. The Public Health Service, in which he served for 35 years, was known by some for its quasi-military respectability (*9*).

For Dr. Mountin, it provided opportunities for teamwork and creativity. The issues he tackled were dictated by the times when he lived: the Depression, the New Deal, and the Second World War (*10*). In these days of turmoil, the intellect and idealism of Joseph Mountin shaped him as the greatest architect of public health in 20th century America.

In the 40 years since Dr. Mountin died, American public health has had its ups and downs. Great progress was seen in the 60s and 70s, with the enactment of Medicare and Medicaid, the first social insurance and public assistance health care programs of such scope. Progress was made in regional medical programs, comprehensive health planning, support for professional education (including public health), the development of community health centers for medical care as well as prevention, many aspects of environmental protection, occupational safety and health, health science research, emergency services, cancer control, nutritional education and support, and the general advancement of prevention and health promotion.

The benefits of these programs, all being parts of the broadened conception of public health advocated by Joseph Mountin, are impressively demonstrated in a steadily declining infant mortality rate and a steadily advancing life expectancy for both sexes and all races. There are differences, of course, among social classes, that must be attributed to the entire physical and social environment. Even though longer lives have meant higher rates of physical and mental disability, the U.S. health system has enabled millions of people to stay alive with treatment of their disorders. When age-specific mortality for heart disease (by far the leading cause of death) is calculated, it has substantially declined from 1950 to the present.

In 1981, there was a change in the Federal administration of government in the United States. Except for Medicare, scientific research, and a few other fields, the financial support of health programs was reduced. Only the awesome epidemic of AIDS induced substantial new government spending. The basic public health services for mothers and children, communicable disease control, mental health, and even immunizations, suffered cutbacks. Reductions in economic support for Medicaid, for community health centers, and public hospitals were special blows for the poor.

Those many difficulties led the Institute of Medicine to evaluate public health in America as "in disarray." Overall, national health expenditures continued to rise during the decade of the 80s, but this was due mainly to the spiralling costs of private medical care. Formal public health expenditures remained at 3 percent of the total, and barely kept up with inflation. Considering the 35 years of Joseph Mountin's professional life, and the time since then, we have passed through 75 years of the American public health story.

One decade of this span of time is not very long. Recognizing the seeds that Joseph Mountin planted or nourished, and the roots that have taken hold, it is altogether likely, I believe, that public health will blossom again. The initiatives for health insurance now being explored in 20 to 25 States, and the 1992 electoral bombshell in Pennsylvania, have brought the health care issue to center stage in American political debate.

From this, I believe, there is bound to emerge a new public health movement that incorporates the broad scope of health services to which Joseph Mountin devoted his life.

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