Preparing Public Health Leaders for the 1990s

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Synopsis

Public health leadership is urgently needed throughout the world. In most local, provincial, and national jurisdictions, such responsibility has been assumed by doctors of clinical medicine, who know much about treatment of disease in individual patients but very little about prevention of disease and promotion of health in populations or the management of health systems.

Effective leadership in public health requires a new profession, with generalized education in the basic tools of social analysis, health and disease in populations, promotion of health and prevention of disease, and health care systems and their management. More than 40 distinct scientific subjects have been developed in these fields over the years, and current faculties are qualified to teach them. To provide this education would require about 5 years of academic and field studies, after a bachelor's degree. Schools of public health now train doctoral-level specialists who are prepared in the PhD tradition for academic posts. These schools should also develop educational programs for doctoral-level generalists who are qualified to provide community health leadership at local, provincial, and national levels.

THE SUITABILITY of prevailing patterns of higher education in public health, to prepare personnel for effective community service, has long been of concern to educators (*1*). In early 1986, my proposal for a thoroughly recast 5-year academic program to train "professional doctors of public health" was published in this journal (*2*). Since then, the proposal has been widely discussed, and this paper is intended to offer further suggestions for its development.

Need for Effective Public Health Leadership

Effective public health leadership is needed throughout the United States and everywhere in the world. Such leadership requires, at a minimum, adequate educational preparation. In our 50 States, 69 percent of the health officers are clinically trained physicians, of whom 34 percent lack any public health training (Source: Association of State and Territorial Health Officers, unpublished 1988 data). The great majority of public health officials in the roughly 3,000 local health jurisdictions are also physicians from exclusively clinical-academic backgrounds. In other countries, the dominance of clinical physicians in positions of public health responsibility, yet without formal training in the field, is as great or greater.

In Turkey, for example, there are 67 provinces (with an average population of 700,000), each headed by a provincial health director. All of those directors are general medical practitioners, among whom only a few have had more preparation than a brief orientation program in the Ministry of Health. It is small wonder that their time is spent predominantly in the clinical treatment of patients coming to hospitals or health centers. This is the work they are comfortable doing. It is also not surprising that the performance of primary health care (PHC) workers supposedly under their supervision, in Turkey and many other developing countries, has repeatedly been found to be deficient. PHC posts are very meagerly utilized; the limited work done is mainly palliative first-aid, not health promotion or prevention; the approaches of community participation and intersectoral collaboration remain little more than World Health Organization (WHO) slogans rarely implemented. (The data concerning the provincial health directors in Turkey are from an unpublished, official report entitled "Human resource development for primary health care: Turkey," which D. Warning and I prepared

for the U.N. Development Program and WHO in cooperation with the Agency for Foreign Cooperation, Federal Republic of Germany. References *3* and *4* are the sources of information about the primary health care posts.)

The historical reasons why medical doctors have been entrusted everywhere with public health responsibilities are well known (*5*). In periods when the scope of public health work was relatively narrow and the available personnel to direct it were few, the policy is not hard to understand. The doctor was the recognized expert in matters of health and disease for centuries, and his authority was fully accepted by the general population. A close relationship between ability to treat the sick person and competence to protect the health of populations was taken for granted. At the same time, in the general arena of government—at national, provincial, or local levels—the public health agency in most countries occupies a position of relatively low importance and weak social influence.

History of Higher Education in Public Health

The earliest special education for public health work may be traced to Munich, Germany, in 1882, when an academy for postgraduate training of public health physicians was established. Although this program still exists in the government of Bavaria, it has no ties with a university (*6*).

Academic preparation for public health work arose in America with the Harvard-M.I.T. School for Health Officers in 1913 and the Johns Hopkins School of Public Health and Hygiene in 1916 (*7*). The educational program in these schools was sharply focused on environmental sanitation and the hygienic measures needed to protect people against vector-borne diseases. The scope of instruction was defined by the range of activities generally regarded as the normal responsibility of local departments of public health. The listing of subjects taught at the Harvard-M.I.T. School for Health Officers in the 1919–20 academic year, for example, included 16 subjects mostly concerning environmental sanitation. There were some courses in microbiology and vital statistics but nothing so close to personal health service as "maternal and child hygiene" (Viseltear, Arthur J.: "Social focus leading to the establishment of pioneering public health education programs in the United States." Yale University, New Haven, CT, 1987, pp. 46–47, publication pending). (At Johns Hopkins School of Public Health, the range of subjects covered was broader but still within the general boundaries of health department functions.) With the Women's Suffrage Amendment of 1920 and the Sheppard-Towner Act of 1921, maternal and child health clinics for poor women finally became established widely by health departments—even though voluntary agencies had been conducting such clinics since the turn of the 20th century (*8*).

The Social Security Act of 1935, with its Federal support for local public health development, was a major turning point in the character of public health in America, but the orientation was still exclusively preventive. As late as 1945, the American Public Health Association (APHA) issued its important report "Local Health Units for the Nation" authored by Professor Haven Emerson (*9*). The proper functions of local health departments were defined as the "basic six": vital statistics, control of communicable diseases, environmental sanitation, public health laboratory services, maternal and child hygiene, and health education of the general public. These six subjects also defined the essential scope of higher education in public health in the United States. In 1932, the Committee on the Costs of Medical Care had come out with the final report of its 27-volume study on medical care needs and expenditures in America (*10*) but—with notable exceptions some years later at Michigan and Yale—concern with such health matters, beyond the sphere of prevention, had no impact in the schools of public health. When Michael Davis of the Rosenwald Fund sought to launch a program of higher education for hospital administrators in 1934, he was rejected by the schools of public health and found cooperation only in a school of business administration (*11*).

It was not until the end of World War II that the propriety of including studies of the economics and organization of medical care became generally recognized in the U.S. schools of public health. Over the 20 years from 1945 to 1965, teaching and research on the social and administrative aspects of medical care matured in almost all the schools (*12*). With support from the Kellogg Foundation, several of the schools developed special concentrations in hospital administration. In 1948, after intense controversy, the APHA established a Medical Care Section, which soon attracted the largest membership of any section in the association. That section provided a forum for the presentation of papers on research in medical care organization and on the advocacy of improvement in the methods of medical care financing and delivery (*13*). These were the years when innovative concepts in health care

delivery drew increasing attention—concepts such as multiphasic screening, prepaid group practice (much later called HMOs), and regionalization of hospitals. It was also the period of extremely rapid growth of voluntary health insurance.

The enactment of Medicare and Medicaid in 1965 constituted another watershed event in American health care, with major repercussions on public health education. Soon after came the first Comprehensive Health Planning Act and the Regional Medical Program for Heart Disease, Cancer, and Stroke (*14*). By 1970, U.S. national health expenditures had risen to $349 per capita—much more than double the $142 per capita spent in 1960 (*15*). As a percentage of the gross national product, health expenditures over that decade had risen from 5.2 percent to 7.4 percent; this increase meant a leap from $27 billion to $75 billion in 1970. Of this large outlay in 1970, only 1.9 percent was attributable to expenditures for all governmental public health activities at Federal, State, and local levels. Such a reflection of the extremely small part played by classical health department activities in the United States health scene was bound to have an impact on the form and content of higher education in public health.

The major insight acquired by the schools of public health—or, more accurately, by all schools of health science in the universities—was that the several disciplines relating to health and disease had a social as well as a biological dimension. In medicine, the concept of "social medicine" gained new currency, meaning essentially that the good physician must take account of the patient's total social environment in making a diagnosis and prescribing treatment (*16*). For many, the term meant much more than that. In 1947, the New York Academy of Medicine launched its Committee on Medicine in the Changing Order, and numerous medical schools appointed sociologists to their faculties, often in departments of psychiatry (*17*). In the next decade, the American Sociological Association established a Medical Sociology Section (now appropriately called Health Sociology) (*18*). The Public Health Service established a National Center for Health Services Research and Development in 1965 (*19*). Health economics became a respectable specialty in modern economics. In 1976, political scientists started the Journal of Health Politics, Policy and Law.

All of these developments led to the appointment of social scientists—in sociology, economics, political science, and also in history, law, and anthropology—to faculties of schools of public health.

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Courses were offered on the many social aspects of health and disease and of their control, preventive and therapeutic, in populations. The social, organizational, and administrative aspects of health in populations, moreover, became so widely recognized that the schools of public health could no longer respond to all the educational demands. There arose, therefore, a variety of university programs in hospital administration, health education, health records, and other related fields under the wing of diverse settings in universities.

With hindsight, therefore, one may identify four periods in the purposes and configuration of higher education in public health in America. The lines between the periods are not sharp; there is much overlap because the various public health schools responded to societal developments at different times and in different ways. Moreover, as in so much formal education, there has always been a lag of several years between the appearance and even the recognition of a social need and the response of universities with academic programs.

With this caveat, one may identify the following periods or stages in public health higher education in America:

Period 1. Health officer training (1913–30): Physicians and a few other professionals were taught about the tasks of operating a local department of public health—principally to maintain a sanitary environment.

Period 2. Preventive health sciences (1930–45): Instruction was broadened to examine all known aspects of preventive health science, including personal services, such as communicable disease interventions, health education, nutrition, maternal and child hygiene, and supportive activities, such as vital statistics and public health laboratory services.

Period 3. Inclusion of medical care (1945–65): In addition to all the foregoing disciplines, teaching

and research were broadened to include the organized financing and delivery of various aspects of medical, hospital, and allied services.

Period 4. Social sciences and health (1965–present): As an extension of the third stage, the approaches of all social sciences (sociology, economics, political science, law, and so forth) were applied to the problems of health and disease in populations and to their more effective control through both prevention and treatment. Public health meant concern for the social and organizational aspects of total health systems.

Students of Public Health

As this evolution of the scope of higher education in public health has occurred, it should not be surprising that the characteristics of students attending schools of public health have changed. In period 1, the students were physicians, overwhelmingly, with a minority from dentistry, veterinary medicine, and civil (sanitary) engineering. In period 2, students came from many other backgrounds also, but nearly all of them were from biomedical disciplines (*21*). For 1944–45, the distribution of students enrolled in schools of public health was as follows:

Profession	*Number enrolled*
Physicians	161
Dentists	25
Public health laboratory workers	50
Public health educators	107
Teachers	42
Public health nurses	9
Veterinarians	7
Nutritionists	7
Statisticians	6
Others	48
Total	462

In period 3, the composition became even more diversified. Students were admitted to the public health schools from backgrounds in the several social sciences and even the humanities, in addition to all the biomedical fields. Often 2 or 3 years of experience in some health setting were required for students not trained in an established health profession.

In period 4, more precise data on student enrollments are available (*21*). For the academic year 1978–79, there were 3,735 students in the 20 existing schools of public health. Of these, only 10.5 percent had the MD degree, and 4.2 percent had another doctoral degree (including the DDS). A master's degree in some other field was held by 16.4 percent of enrollees, and the balance (69 percent) had only a bachelor's degree. Of the total, 54.4 percent had some previous health-related experience, 28.8 percent had other work experience, and nearly 17 percent came straight from college without any intervening experience. Public health training, in other words, no longer meant a secondary skill grafted upon a primary health profession, but rather a health discipline in its own right. Graduates became known as "public health professionals."

This great diversity of backgrounds among the candidates for degrees in public health was associated with an expanding variety of academic subdivisions that students were expected to specialize in. The vast majority of enrollees were seeking a master's degree, and as new departments in schools of public health developed, the fields for specialization multiplied. Eventually, in periods 3 and 4, there took shape a "core program" of subjects about which all MPH and MS degree graduates were expected to have some basic knowledge. These were biostatistics, epidemiology, environmental health, public health administration, and, sometimes, behavioral science foundations of public health. Students could specialize in one of the core disciplines or in one of numerous other fields, such as health education, nutrition, maternal and child health, health planning, dental health, medical care organization, hospital management, mental health, public health nursing, health records and information, chronic disease control, health law, international health, family planning and population studies, geriatrics, or still other fields. The master's degree today ordinarily requires 1 or 2 years of full-time study after the bachelor's. It has become increasingly obvious, however, that in that short time the student can learn only a little about the many aspects of modern public health, outside of his chosen field of specialization.

Doctoral Studies

For candidates in schools of public health seeking qualifications beyond the master's degree level, the DrPH degree was offered by the earliest schools in periods 1 and 2. With rare exceptions, however, this path was restricted to doctors of medicine, following the MPH (see the paper by Viseltear mentioned earlier). Typically, the candidate simply conducted research on some topic and, in the PhD tradition, prepared a dissertation that was defended before a faculty committee.

In periods 3 and 4, after World War II, eligibility for the DrPH and often other doctoral degrees (PhD, DSc, for example) was extended widely to nonphysicians. (Doctoral degrees, other than the DrPH, had been open to anyone with a baccalaureate from the outset of the schools of public health.) In period 4 (1965–present) interest by nonphysicians in public health doctoral studies mushroomed. At UCLA, for example, between 1981 and 1986, doctoral degrees—DrPH or PhD—in Public Health were awarded to 141 graduates, of whom only a few were physicians (1987 unpublished report of the School of Public Health, UCLA: "Report to the Graduate Council for 1981–1986"). The typical doctoral graduate takes about 1 year of extra course work (beyond the master's), mainly in his or her chosen field of concentration, passes a qualifying examination, and then does the research and writing leading to an acceptable dissertation. The practice everywhere has been to emulate the requirements for the PhD that have dominated advanced university studies for centuries. The dissertation exercise has become increasingly demanding and has usually required between 3 and 5 years of work, sometimes longer, for a total of 4 to 7 years after the baccalaureate. Moreover, an estimate 25–33 percent of students who begin the doctoral program never finish it. For a variety of reasons, they do not complete an acceptable dissertation.

That doctoral graduates in public health are rigorously trained and highly specialized is evident. Beyond some rather superficial exposure to the full scope of public health, they become quite knowledgeable concerning a very specialized subject about which they have written a dissertation. Following are the titles of just a small sample of dissertations in various fields produced at UCLA in the last few years:

- The role of conjugal power in the fertility decision-making process (behavioral science and health education),
- estimation of the parameters on the logistic regression model for retrospective studies (biostatistics),
- electron microscopic studies of the cytoplasmic inheritance of San Angelo virus in *Aedes albopictus* mosquitoes (epidemiology),
- A cost-effectiveness analysis of the surgical treatment of mitral valve disease reconstruction and replacement (health services),
- the effects of iron-deficiency anemia on plasma lipids, lipoproteins, and erythrocyte membrane lipids (nutritional sciences),
- lung carcinogenesis and splenomegaly following chronic ozone inhalation at ambient concentrations (environmental and occupational health),
- the interrelationships of the menstrual cycle, alcohol use, and female sexuality (population and family health).

'The medical graduate who somehow failed to learn anything about the anatomy of the liver, the enzymes of the pancreas, or the uses of radiation therapy would not be accepted by a medical licensing body. Yet, current doctors of public health who majored in epidemiology may know absolutely nothing about health insurance, and DrPH graduates concentrating in health administration may be totally ignorant of the risk factors in heart disease.'

The writers of these doctoral dissertations have undoubtedly learned a great deal about the topics they have investigated. They have learned also about the difficulties of original research, the strategies for overcoming them, and the rigorous demands of sound scientific inference. They have learned how to report empirical findings and express ideas in writing of sufficient quality to be approved by a committee of five university professors. They have learned intellectual self-discipline.

One may ask, however, what have they learned about the problems and strategies of public health of the scope encountered in the current world? How well are they prepared to meet the obvious need for effective public health leadership throughout the United States and everywhere in the world? The answer must be: very poorly, if at all. The current model of doctoral studies of public health, in other words, prepares graduates for research and perhaps teaching in selected highly specialized subdivisions of the public health field. (Ironically, many public health doctoral graduates end up not in academic but in community posts for which they are actually ill-prepared.) Public health leadership, however, requires *generalists* who can appreciate

the enormous variety of problems affecting the health of populations and the very wide range of strategies necessary to promote health and prevent disease, or to facilitate treatment when prevention has failed.

Since period 1, and at an increasing tempo in period 4 (1965–present), a vast body of knowledge on the health of populations has become available. These facts and concepts provide the substance for the training of public health generalists. Such knowledge is found in the faculties now staffing most, perhaps all, of our schools of public health. Since 1965, the schools' faculties have become increasingly diversified. As far back as 1970, when there were 18 accredited schools of public health, these faculties included specialists (*22*) as follows:

Discipline	*Number of specialists on the faculties*
Epidemiology	100
Tropical medicine, entomology, and so forth	65
Microbiology and public health laboratory	37
Chronic diseases	20
Population and demography	47
Biostatistics	90
Environmental health	68
Occupational health	31
Physiological hygiene	32
Radiological science	33
Maternal and child health	48
Nutrition and biochemistry	59
Mental health	20
Administration or public health practice	67
Medical care and hospital administration	89
Public health nursing	29
Health education	34
Behavioral and social sciences	39
International health	19
Other	18

Today the diversity of disciplines in school faculties is much greater.

Beyond all the technical disciplines is an attitude of attaining social justice that has increasingly come to permeate all higher education in public health (*23*). Such a philosophy is built on both human values and pragmatic efficiency in the operation of national health systems.

Since our universities have not mobilized this vast range of knowledge and these social values to prepared genuine professional doctors of public health, the role of public health leadership has gone, by default, to doctors of clinical medicine. These physicians know a great deal about the diagnosis and treatment of sick persons but can hardly be expected to know very much about the promotion of health and organization of medical care in populations. The reasons for appointing physicians to public health posts everywhere are related to tradition—not rationality. Very little of the basic and clinical sciences, studied intensively in medical schools, is relevant to the tasks of public health. (I can still recite the branches of the external carotid artery, but in more than 40 years of public health work I have never had occasion to make use of this knowledge.) Society has chosen physicians for this role, usually without even 1 year's exposure to public health concepts, because there was no one else to turn to.

A New Health Profession

Now, in period 4 of higher education in public health, we are looking at the contours of a new profession without recognizing it. If we compare the doctoral graduate of a medical school with the doctoral graduate of a public health school, the contrast is ironic. The MD knows something about all organs of the human body, about all diseases and all forms of diagnosis and treatment. The medical graduate who somehow failed to learn anything about the anatomy of the liver, the enzymes of the pancreas, or the uses of radiation therapy would not be accepted by a medical licensing body. Yet, current doctors of public health who majored in epidemiology may know absolutely nothing about health insurance, and DrPH graduates concentrating in health administration may be totally ignorant of the risk factors in heart disease.

Specialization, of course, is highly valued in modern society. Yet, for all its generalized scope, it may be noted that medical education commands respect throughout America and everywhere in the world. The clinical physician (generalist or specialist) ranks number one in social prestige, whenever opinion surveys pose the question. It may also be noted that medical schools in the United States gave up the requirement of a research dissertation for the MD degree decades ago.

The manifest need is for doctoral generalists in public health who can provide the leadership urgently needed. Specialization can be acquired in later years, as it can be for the doctor of medicine. The academic training of specialists for scientific research and university teaching, of course, must continue in the PhD model and tradition. But if the goal of the World Health Organization to achieve "health for all by the year 2000" is to be

more than an empty slogan, thousands of doctoral generalists must be trained.

From a relatively streamlined review of the scope of knowledge in modern public health, one can identify some 43 subjects about which a minimum knowledge should be acquired by the future doctor of public health. This knowledge may be classified under the four main headings shown in the box on the right.

For students to master this range of knowledge and concepts, along with appropriate field studies, elective courses, and a modest research exercise, would require at least 5 years. This is 5 years following a bachelor's degree, compared with the 4–7 years after the BA taken by current graduates earning the DrPH or PhD in public health. Unlike the situation in periods 1 and 2 (1913–45), a prior MD degree would be quite unnecessary. If a physician wished to undertake these professional studies, he naturally should be welcome; but to require such a lengthy educational investment (much of which would be quite irrelevant) as a general rule would be socially and economically extravagant.

This proposal cannot be dismissed as a figment of an overactive imagination. See the box on page 450 for the outline of a feasible schedule of studies for the professional doctorate in public health, which could, with moderate adaptation, be readily implemented in most U.S. schools of public health. Here and there, a new course may need to be developed; but on the whole, instruction in the subjects listed is already available in most schools—plus many more courses that may be chosen as electives. I have tested this theoretical curriculum against the courses listed in the 1987–88 annual "Announcement of the UCLA School of Public Health" (even considering the constraints of the days and hours scheduled for courses each week and each quarter of the academic year). With only a few gaps to fill, the proposed type of curriculum could be readily put in place. The gaps could be easily filled, and the only question—to use WHO jargon—would be one of "political commitment."

Some Practical Considerations

This proposal may strike some persons as utopian or unrealistic. Compared with the prestigious doctor of medicine, it will be argued, the new *doctor of public health* would not be accepted socially. Furthermore, some may ask, who would apply for such graduate education, considering the uncertainties? Would the entire idea be approved

The Scope of Public Health Knowledge

Basic Tools of Social Analysis

1. Population and demography
2. Historical evolution of public health
3. Biostatistical techniques and analyses
4. Population sampling and surveys
5. Methods of program evaluation
6. Principles of medical sociology
7. Political science of health systems
8. Principles of health economics
9. Concepts of culture and medical anthropology

Health and Disease in Populations

10. Major diseases of man
11. Descriptive epidemiology (vital and health statistics)
12. Concept of risk and epidemiologic methods
13. Infectious diseases in populations
14. Chronic disorders in populations
15. Methods of clinical diagnosis and treatment
16. Nutrition and malnutrition
17. Environmental hazards
18. Mental health and disease in populations
19. Global ecology of disease

Promotion of Health and Prevention of Disease

20. Environmental sanitation and protection
21. Occupational health control and safety
22. Maternal and child health services (including family planning)
23. Mental health services
24. Communicable disease control
25. Control of sexually transmitted diseases
26. Nutritional programs
27. Dental health protection
28. Health education and behavior modification
29. Chronic noncommunicable disease control
30. Geriatrics and rehabilitation

Health Care Systems and Their Management

31. The national health care system
32. Health manpower development
33. Health facilities and their administration
34. Drugs, medical supplies, and their logistics
35. Health planning (population-based)
36. Health insurance and Social Security
37. Management of health programs
38. Budgeting, cost controls, and financial administration
39. Records and information programs
40. Community and intersectoral relations
41. Health legislation and ethics
42. Health systems research
43. Comparative international health systems.

Proposed 5-Year Curriculum for Professional Doctorate in Public Health

Schedule	*Academic hours*
Year I	440
Summer	120
Year II	500
Year III	500
Year IV	480
Summer	160
Year V	500
Total	2,700
Required courses (43)	1,780
Electives (8)	320
Field experience	280
Dissertation	320
Total	2,700

Year I

Fall:
- Population and demography, 40 hours
- Major diseases of man, 40 hours
- Environmental hazards, 40 hours

Winter:
- Descriptive epidemiology, 40 hours
- Nutrition and malnutrition, 40
- Principles of medical sociology, 40 hours
- Methods of clinical diagnosis and treatment, 40 hours

Spring:
- Historical evolution of public health, 40 hours
- Infectious diseases in populations, 40 hours
- Concepts of culture and medical anthropology, 40 hours
- Principles of health economics, 40 hours

Summer:
- Field training through visits to 10–15 different agencies concerned with various aspects of health system operation, 120 hours

Year II

Fall:
- Biostatistical techniques and analyses, 60 hours
- Concept of risk and epidemiologic methods, 40 hours
- Population sampling and surveys, 40 hours
- Chronic disorders in populations, 40 hours

Winter:
- Mental health and disease in populations, 40 hours
- Political science of health systems, 40 hours
- Environmental sanitation and protection, 40 hours
- Communicable disease control, 40 hours

Spring:
- Nutritional programs, 40 hours
- Maternal and child health services, 40 hours
- Health education and behavior modification, 40 hours
- Dental health protection, 40 hours

Summer: No courses

Year III

Fall:
- Chronic noncommunicable disease control, 40 hours
- Mental health services, 40 hours
- Control of sexually transmitted diseases, 40 hours
- Elective, 40 hours

Winter:
- Occupational health control and safety, 40 hours
- Geriatrics and rehabilitation, 40 hours
- Methods of program evaluation, 60 hours
- Elective, 40 hours

Spring:
- Global ecology of disease, 40 hours
- The national health care system, 40 hours
- Health manpower development, 40 hours
- Elective, 40 hours

Summer: No courses

Year IV

Fall:
- Health facilities and their administration, 40 hours
- Drugs, medical supplies, and their logistics, 40 hours
- Records and information programs, 40 hours
- Elective, 40 hours

Winter:
- Population-based health planning, 40 hours
- Health insurance and Social Security, 40 hours
- Community and intersectoral relations, 40 hours
- Elective, 40 hours

Spring:
- Management of health programs, 40 hours
- Budgeting, cost controls, and financial administration, 40 hours
- Health legislation and ethics, 40 hours
- Elective, 40 hours

Summer:
- Field placement in one health agency for 10 weeks, 160 hours

Year V

Fall:
- Comparative international health systems, 40 hours
- Health systems research, 60 hours
- Electives (2), 40 hours each

Winter:
- Identification of a public health problem for field investigation and library research. Outline of dissertation in detail, 160 hours

Spring:
- Completion of problem-oriented dissertation. Defense of dissertation, 160 hours

by the academic bureaucracy? If graduates are turned out, would they be hired by public authorities or nonpublic agencies? What about governmental licensure?

These and other questions must be answered, but one should first recall that the history of the health professions is studded with sagas of courage and adventure (*24*). Consider nursing and Florence Nightingale; consider the origins of pharmacy from the mysticism of alchemy; consider the rise of dentistry from the itinerant artisans who pulled teeth; consider the evolution of public health itself. A new professional doctor of public health will not be recognized everywhere overnight. Before long, licensure would doubtless be required. (Why should we demand licensure of physical therapists and laboratory technicians and ignore the qualifications of persons responsible for the health protection of thousands or millions of people?) But the intrinsic soundness of the idea should prove itself within a few years.

Regarding the emergence of applicants for such a new doctoral program, there can be little basis for doubt. After my first publication of an article on this idea in January 1986, I received numerous inquiries about it from all over the country (*2*). "Where can I enroll in such a program?" young people asked. In talking with graduate students at UCLA and elsewhere, I have found widespread interest. Many of the brightest and most socially oriented students have said, "I want to work for an advanced doctoral degree in public health, but I do not wish to have an academic career. I want to do community work. Must I first go through medical school if I wish to be qualified for a significant leadership role in public health?"

My usual reply is that, when I started public health work in 1941 (period 2), a medical degree was virtually required for anyone hoping to make a real contribution in public health. There were exceptions, of course, but they were rare. Today, I then add, a medical degree is no longer prerequisite to a worthy public health career. There are DrPH and PhD programs in public health open to students from a wide variety of backgrounds. Their focus, however, is essentially academic, and the career opportunities involve a high degree of specialization.

In the meantime, protecting the health of general populations is largely in the hands of medical practitioners not adequately qualified for their work. This inadequacy applies to public health leadership at the level of communities, districts, provinces, regions, and nations. The fact that some of these officials do splendid work is due largely to their personal philosophy, courage, self-instruction, insight through experience, advice from colleagues—certainly not their education (*25*). This crucial deficiency should be corrected by the schools of public health in the United States and elsewhere, with the urgency required. We have the knowledge, we have the teachers, we have the schools, and we are increasingly acquiring the requisite social values. What remains is to take the necessary action.

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Continuing Outbreak of Hepatitis A Linked with Intravenous Drug Abuse in Multnomah County

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Synopsis

A communitywide outbreak of hepatitis A occurred in Portland, OR, from 1983 through 1986. At the peak of the outbreak, the age- and sex-specific annual incidence rate approached 400 cases per 100,000 population among men ages 25 to 34, the highest risk group. The community incidence rate was nearly 10 times the relevant national incidence rate.

A review of the records concerning cases of hepatitis A reported in the last 6 months of 1985 revealed that about half the number of young adults whose cases were investigated during that time reported a history of intravenous (IV) drug use—a proportion about 50 times greater than expected among persons in that age range. A simultaneous epidemic of overdose deaths from heroin and a concomitant increase in hepatitis B incidence rates led to the suspicion that this was a drug-abuse-associated epidemic of hepatitis among new IV drug users.

Control of this outbreak was difficult because the population most at risk was distrustful of public health officials. Increased surveillance in food service establishments and schools might have prevented outbreaks from a common source in the general population; however, an increase of sporadic cases in the nondrug-using population clearly occurred.

THE MULTNOMAH COUNTY HEALTH DEPARTMENT began receiving reports in 1983 of an increase in cases of hepatitis A among young intravenous (IV) drug users in other counties of Oregon (*1*). The first reports came from rural counties in southern Oregon and subsequent ones from counties in the Portland metropolitan area adjacent to Multnomah County. In August 1983, we noted a sudden increase in the numbers of hepatitis A cases being reported to the Multnomah County Health Protection Division (HPD) (*2*). At the same time, HPD nurse epidemiologists who investigated those reports began hearing persons with hepatitis A frequently relate a history of IV drug use.

The epidemic of hepatitis A continued for more than 3 years. We undertook a retrospective study of the descriptive epidemiology of hepatitis A in Multnomah County during 1984 and 1985 to determine whether there was unusual hepatitis A activity among drug users and whether any additional hepatitis A control measures could be brought to bear.