Coordinating the experts and the masses: the professions of health and the creation of American community health, 1915-1940

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Coordinating the experts and the masses: The professions of health
and the creation of American community health, 1915-1940

by

Philip L. Frana

A dissertation submitted to the graduate faculty
in partial fulfillment of the requirements for the degree of
DOCTOR OF PHILOSOPHY

Major: History of Technology and Science

Major Professor: Alan I Marcus

Iowa State University

Ames, Iowa

1999

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This is to certify that the Doctoral dissertation of

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For the Major Program
Signature was redacted for privacy.

For the Graduate College
For my wife, Kelli

*Non solum sed vitae*
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CHAPTER I: AN INTRODUCTION TO COMMUNITY HEALTH

This dissertation reveals just how American public health professionals perceived themselves between 1915 and 1940, how they conceived of their expertise, and what they proposed to do with it. By examining their own conclusions about the way things work or, alternately, do not work, the outlines of an entirely new way of practicing public health appear, described at the time as "community health." I wish to explore the process of invention and reinvention as it developed in the minds of the public health elite—those who by addressing particular problems in professional journals and books shaped the debate—and in the hands of those who implemented and lived with their decisions. This is not so much a dissertation revealing how public health professionals acted upon their professional debates (though illustrated in some detail in the chapters on health salesmanship and demonstrations). Rather, it emphasizes the debates themselves. It is essentially an intellectual history of the re-professionalization of public health.¹

The period stretching from around the time of the first World War through the 1930s witnessed the development of a new profession out of the old: so-called modern "community health." The crystallization of community health as a unique field, sometimes called the "new public health," delimited a period in which the model of sanitary science and state medicine bore refinements and new ideological injections. These refinements and injections, taken together, took the professions of community health in new directions while preserving much of the usable knowledge and applications wrung from the older model for expertise, a model determined to

objectively identify a crying social need, initiate the process of self-identification, standardize new knowledge, create an organization with restrictive membership requirements, found journals, and establish university departments and laboratories where ideas might be transferred from professionals to naifs. Health professionals did not discard the principles and practices of previous decades wholesale, but rather transformed them.\(^2\)

Many historians have noted a current of reform in American public health in the second decade of this century. Often, these scholars point to the influence of Yale Professor of Public Health Charles Edward Amory Winslow—perhaps the most well-known public health philosopher of the time—in bringing popular health education to center stage.\(^3\) Popular, or public, education is certainly one factor that contributed to the reinvigoration and transformation of public health, but there are also many others. Professional public health became by the 1920s an associational “field of social activity” populated by experts drawn from the newly “scientific” professions of psychology, psychiatry, sociology, and social work, as well as the traditional medical specialties of vital statistics, bacteriology, medical science, sanitation, and engineering.

“Teamwork,” “team play,” and “choreography,” moreover, became the watchwords of effective and efficient professional activity. Experts extolled the virtues of “cooperation,” the universal glue, and “coordination,” the universal solvent, of professional and lay interaction. Cooperation

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and coordination paralleled professional desire for more generalized, general-purpose, or multipurpose principles and practices. Ideally, generalized principles and practices illuminated the apparent plasticity of human existence. Health, unlike traditional sanitary science, no longer simply consisted of a heaping up and winnowing out of expert knowledge and practice.

Community health in the minds of early twentieth-century professionals constituted an "ever changing" profession molded around and created out of everyday life. Change in one principle or practice inexorably transformed every other. Health, in other words, needed to be organic and dynamic, not artificial and static.

This study is broadly constructed to accurately reflect the encompassing nature of modern community health itself. The ancient Greeks had two words germane to the interwar professional conceptualization of community health: *synoikismos* and *agape*. *Synoikismos* explained the gathering together of houses to make a polis, something greater than the sum of its constituent parts. *Agape*, a concept deployed often between the wars, referred to the unselfish caring and seeking for the greatest good within a closed circle of people engaged in mutual giving and taking. Like *synoikismos* and *agape*, community health gathered together the strengths of specialized scientific experts and educated laypeople, arranging them into a whole stronger than

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any individual. Community health thus represented at the same time one profession and many professions acting (ideally) in concert. Thus, this project concentrates on the many parts—public health nursing, child hygiene, industrial hygiene, mental hygiene, popular health education, philanthropic effort in health demonstrations, familial epidemiology—as well as their shared, common ideas which permeated community health generally.⁵

Chapters III through VI are structured much the way community health professionals thought of themselves. They are organized latitudinally rather than longitudinally. That is, the core of my dissertation is composed of a cross-section of professional thought; it shows a set of distinguishable scenes locked in one particular period of time. It does not follow the exploits of individuals or organizations in continuous or linear fashion over immense spans of time. It does not trace the origins of community health back into distant past.

Nor does my dissertation seek to use the past as a fund to throw light on a present predicament, at least not in any conventional way. It seeks only to compare and contrast what modern twentieth-century health professionals described as normal organization and practice with the normal organization and practice of health professionals in the progressive late nineteenth century. But what is normal and what is normative? It should become clear that elements or parts of this normal organization and practice of the late-nineteenth-century became in certain contexts in modern times what was abnormal about the past. Each set of professionals locked in time related to one another using authoritative standards regulating proper or accepted wisdom about the “order of things.” But the authoritative standards changed around 1915, rendering the old (progressive, hierarchical) order of things incompatible with the new (modern, associational) way of knowing about health.

Chapter II interprets what came immediately before community health, something commonly called “sanitary science.” It derived its authority in large measure from the laboratory, sought to establish a uniform nomenclature and practice, and erected standards for professional expertise. In the process it specialized, ordered itself in hierarchical fashion, and systematically sorted out diseases and preventive regimens into classes. Chapter III presents brief vignettes of William Thompson Sedgwick and Charles-Edward Amory Winslow, two individual health experts who knew each other intimately as teacher and student yet explicated very different professional imperatives. The chapter is used to bridge the gap between the older sanitary scientific way of describing and organizing health professionalism and the new community or associational way. Chapter IV is given over to a discussion of “generalized” public health nurses as the preeminent middlepersons in community health practice. Chapter V describes and interprets child hygiene in the age of association, and the growing Depression-era imperative to maintain the health of the “whole child.” Chapter VI details new, more inclusive role of the industrial hygienist in promoting health wherever workers were found, that is, in factories, in department stores, in the home, and out in the community. Chapter VII addresses community mental hygiene and its newfound preoccupation with the “normal” mind.

The next two chapters seek to split apart and separate out for independent analysis that which at the time would not have been split-apartment. Chapter VIII is given over to so-called “health salesmanship,” a way of educating the public in modern community health that would have appeared distinctly unprofessional in the late nineteenth century. Chapter IX deals with philanthropic health “demonstrations” designed by experts to create popular demand for community health. Chapter X examines community health in microcosm, that is, as it operated in families, the most fundamental units of modern American life. It seeks to demonstrate how
this "natural" group informed and was informed by experts interested in "familial epidemiology,"
described at the time as employing eminently useful, community-oriented research
methodologies. My dissertation concludes with an evaluation in chapter XI of the place of
individuals, and particularly their physiology, in an age where definition is so often found through
association. Here, late-nineteenth-century perfect, special-purpose physiological functioning and
health is compared with modern twentieth-century notions of relative, general-purpose
physiological functioning and health.

The remainder of this preface defines community health in the eyes of those who
practiced it, and describes those administrative forms and institutional mechanisms designed to
implement it.

In 1917 Donald Budd Armstrong, then Assistant Secretary of the National Association
for the Study and Prevention of Tuberculosis, announced that "the community is the logical
social unit for disease prevention and control." But what did he mean by that, and how could it
be so self-evident? Even C.-E. A. Winslow, once described as "one of the most widely quoted
health leaders in the country," had difficulty at times defining and describing his own profession
on occasion. "It doesn't include anything that is peculiar to itself, as law and medicine and
geology do," he quipped in 1943. "If you try to seek for that content of public health which is
not present elsewhere, you can't find it." Community health, he obfuscated further, dealt with
"the application of a whole galaxy of sciences in a particular field associated with social activities,
and that is one of the things that makes our task so complex."^6

The ideological foundations of the professions of public health did become more associational in the late 1910s and 1920s. Experts continued to explore and build upon such traditional subjects as vital statistics, bacteriology, sanitation, and engineering, but built and broadened cross-connections to subjects created and refreshed by interest in the social sciences. Sociology, social work, psychology, psychiatry, and popular education all became crucial elements behind the efforts of public health experts. The new emphasis on the social sciences lessened professional self-identification in terms of a hard, quantifiable, laboratory-oriented discipline, while fixing its gaze on larger social problems, that is, as more an applied "art" than as only a basic science. In sum, the "authentic experience" of public health had changed.7

Such inclusiveness stimulated professional desire for more generalized, multipurpose health practice. "While specialists are certain to remain and while they, without doubt, fill a distinct place in the public health program," advised Athel Campbell Burnham, director of the Atlantic Division of the American Red Cross, "the tendency of the recent graduates to specialize should be discouraged." Lewellys F. Barker of the Yorkville, New York, Medical Society likened the specialist to the factory "piece worker." Both, he argued, were "exposed to a particular set of dangers," including narrowness, monotony, loss of adaptability, objectionable aggressiveness, single-purposeness, stubborn opinionated-ness, boastful self-sufficiency, selfish materialism, vanity, and arrogance. He recommended instead the "knitting together of specialists into a well-coordinated producing mechanism" by "diagnostic summarizers," "diagnostic integrators," "group managers," or "group organizers."8

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7 Winslow, The Evolution and Significance of the Modern Public Health Campaign, 1; Lloyd Ackerman, Health and Hygiene: A Comprehensive Study of Disease Prevention and Health Promotion (Lancaster, Penn.: The Jacques Cattell Press, 1943), 5.
What appeared as grossly overspecialized health research agendas came under especial scrutiny. "The word 'research' has fallen into some disrepute in certain quarters lately," noted Milbank Fund board member Albert G. Milbank at the New York Health Conference in 1930. "It has been referred to as a profitless search to learn more and more about less and less, a modern fad whose final goal will be to produce a super-scientist, an ultima thule of scholastic perfection who will know everything about nothing!"19

Creating a profession representative of ordinary life led health experts, to an unprecedented degree, to enlist everyday Americans in the war against disease in everyday life. Community health demanded the application of the talents and abilities of experts to the whole community as well as the service of laypeople in achieving their goals. One of the central doctrines of this democratic public activity involved enlightened "salesmanship." Experts stressed not only the routinized and standardized teaching of physiology and hygiene, a staple of schools and colleges as early as the 1870s,10 but the “selling of health” by persuasion rather than

pure reason. Invariably, however, health professionals remained the gatekeepers of their own expertise. Experts always remained more equal than laypeople in the American democratic experiment with community health.\(^1\)

The community approach to health dovetailed nicely with a simultaneous desire to decentralize service. Public health professionals had tried many times to build a national, state, and local hierarchy for health administration since the end of the Civil War, and despite repeated frustrations and outright failure had clung tenaciously to the idea of some "national sanitary bureau." By 1915, though, public health experts began shifting their attention to what they perceived as the great problem of wasteful "duplication and overlapping" of health service and administration. Many observers noted that the organization of local health units—districts for

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the cities and county health units in the countryside—might reduce this waste. As historian Alan I Marcus put it, "As a consequence of their growing acquaintance with the bacteriological view, which was bolstered by epidemiological determinations, and the socio-technological transformation of America, many Americans saw disease prevention as a national problem and recognized that intercommunal action and cooperation were necessary facets of any public health campaign."

Only four county health units existed as late as 1912, in Jefferson County, Kentucky; Yakima County, Washington; and Guilford and Robeson counties in North Carolina. Jefferson County, comprising the city limits of Louisville, organized a county department of health under its first full-time health officer B. W. Smock and several part-time sanitary inspectors in 1908. Yakima County hired Thomas Tetreau, a physician trained in sanitary science, along with a bacteriologist, a clerk, and several public health nurses and sanitary inspectors during a raging typhoid fever epidemic in 1911. The last two, in Guilford and Robeson counties, were inspired in large measure by the short-lived community efforts of the Rockefeller Sanitary Commission for the Eradication of Hookworm Disease. A county health department in Guilford County, with the city of Charlotte within its boundaries, came into existence under the full-time health officer G. F. Ross in 1911. The predominantly rural county of Robeson, North Carolina, organized its first county department the next year.

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Demonstrations projects, showcases for applied community health, sponsored by the National Tuberculosis Association, the American Child Health Association, the Milbank and Commonwealth foundations, and the United States Public Health Service (USPHS) encouraged first steps toward county or district health organization. By 1923, the number of full-time county health departments had grown to 214. In 1930, there were 505 county health units operating in the country, paid for mostly out of county revenue and supplemented with financial and professional assistance granted by state boards of health, the USPHS, the International Health Board of the Rockefeller Foundation, the American Red Cross, and the Children's Bureau of the U.S. Department of Labor.15

Urban district health units also sprouted rapidly and profusely. In Boston Charles F. Wilinsky in 1916 opened the cooperative Blossom Street Health Unit, harboring in one building the Boston City Health Department, the Consumptives Hospital Department, Instructive District Nursing Association, Milk and Baby Hygiene Association, the offices of a visiting physician of the Boston Dispensary, and the Hebrew Federated Charities. By 1923, with the assistance of public health nurse Mary Beard, the Blossom Street Unit had expanded to include dental and nutrition services, tonsil and adenoid examination facilities, offices of the Boston Community Health Association and Boston Sanatorium, and a Habit-Forming Clinic operated by the State Department of Mental Diseases. Donations in excess of six million dollars received from the George Robert White Fund allowed the city to create seven more district health units.16


The Milbank Memorial Fund along with other public and private agencies contributed large sums in the late 1910s and 1920s to the Bowling Green, Mulberry, Greenwich Village, and East Harlem districts of New York City to establish coordinated, comprehensive health services for their residents. District health centers replaced what health experts regarded as out-of-date or "old-fashioned" charity dispensaries, gymnasias, and soup kitchens. New York district health units created health centers that did infant welfare work, carried out prenatal and infant health examinations, encouraged mouth hygiene prophylaxis, put on nutrition, posture, and habit clinics, performed minor surgeries, and treated minor wounds and diseases. The Milbank Fund staged a demonstration of new community health principles and practices in the district of East Harlem to show that decentralized and generalized service was superior both administratively and financially to specialized city health department and voluntary service. As proof demonstrators showed that the average cost of a home visit under the generalized plan was only eighty-nine cents, compared with $1.25 under the specialized plan. At the same time the tuberculosis death rate tumbled twenty percent. By 1940, New York City's Department of Health had organized thirty "neighborhood" health districts complete with their own health centers or "health houses." Many other cities across the country from Baltimore to New Haven and Cincinnati to Los Angeles adopted similar plans for administering and distributing health resources.17

This decentralized yet generalized county and district focus became institutionalized ideals among professionals in modern America. The Committee on Administrative Practice of the American Public Health Association established in 1920 by C.-E. A. Winslow and others surveyed the health service of eighty-three large cities and laid plans for their division into more

manageable district units. Health administrators also addressed the problem of constructing uniform, flexible, ideal plans for community health administration at the 1926 meeting of the American Health Congress in Atlantic City. They used as grist for their mill surveys of city health services done by Winslow, Yale professor of public health Ira V. Hiscock, and the American Child Health Association. Administrators focused their efforts on applying community health to three “average” American city sizes, those with populations of about thirty thousand, fifty thousand, and one hundred thousand.®

The three community plans to be applied nationwide that emerged from their deliberations bore essential similarities. Health administrators agreed that health departments had to be governed by five member health boards with little or no direct involvement in daily public health work, and composed wherever possible of one physician, one businessman, a lawyer, an engineer, and a woman. The work of community health also had to be lodged in a department of health, supervised by a health officer or commissioner of health. Departments were to perform administrative, statistical, communicable disease, child hygiene, sanitary, public health nursing, and laboratory functions. Administrators at the 1926 American Health Congress meeting also agreed that generalized public health nursing service was better than specialized, single-purpose practice, that is, dividing nursing into three artificial groups: visiting nursing, institutional nursing, and private duty nursing. These recommendations were codified by the Committee on Administrative Practice of the American Public Health Association into the four editions of Community Health Organization (first edition, 1927), edited by Hiscock. “Regardless of the scope and extent of its powers and duties,” he concluded in the 1932 edition, “every health department

is an integral part of the community government, responsible to some central authority, and interrelated in its activities with the general conduct of municipal affairs."

The ideal "large city" of one hundred thousand was constructed from a foundation of modern municipal sanitary code consistent with state rules. The health board or the mayor appointed a full-time health officer or commissioner to run the department of health and its satellite health centers scattered throughout the city. The department itself was ideally divided into eight separate bureaus and numerous subdivisions. These bureaus were those for administration, vital statistics, communicable disease control, child hygiene, public health nursing, sanitation, food inspection, and laboratories. The bureau of administration was to be split in two parts, the division of administration and the division of public health education. The bureau assigned to communicable disease control was to be divided into divisions dedicated to epidemiology, tuberculosis, and venereal diseases. The bureau for child hygiene was to be divided into divisions for infant and school hygiene. The bureau of food inspection was to be split into divisions for milk control and for food and drugs. The city of one hundred thousand also required an advisory committee of "interested, public spirited citizens."

The ideal "small city" of fifty thousand also consisted of a supervisory board of health, a full-time health officer overseeing the department of health, and an advisory committee. It did not necessarily include neighborhood health centers. Six bureaus were suggested for cities of about this size: administration and records, communicable disease control, child hygiene, public health nursing, inspection, and laboratories. Vital statistics became a responsibility of the bureau

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20 Hiscock, ed., Community Health Organization (1927), 8-52.
for administration and records. Food inspection and sanitation, separate bureaus under the large city plan, were merged in the inspection bureau.  

The ideal "rural community" health plan for about thirty thousand residents was usually to be organized on a countywide basis. The plan demanded a county health board, this time with the full-time health officer or commissioner of health as a member. An advisory committee and close cooperation between the health department and voluntary agencies were also a necessity. Six bureaus, like the small city plan, made up county departments of health.  

As notable as what administrators agreed to include in health department organization was what they did not. Health experts did not include among the plans for community health administration much of what had formerly formed a mainstay of sanitary science and practical hygiene work. Garbage collection and street cleaning were relegated to public works departments. Plumbing and housing inspection were given over to city inspectors. Water supply and sewerage control became functions of water departments. None of these activities were any longer considered part of community health work. Ira V. Hiscock in the first administrative monograph to emerge from the newly formed American Health Congress put it succinctly: "Many problems previously considered as functions of a sanitary division of the health department are recognized as duties of other official agencies, thereby conserving additional funds and resources for more productive public health work."  

Districts and county health units, moreover, needed special physical infrastructure in order to function properly. That place was the health center. As C.-E. A. Winslow announced in 1919, "The most striking and typical development of the public health movement of the present day is the health center." Ira V. Hiscock defined community health centers as the anchors

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21Ibid., 53-97.  
22Ibid., 98-122.  
23Ibid., 5.
holding together county and district units and as the centerpiece of the whole community health movement. They acted, ideally, as clearinghouses for administration, information, diagnosis, and supply. Hiscock argued that “the modern conception of a health center visualizes a community agency engaged primarily in preventive medicine and public health education, centering in an organization of physicians, nurses, and other health and social workers, and volunteers.” Health centers coordinated the experts and the masses for community health purposes. Frederick L. Hoffman, then consulting statistician for the Prudential Insurance Company, claimed that “by combining the administrative health functions with other essential auxiliary duties and health-promoting efforts, the health center could be made the radiating source of all local health activities, both public and private.” They also helped alleviate the gross inefficiencies of older administrative forms. Explained Charles F. Wilinsky, chief health officer of Boston, in a progressive era refrain: “Duplication, and consequent waste, frequent inefficiencies and misunderstandings, could not help but lead to the conclusion that there was a great need for better coordination and correlation, more efficient organization, and more harmonious understanding between those agencies concerned with the public health and with the amelioration of human suffering.”

Two types of health centers existed in modern community health practice. The first type, the “major health center,” consisted of a building or buildings containing all of the supervisory machinery necessary for public health, and often welfare, in a given area. The “minor health center” provided fewer services, or for the sake of efficiency served a single specialized function or constituency. The minor health center in many ways remained a still viable artifact derived

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from late-nineteenth century practice. Some of the more numerous and popular minor health centers were found in milk stations, well-baby clinics, and settlement houses.25

Hiscock himself stated that settlement houses and infant welfare stations had been the direct precursors of modern health centers. The settlement house movement which spread from England to America in the 1880s, he thought, had inspired public health pioneers like Stanton Coit, Jane Addams, and Lillian D. Wald to situate settlement houses in the immigrant districts of large cities. There they designed the houses as refuges where the foreign-born might acquire skills necessary for productive living. Visiting nursing (attending to the sick poor in their tenement apartments) and first aid, Hiscock argued, became two of the major functions of the settlement house. Independently, infant welfare stations popped up across the country beginning in the 1890s. These stations distributed clean milk to mothers, distributed advice regarding infant feeding and hygiene, and organized outdoor camps for tuberculous children. Nathan Straus, a New York businessman, first advanced the idea of a systematized supply of pasteurized milk in 1893 as a central feature of infant welfare stations, but the teaching function of the infant welfare station occupied a greater and greater share of their activities after the turn of the century.26

George Rosen, the prolific twentieth-century historian of public health, also traced the idea of health centers back to infant welfare and milk stations. Other hygienists in the late 1910s found origins for, and sometimes confused, community health centers with venereal disease clinics, visiting nurse’s offices, outpatient hospital clinics, and gymnasium. Longtime legal expert to the National Health Council James A. Tobey in 1921 argued that health centers probably derived from an expansion of dispensary responsibilities. The modern health center, though, he saw as essentially different, having a distinct advantage over dispensaries because “instead of caring only

26Hiscock, “The Development of Neighborhood Health Services,” 31-4.
for those came for treatment it reached out into a definite area and gave intensive health service
to all those whom its resources permitted it to handle.27

Settlement houses, infant welfare stations, and dispensaries produced professionals and
laypeople influential in later community health centers, but the principles and practices
undergirding these centers reveal a substantial shift in emphases. The most important difference
between older types of health facilities and major modern health centers derived from their
general-purpose orientation. Community health centers by definition furnished multiple services
all under one roof. Among the responsibilities of the modern center were epidemiology,
generalized nursing, medical examinations, school health, personal hygiene advice, mental
hygiene clinics, well-baby meetings, health education classes, publicity, vaccination, diphtheria
immunization, dental hygiene, sanitary inspection, and organization of voluntary organizations
and individual citizens. They did not specialize in one type of service or attack one particular
disease. This work now fell to the minor health centers, who continued providing single-purpose
health and welfare services only where more comprehensive centers proved unfeasible or
uneconomical. Also important, community health centers increasingly made the services of
professionals available to all residents, not just the poorer or immigrant classes. Health centers
also functioned as a convenient way to “decentralize” health service. Neighborhood health
centers in urban districts helped—both physically and cognitively—to bridge the gap between
expert and layperson. In other words, the health center brought professionals out of cocooning
institutions inaccessible to the public if only for a time, and distributed them in numerous,

approachable outlets.28

Health 11 (March 1921): 212.
28 Calver, “What is a Health Center?” 677; Philip S. Platt, “Symposium on the Health Center: Is the Health Center a
226; Tobey, “Symposium on the Health Center: The Historical Development,” 212; Hiscock, “The Development of
Boston’s health centers by the 1920s contained all the agencies necessary for supervising the health and social welfare needs of the district. The first floor of each center held a tuberculosis and well-baby clinic, dispensaries, x-ray equipment, and a spacious auditorium. The second floor sheltered the Community Health Association, Overseers of Public Welfare, Family Welfare Society, Catholic Charitable Bureau, and Associated Jewish Philanthropies. Each health center also contained a cafeteria, solarium, locker rooms, and showers for the use of workers. The buildings stood several stories in size, and were constructed substantially of durable brick.29

New York City also opened district health centers at an early date. Here, though, the construction of district health centers preceded the organization of comprehensive community health centers like those found in Boston. The first health centers, in particular, chiefly recreated in microcosm the activities of the late-nineteenth-century city health department. City health commissioner S.S. Goldwater opened the first health center on the lower east side of Manhattan in 1915. This “Health District No. 1” served a population composed almost wholly of Austrian and Russian immigrants, not assimilated native white Americans. Haven Emerson, Goldwater’s successor, opened four similar centers the next year in Queens. Each of these, again, operated as miniature health departments, not as comprehensive neighborhood health centers.30

By the time America went to war, only a handful of health centers existed.31 But when peace returned the American Red Cross made community health centers its first priority. The Red Cross, a self-described “people’s organization” founded by social relief worker Clara Barton in 1888, wanted to enlist everyday citizens into its health vanguard without jeopardizing the

scientific advances of modern public health. Health centers seemed to fit the bill perfectly because they encouraged association between experts and laypeople and served as a practical outlet for that activity. "The Red Cross Health Center," the organization proclaimed, "is a place from which health influences of all kinds radiate into all phases of the community life." ²

Red Cross health centers included among their functions, "in addition to its clinics, which are always directed by the local doctors, those of a general informational, social, and educational character, which can be organized and conducted by laypeople, with technical advice and supervision." They relied on local health center advisory councils to coordinate these activities and enlist public support. Members of each council included a local health officer, school superintendent, medical society officer, dentist, and representatives of other local professional and charitable organizations. The Red Cross used health centers to distribute popular health literature, show slides and films relating to proper hygiene, conduct demonstrations and construct exhibits, and organize Mother's Clubs and Little Mother's Leagues (for girls). By 1921, 318 Red Cross health centers existed in the United States, and 588 more were planned.³¹

Probably no single individual contributed more to the institutionalization of community-oriented health centers after the war than Hermann M. Biggs, commissioner of the New York State Department of Health. Biggs for four years lobbied alongside the State Department of Health, State Medical Society, State Sanitary Officer's Association, and State Charities Aid Association for the state legislature to pass his "New York Health Center Bill," first laid out in 1919. The bill, passed in 1923, allowed "a county, city, or consolidated health district to create and maintain one or more health centers and providing state aid therefor."

County supervisors divided counties into districts with centers staffed by health officers. Biggs also commissioned architectural drawings for buildings especially suited for health center activity. J. D. Burt, architect on staff with the New York City Department of Health, envisioned in his drawings rooms for laboratories, child welfare, dentistry, ophthalmology, tuberculosis diagnosis, treatment of venereal and skin diseases, and mental health. Space was allotted for a staff kitchen, lockers, bathing, and a “moving picture machine.”

Some of the first health centers created in New York City under this law were placed in impoverished immigrant districts. The Milbank Memorial Fund organizers, for example, established the Judson Health Center in an Italian tenement district of New York City in 1920. They described the area as consisting of families living in cramped quarters, packed on top of one another and “choked” with “screaming children” and street vendors. The Italians themselves were considered “poor, ignorant, in many cases superstitious, believing that health is a gift of kindly spirits.” But immigrants and the poor, while continuing to derive benefits from community health centers after the world war, became less and less the focus of efforts. Immigrant and poor districts demanded the earliest district health organization, for in these areas public health professionals found their greatest problems. However, as health center activities became more inclusive, that is, as their mission broadened, their target populations also became more heterogeneous. Rather than serving “special populations,” community health centers provided services to everyone who needed or inquired after them.

The only services usually dissociated from the health center were the private physician’s clinic and the hospital, though both still played a role in the proper functioning of community health centers.

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health centers. Annual physicals and health habit inventories might be done under the supervision of physicians working part-time or volunteering their labor in health centers. But the treatment of more than minor health problems in all but charity cases was the province of the family practitioner, the surgeon, and the hospital specialist. Health center personnel might discover significant illness and chronic illness in routine evaluations, but these patients were uniformly referred to physicians in private practice or to hospitals. Local physicians could use community health center equipment to diagnose health defects they otherwise might not identify, as in the use of x-ray machines for tuberculosis finding. This, it was frequently argued, might bring them more business than they might otherwise see, not rob them of patients as the old free dispensaries seemed to do.\textsuperscript{36}

Small community hospitals sometimes assumed the responsibilities granted health centers in larger cities. Often the "rural hospital," as it was sometimes called, became for all intents and purposes a "community institution" representing the "merger of the charity institution and a private facility" paid for by "community expense" through local taxes. These rural hospitals ideally acted as "social agents" in the community, coordinating local welfare work by instituting social service departments to link public and private agencies to both admitted and newly discharged patients.\textsuperscript{37}

The district health center model developed across the country with amazing speed and unity of purpose. Already in 1919, Los Angeles began dividing its territory to decentralize health service and built centers designed to correlate public and private agencies. Alameda and San Joaquin counties of California soon followed, as did New Haven, Connecticut; Buffalo, New


York; Green Bay, Wisconsin; Knoxville, Tennessee; and Baltimore, Maryland. By 1930, constellations of major and minor community health centers could be found as far away as Hawaii and numbered over 1,500.38

The new professions of community health also sought to integrate into their service one vast territory that nineteenth-century public health had neglected in particular and that the decentralization impulse of community health had revealed dramatically: rural health. “Only very recently has there been growing a general appreciation of another side of country life, the dark side, a recognition of the fact that on the farm are to be found just the same evils that exist in the tenement: poverty, ill health, neglect, and the rest, with only the difference that in the country these problems are unrecognized and uncared for,” explained C.-E. A. Winslow.

Triumph against the grave crises of urban public health had “produced a change in the health balance sheet between city and country.” So successful had public health been in the cities, that rural health appeared to modern community health professionals as a languishing sphere ripe for coordination and integration into the nation’s health program. As Allen W. Freeman of the American Public Health Association’s Subcommittee on Rural Health Work described the situation, “in rural areas . . . a primitive organization still prevails.”39

Experts considered the health problems of the rural population severe. Two University of Minnesota medical researchers, William P. Shepard and Harold S. Diehl, lamented the fact that “university students who have been raised in villages and on farms show more physical defects and more multiple defects than those raised in large cities.” Farm and village dwellers had


cavities, diseased tonsils, and poor nutritional habits. Gertrude Bilhuber, associate professor of physical education at Purdue University, reported that thirty-four percent of school children in rural Washtenaw County, Michigan, lacked any vegetables in their diet over the winter. Fully one-fourth of these same students drank no milk at any time of year, eleven percent never brushed their teeth, and fully one-third refused to open their windows for ventilation at night. Further, noted Cornell University assistant professors of hygiene Dean F. Smiley and Adrian G. Gould, few rural Americans ever considered seeking correction or remedy for their health defects.\textsuperscript{40}

As longtime Tennessee health officer and \textit{American Journal of Public Health} editor Harry S. Mustard put it, rural areas had the peculiar advantage of “closeness” between the government and the governed. When fitted to the needs of the local community and coordinated properly, rural health measures organized on a county basis could be as effective as urban health measures organized around districts. Here, in the backwoods, vast grasslands, and isolated mountainsides of the continent cooperation between laypeople and experts mattered most. With the supply of health professionals scarce, the interest and assistance of rural folk toward the mundane tasks of supplying loan closets with medical supplies or forming transportation corps for patients was critical. Because of the scarcity of health and medical personnel, generalized service was also essential. Sometimes the scarcity of personnel or funds demanded the organization of multi-county health districts. Still, Mustard complained, superstitious customs, hidebound tradition, and individualism often hamstrung rural health efforts.\textsuperscript{41}


The rural health movement reached its climax in 1945 when Haven Emerson as chair of
the Committee on Local Health Units proposed that twelve hundred local health units be created
to more evenly distribute health coverage over both rural and urban areas, thus bringing together
both rural and urban dwellers into a system delivering “full time health services at the community
level.”

Like a spinning top, health experts almost universally recognized that haphazard
centrifugal administrative motion over time might cause the whole movement for community
health to wobble out of control. Again, “cooperation,” the universal glue, and “coordination,”
the universal solvent, were called into play as balancing centripetal forces. Experts also addressed
the problem by reminding themselves of two fundamental questions of community health:
“What was a natural community?” and “How could public health service integrate itself into that
organic whole?” If public health professionals could tease out answers to these questions
community health would not need to worry about devolution overtaking decentralization. The
natural communities they found in modern American health were the neighborhood district, the
rural county, and at the most fundamental level the family, and health professionals structured
their activities accordingly.

Community health experts struggled less over unity of purpose than over their boundaries
and aspirations. The professions of community health purported to have a right to some share of
the work of nearly every other professional group, and a voice in the proper running of the daily
lives of all Americans. But how could one profession do everything necessary to investigate,
regulate, and promote healthy individual and group living?

42 Emson, et al., Local Health Units for the Nation, v-vi, 1-6.
The answer was twofold. First, community health was composed of several professions, not just one. It took public health nurses and mental hygienists, familial epidemiologists and industrial health experts, nutritionists and family practitioners, illumination engineers and health educators. Second, every other recognized profession potentially had a hand in the proper functioning of community health, as did every interested layperson. Community health, in sum, as a cooperative, coordinating venture, depended at least as much on the efforts of other professions and the public's acceptance and willingness to participate as upon its own expertise. This essential fact engendered not only great respect for and admiration of public health experts into the 1950s, but also threatened at every turn to unlock for others the door to their own authentic experience. It should not surprise us, then, that the current crisis in community health expertise—derived from our contemporary notions of the “professionalization of everyone,” of the perceived need for deinstitutionalization, personal responsibility, and empowerment in matters of health—came to pass, but that it took so long in coming.
CHAPTER II. BEFORE COMMUNITY HEALTH

The emergence of the public health "professional" in the nineteenth century should not be assumed to be only the obvious extension of the "Sanitary Ideal" of the "great men" of nineteenth-century public health, men like Edwin Chadwick, Lemuel Shattuck, and John Griscom. In fact, they were anything but "ideal" public health practitioners as defined under late-nineteenth-century esthetics. Chadwick came to sewerage as a solution to the problems of his native England by way of Benthamite utilitarianism. Griscom spent a career with New York's medical police rooting out public nuisances like garbage and overflowing privies, as well as disease-producing atmospheric disturbances. Shattuck carved out his living mainly by binding and selling books.43

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Rather, the idea of the professional public health worker demanded an expansion in the definition of "profession" itself, a word generally reserved for priests, physicians, military officers, and attorneys in the nineteenth century. The idea also demanded, in the last few decades of the century at least, public submission to the whims of an elite constructed of scientifically-trained and institutionally-educated experts who discovered, guarded, and dispensed judicial facts and concrete truths about prevention. That such a process did indeed take place is itself remarkable.

But that the profession of public health evolved so quickly, as the historical record reveals, and with such apparent integrity as a legitimate field without much initial agreement as to its principles, even among the professionals themselves is truly astonishing.

In his *The Sanitarians: A History of American Public Health* (1992), historian of medicine John Duffy remarked that the founding of the American Public Health Association (APHA) in 1872 clearly indicated that the period of the professionalization of public health was at hand.

Indeed, it is true that those individuals who gathered at 301 Mott Street in New York City on
April 18, 1872, to informally usher into existence the APHA agreed that they had formed an exclusive league of public health professionals. Still, the first several decades of the APHA should not be characterized in terms of inevitable or inexorable advances in public health. Despite claims by the early leadership to the contrary, the APHA in its infancy was no “harmonious” assemblage of individuals united by well-defined, common principles or practices. The organization, rather, though held together by a mission to advance scientific public health, was divided over such basic issues as administrative control, necessary character among members, nomenclature, etiology, and proper registration and reporting. In fact, the early reports and papers of the APHA reflect, in part, a concerted effort by members from the Northeast to attack and control diseases threatened by those considered to be “outsiders” or “strangers,” especially blacks, immigrants, and Southerners.  

The founders of the APHA—seven physicians, one attorney, an architect, and two medical statisticians—were all deeply united in their desire to apply scientific sanitary principles and promote state and national health laws. “The greatly increased interest in sanitary knowledge and its manifold applications,” wrote the first secretary Elisha Harris in 1874, “with an enlarged spirit of scientific inquiry which has begun to apply itself to the economical and social interests of mankind, already insure a numerous membership and harmonious working of the Association.” Harris’ vision of healthy growth materialized almost immediately. From a core of eighty members on the rolls at the time of the first national convention at Cincinnati in 1873, the organization grew rapidly. By 1900, APHA membership stood at over 560. 

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But Harris' notion of a "harmonious" host of like-minded members did not materialize. The early years of the APHA instead witnessed significant divisions emerging from wrangling over control and professional identity. The strong constitutional powers granted to the organization's Executive Committee constantly irritated newer members who referred to it confidentially as the "star chamber." These irritations exploded into public dispute over two repressive policies at the 1882 Indianapolis meeting. First, many members attacked the "gentlemanly" absence of debate following paper presentations. Members resented the enforcement of silence during and after sessions, a rule deliberately designed by the Executive Committee to encourage pleasant proceedings among members presumably of unimpeachable character.46

Second, then-secretary Azel Ames' proposal at Indianapolis to divide members into "active" and "associate" members threw the whole question of membership into question. Who was "active" enough to be identified as "active"? Did one have to attend national meetings? Pay dues? Be a physician of good standing? Have a state license to practice, or merely a medical school diploma? What was an "associate"? Was the APHA a voluntary organization (as the charter indicated), soliciting and accepting all who applied (save women)? Was it constituted merely to educate the public, or only the practitioners? And were those practitioners to be solely physicians, or did they include (as were currently accepted) plumbers, architects, meteorologists,

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and sanitary engineers? Was the organization to remain a debating club for refined gentlemen, or a space dedicated to inculcating public health expertise among scientific practitioners?

Members in the end reached a tense, uneasy compromise over these issues. The Executive Committee approved limited open debate, but did not encourage it. The Committee retained its powers to circumscribe debate where it deemed appropriate, and to select all members according to the quite open qualifications that they have an "acknowledged interest in, or devotion to, sanitary studies, and allied sciences." Still, a fractious minority remained concerned that too much power, especially to select or reject members rested in the hands of an Executive Committee armed with only fuzzy guidelines.

Many among that first generation of APHA members felt uneasy given the fluid nature of professional character maintained by public health professionals within the organization. In his account of the first attempt to form the APHA, founding member Stephen Smith noted the genteel refinement of the men he himself selected for membership. Other members spoke of Smith in a similar vein. Smith was "straight, erect, and self-disciplined as an army officer, yet with a genial, humorous 'twinkle,'” noted his close friend the medical historian Fielding Garrison.

“No one could clasp his hand and look into his face without feeling impressed with his

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astonishing vitality and virility.” Smith and other early members resisted the deterioration of this classic definition of the public health official, and helped achieve a sanitary expertise that was not only objective and scientifically rigorous, but also reserved and well-groomed.49

Massachusetts lawyer and APHA member Emory Washburn, however, responded to Smith’s faith in gentlemanly professional trappings with dismay. “For faith [without science],” he concluded in his speech at the 1875 Baltimore national meeting, “is too often but the substance of things hoped for, but not seen.” Resisting the gentrification of sanitary science, Washburn and a younger generation of APHA members instead preferred to advance a set of common, and presumably objective sanitary principles to replace the old-fashioned mores of their elder statesmen. The cultivation of expertise, they argued, conferred its own respectability. Sanitary science relied not so much on civility or any ritual, lectured the physician and Sanitarian editor Nathan Allen at the 1886 Toronto national meeting of the APHA. There was, he explained, “no mystery in it: no visitation of Divine Providence; no curse inflicted by some evil spirit.” It was just science; pure, objective science. Earnestness and temperance were, of course, still admirable and worthy achievements in their own right, but could be pursued by laypeople as easily as by professionals.50

The American Public Health Association membership also struggled to develop a standard vocabulary, a common language that befitted its standing as professional public health.

This sticky problem began with self-identification itself. In the 1870s and 1880s, members could not even agree what to call their expertise. Participants in these debates advanced such appellations as "public hygiene," "hygiene," "hygiology," "sanitary science," "practical hygiene," and "state medicine." They could not even agree on a proper spelling for "hygiology."^1

Beyond this rather disconcerting lack of immediate agreement, were the more immediate problems creating uniform taxonomies for the classification of diseases (or nomenclature) and systematically collecting mortality and morbidity data (vital statistics). Members viewed valid schemes for registering deaths as of the utmost importance, but did not clear this basic hurdle in all of the nineteenth-century activities of the APHA. Congress had passed legislation inaugurating a National Death Registration System in response to an 1879 resolution sponsored by the APHA Committee on Vital Statistics. Yet, despite this great achievement, it quickly became apparent that the statistics being collected by states under the Death Registration System were notoriously incomplete, erroneous in the determination of cause of death, defied uniform categorization, and suffered manipulation by local physicians who withheld information they deemed private or embarrassing. Moreover, many in the public had no idea that deaths needed to be reported to anyone other than family, friends, the priest or the pastor. Fears of local economic ruin in the reporting of epidemics also reduced official reporting. Inadequate mechanisms for communicating statistics to county clerks and state departments of health contributed to poor vital statistics collection. In Iowa, for instance, it took *three* painstaking years

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just to collect all the county mortality schedules into one state mortality report for the single year ended October 1, 1881.52

Many APHA members resisted attempts by the Committee on Nomenclature to hammer out a single system for naming diseases and classifying them. Michigan physician Henry B. Baker, mirroring the statements of many others, argued that “until these diseases are all more thoroughly studied and their causes better understood, any classification must necessarily be artificial, incomplete, and subject to change. . . . In this generation, every investigator must use his own classification” and compile and present them in the least misleading way, that is, simply by “alphabetical arrangement.”53

The nomenclature controversy within the American Public Health Association manifested itself because of deep controversies surrounding the cause of disease itself. Between 1872 and 1900, and for some as late as the 1910s, APHA members remained divided by several different, though by no means always mutually exclusive, conceptions of disease etiology. Put another way, the successes of Pasteur and Koch’s bacteriological investigations on the Continent did not translate into easy acceptance of the “germ theory” of disease among members of the APHA. In fact other loci for disease, particularly in “miasma” and “contagion” were both more popular theories among public health experts than the germ theory until late in the 1890s.54


The miasma or “filth” theory of disease located the source of many illnesses in invisible, noxious emanations from rotting garbage and other effluvia. Pools of stagnant water and newly disturbed soils were also potential sources of miasma. Poor climate or peculiar meteorological events could contribute to the production of the miasmic atmosphere ripe for disease production.

One participant in the debate over antiseptic theories, the mining engineer and APHA member Elwyn Waller, concluded on the basis of miasmic theory that “removal of odor” was the central test of antiseptic efficiency. Waller surveyed many commercial preparations, including those containing chlorides, sulphates, and various acids. Carbolic acid, a staple in the deodorizing of sewage for almost four decades, was also tried. Putrid blood was the odoriferous substance against which each product was tested. On this basis, Waller anointed carbolic as “by far the best disinfectant of all.”

Footnote:

“Contagion,” often reserved for chemical conceptions of disease like that of Justus von Liebig, likened the propagation of disease in the human body to the fermentation of organic poisons in otherwise innocuous substances. These decaying substances, often gaseous agents, could then be transferred to others through the air or by personal contact.\

Henry M. Lyman of Rush Medical College at the 1877 Chicago meeting of the American Public Health Association argued for contagion theory and against animalcules. “We know very well how [infectious diseases] prevail sporadically at certain times; and again as a pandemic pestilence. But what was the original source of their infection?” he queried. “We can never account for the first case of such disease” since “its causation must have been dependent upon the reaction between the human organism and the physical forces which impinge on it,” rather than “a direct transmission of infecting matters from one generation of patients to another.”

Lyman complained that

When Pasteur clears the blood of its parasites, the residuum is still confessedly infectious. . . . Now we know that all the different kinds of virus and the various digestive ferments, are the products of organized bodies, to wit, the cells which help to make up the tissues of animals in which they exist. Consequently, we must believe that a substance which responds in the same way to chemical reagents, and which like them can be separated as a soluble glycerole, must be a kindred substance, and must be the product of organized cells. And since it has been shown that bacteria do

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not liberate any such substance, the only remaining cells by which it can be produced are the cells of the animal itself. It is a product of morbid cell action.\(^7\)

In his estimation, the 1873 cholera epidemic that besieged the United States was “autochthonous,” arising spontaneously from the diseased condition of the individual, rather than “exotic” in origin. Lyman suggested that the disease, rather than arriving by a circuitous path from the “crowded” and “defiled” valley of the Ganges in India, may have originated in a sailor who “immediately after gorging himself with cabbage . . . was taken sick, and died the next day.”\(^8\)

Controversy swirled around the germ theory, largely because the origin of Pasteur’s germs was uncertain. Indeed, the germ theory itself existed not as a single entity, but rather in a multitude of forms strange to us today. Various germ theories ascribed disease production to infection from microscopic bacteria, parasitic vermin, algae growths, or fungi. Some advocates supposed that parasitic “vegetative forms” invaded the body from without. Others posited the germs, or morbid “gemmules,” were produced inside the unnaturally excited human body out of otherwise “normal bioplasm.” Consider the novel system for naming microscopic diseases of “parasitic” origin crafted by Vermont physician and first hygiene instructor at the Trenton (N.J.) State Normal School Ezra M. Hunt:

- Micro-organisms, . . . . . little organized particles
- Microbes or microbia . . . . . little living things
- Microzoa . . . . . little animals
- Microphytes . . . . . little plants
- Microzymes . . . . . little ferments\(^9\)

The notion of the “carrier state,” that is, observably healthy persons testing positive for infectious bacteria, also cast considerable doubt on the germ theory. One observer noted that, “A simple


\(^8\)Ibid., 93, 101-2.

form of fungus, called the *Sarcinia ventriculi*, is often found in matters thrown up by persons laboring under disorder of the stomach. But it is likewise found... in the stomachs of persons in perfect health.” Many permutations of these three basic categories of etiology (miasma, contagion, germs) were articulated by APHA members. Heterogeneous mixes formed from the basic precepts of each were standard practice in explaining the machinations of elusive diseases.  

So what did public health experts agree upon? Though the rank and file of the American Public Health Association remained divided over etiological matters, members generally agreed that certain classes of the population bred miasma, contagion, or germs all out of proportion to their numbers. Francis Amasa Walker, superintendent of the ninth U.S. Census (and later

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president of MIT), carefully laid out this problem in his 1873 paper delivered to APHA members. Walker in his well-received report contrasted the “uniformity with which the native white population contributes to the mortality from each specified cause in each section of the country by turns” and the corresponding “fluctuations among the colored and the foreign elements of the population.” These fluctuations, in his estimation, contributed fully one-third more deaths each year than otherwise expected among the native population. Walker specifically noted the particular “liability” of blacks to malaria, lung disease, yellow fever, venereal disease, and premature births.  

Further, Walker continued, while white Northerners did not grow sickly while living in the South, foreigners were increasingly felled by disease the further they moved southward. The South, he deemed, had a particularly insalubrious climate, and demanded the careful quarantine of southern ports whenever necessary. The South, moreover, had made both native blacks and whites weak, debilitated, and disease-prone. Southerners, it might be added, had little voice with which to refute Walker’s conclusions, comprising as they did less than thirteen percent of total APHA membership before 1900. 

Immigrants stood as the greatest threat to American public health. “With the immigrant came typhus and typhoid fevers, which resistlessly swept through the tenement houses, decimating the poverty-stricken tenants,” remembered Stephen Smith on the occasion of the fiftieth anniversary of the APHA. He considered the Scotch and Irish the most sickly. The Scotch were particularly susceptible to nervous system failure, locomotive difficulties, smallpox,  

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scrofula, cancers, paralysis, erysipelas, measles, and whooping cough. The Irish confounded the public health officials by their tenacious consumption, rheumatism, and “extraordinary mortality” from kidney disorders. Even the foreign-born English and Scandinavian immigrants suffered greater mortality than the native American population. The English were considered harbingers of dysentery, diarrhea, enteritis, typhus fever, bronchitis, and smallpox. Swedes, Norwegians, and Danes bore the brunt of diseases of the spine, circulatory problems, measles, scarlet fever, and diphtheria. Only the industrious and cleanly Germans exhibited an “evenness” in deaths comparable to that of native whites.62

Thus, immigration restriction and quarantine efforts perennially dominated discussion. In 1883, for instance, the APHA passed resolutions directing Congress to take action to “prevent, so far as possible, the coming of these foreign defective and criminal people to burden our resources, and to deprave, by the transmission of their defects to their children, the mental, moral, and physical qualities of our present and future people.” Several members bemoaned the immigrant threat in their own jurisdictions in debate prior to passage of this 1883 resolution. “In New Orleans you cannot go one block without coming upon a pauper making a living from begging by exhibiting his deformities,” exclaimed Executive Committee member Gustavus Devron. “He is brought from Europe; and that class of people I see every day in New Orleans; and if the laws were enforced, they would remain objects of charity in their own country.”

Physician Henry Pickering Walcott of Massachusetts, head of local charity groups dealing with the problem of “lunacy” agreed, noting that he had seen penitentiaries full of criminals hailing from European ports. Dr. Hillary Ryan expressed himself all too plainly in his support of the

resolutions. "Mr. President," he announced, "in Texas, the emigrants, Bohemians especially, are fearfully dishonest. Nothing can come in their way that they will not steal. . . . It is painfully true that the Germans and Bohemians are Germanizing and Bohemianizing Texas instead of Texas Americanizing them."

Not all members were so violently xenophobic, but the restriction of immigrants was without exception a common aim. Colonel George Waring, the sanitary "White Wing" of New York City, standing alone during the 1883 debate pleaded that the resolution "not pass, not because we do not appreciate, as we all do, the importance of the subject, but because it seems to me it is going beyond the range of our duties. It is like the question on intemperance, and I think we had better leave it alone." To which Walcott replied, with a peal of laughter and applause following, "If the insane population of the United States is not a concern of public health, in the name of heaven what is?"

The American Public Health Association did not stand alone as guardian of public health expertise in the late nineteenth century. The American Medical Association constituted a Section on State Medicine and Public Hygiene almost simultaneously with the founding of the American Public Health Association. The AMA and APHA both encouraged many of the same aims, like the formation of state boards of health and preventive health legislation. Indeed, many (though not all) of the members of the two organizations were the same. Henry I. Bowditch, for instance, was a founding member of the American Public Health Association in 1872 and president of the American Medical Association in 1877. Both organizations benefited from the atmosphere of public urgency attending several severe epidemics of typhus, typhoid, and yellow fever. Yet the

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AMA Section on State Medicine saw its influence gradually wane between 1874 and 1900, while the American Public Health Association rapidly grew in membership. Bowditch, who initially marveled at the “frequent intermingling of men” in the Section on State Medicine had already become disenchanted by 1876. “It must be confessed,” he wrote, “that [this] subject seems to afford less interest than any others [at the AMA national convention].”

To understand how the profession of public health became lodged in the American Public Health Association rather than the American Medical Association, both of which by 1915 were populated almost entirely by medical school graduates, it is crucial that we examine the aims of the Section on State Medicine. Close scrutiny of the core assumptions behind state medicine revealed in published papers reveals no fundamental break in plans or purposes, and no opposition to positions argued or held by the APHA. State medicine encapsulated the greatest advance in scientific knowledge in human history in the minds of its adherents. The selfish interests of elected officials and businessmen were considered its greatest enemies. And as in the APHA, urban immigrant groups remained the greatest threat to a healthy order of things, and cleanliness and objectivity were the watchwords of the profession. These ideas remained remarkably consistent.

The most striking common theme revealed by close scrutiny of the papers of the AMA Section on State Medicine is the enduring conflict over theory and practice. While confident of their science, delegates were unsure of its most efficient application in practice. Fear of falling into a political morass, uncertainty about the distinct role of state medicine within general medical practice, and competition from the more diverse American Public Health Association signaled a fundamental weakness of the Section. The medical historian John Duffy has already observed

the growing ambivalence toward public health by the AMA. What he did not comment upon is that this conspicuous ambivalence in matters of public health extended beyond the body of AMA practitioners as a whole to the very section given the opportunity to legitimate public health efforts among physicians.66

The purpose of state medicine as described by the Section's first chairman A. Nelson Bell, an active early member of the APHA, was to apply medical science and engineering to public hygiene problems. Delegates to the Section agreed upon a number of other key purposes: (1) institution of some sort of "National Sanitary Bureau," (2) collection of vital statistics, and (3) publication of warnings against the self-administration of alcohol as a medicinal. An unresolved problem delegates confronted at the very first meeting mirrored exactly that facing the APHA: what exactly was "state medicine"? Stanford E. Chaillé of the Louisiana State Board of Health pleased many when he articulated the definition of state medicine as "the application by the State of medical knowledge to the common weal; and embraces every subject for the comprehension of which medical knowledge, and for the execution of which State authority, are indispensable."

Still, throughout the late nineteenth century and into the early decades of the twentieth great confusion surrounded use of the term. "State Medicine is not an attractive designation," complained U.S. Navy Medical Director Albert L. Gihon in 1882, "though the difficulty is at once apparent of suggesting any other that expresses so distinctly the relationship of the State to the great ends the science of medicine aims to accomplish, the exhibition of the legislative will and executive authority of the body politic to the enforcement of what medical science has demonstrated to be essential to the public health." Gihon recommended that the Section

embrace single-mindedly the goal of assisting, in a “neutral” rather than political way, government campaigns to prevent disease.\textsuperscript{67}

Science formed the bedrock of state medicine, and practitioners increasingly fell to calling their expertise “sanitary science” to separate it from the wider administrative goal of public hygiene. Science, it was widely held, was liberating the professions from superstitions perpetrated by generations before. Public health knowledge would inevitably be transmuted into a purer, more valuable form with the advance of science. A. N. Bell marveled at both the advance of science and the economic progress of the nation, but he also noted that sanitary science had borne the first fruits of both. Even the millionaire industrialist turned to the physician for scientific expertise during an epidemic. The physician who practices state medicine for public benefit, he noted, stands as one of “the Scientific class” working outside the daily grind of business. The uncorrupted scientific class represented the great equalizer in society. The progress of medicine and public health from “esoteric” to “exoteric” was thought to be winning out over resisting secular and mystical ideas.\textsuperscript{68}

Disinterested professionalism stood as the goal of the practitioner of sanitary science.


powers, and responsibilities of the officers who are appointed to execute it," announced Bell. State medicine, noted another Section delegate, like other areas of medicine was "honorable and profitable as well as pure." Physicians working in the dispensary, the public hospital, or in the health department rather than the private clinic were doubly blessed with human and charitable virtues. Purity required the physician to remain politic yet nonpartisan. Patrons of science were enjoined to proceed slowly where the patrons of men were concerned, for those who governed were easily confused. Purity did not preclude a paternalistic attitude toward those ignorant of sanitary science.69

Everywhere, the role of "fact" seemingly replaced "guesswork" in the pursuit of perfect knowledge of sanitary science. What separated this new dawning of a science of public health from a former dark age of superstition involved the assembly and classification of empirical facts. Fact was the weapon by which the practitioner of state medicine would validate his effort. At all times delegates to the Section on State Medicine, and the APHA for that matter, appealed for more data to support their claims.70

"Truth" as derived in this process of perfecting knowledge, to be worthy of that appellation, needed to be equivalent to the great truths found in the exact sciences of chemistry, physics, and mathematics. Exact truth, Ezra Hunt thought, "speaks out for itself as lustily as ever a born child cries for itself that life has taken possession of this sanitary science." Nature had


70Ezra M. Hunt, "Minutes of the Section on Public Hygiene," 335; idem, "Chairman's Report to the Section on State Medicine and Public Hygiene," Transactions of the American Medical Association 28 (1877): 378; idem, "Annual Address in State Medicine and Public Hygiene," 392; Foster Pratt, "Address of the Chairman of the Section on State Medicine, etc.," Journal of the American Medical Association 1 (August 18, 1883): 163.
now offered up its greatest secrets to expertise, and the sanitarian literally wallowed in a newly rendered objective world that his sense hoped to master. The massing up of these revealed secret forms, said Hunt, provided the raw “material which the builders of the temple [of science] can use.” The worst state medicine could do was “claiming for it results that are not yet warranted,” explained physician Foster Pratt of Kalamazoo, Michigan. “Have we not urged as facts in sanitary science, what in truth was nothing more than theory,” and thereby “crippled sanitary work.” Only by objective knowledge without recourse to imperfect theory or “undigested dogmatism” could the lifetime of man be increased.71

The greatest hindrance to the authority of the professional and scientific class of public health practitioners could be found in the backstabbing, logrolling, jackleg politician. Even the most ignorant classes of America understood that politicians could not be trusted with expertise because they remained untrained. Moreover, where the physician dedicated his life to the principles of sanitary science for use against the ills of humanity, the political leader acted as benevolent or corrupt sachem for special interests. American physicians engaged in state medicine agreed with the British physician Thomas Henry Huxley when he said that the efforts of medical men could be easily destroyed, but rarely enhanced, by politics.72

The worst insult for a practitioner of sanitary science was to be mistaken for a politician. Propriety dictated that state medicine’s activities in the public realm, which by definition included all of them, avoid even the hint of political bias. Thus delegates to the Section on State Medicine

and members of the American Public Health Association proceeded cautiously in the pursuit of public health legislation, especially toward the goal of a sanitary bureau in the national government. Surgeon General John Shaw Billings, for example, although the chief architect of the National Board of Health, proved unwilling to submit his proposal to Congress for several years. "I do not think it is the province of physicians, as scientific men," he explained, "to urge the passage of a bill of this kind." He was later crushed when the National Board became likened in the press to a "politico-professional paradise" where physicians collected "fat salaries" and lived lives of "luxurious ease." He later apologized for ever suggesting the idea of a National Board of Health.73

Politicians represented only one nonscientific threat. The forces of business could also damage the best laid plans of state medicine as the legislative machine. Mill owners constructed mill ponds that threatened the local health with noxious miasma. Managers of slaughter houses allowed all manner of offal to drain away down public streets. Resistance to the laws of health was "much more likely to come from the landlord than from the tenant; from the manufacturer than the artisan; from the employer than the laborer," noted Ezra Hunt. The extravagant claims for patent medicines, brazenly advertised by shameless hucksters stood as the very antithesis of enlightened principles of sanitary science.74

The monopolists, in particular, seemed invulnerable to attack by sanitary experts. Yet even they could be taken to the mat by science, for "science by her discoveries revolutionizing business frequently breaks the back of monopolies, giving new courses to wealth." Capitalists, who seemed so friendly to those who cured the obviously sick, were instead construed as

potential enemies to public health prevention. The ignorance of profit-driven businessmen blinded them even from that which appeared in their own best interest. Public health experts continually argued that “an ounce of prevention was worth a pound of cure,” but found it difficult to convince business interests of the same.\(^5\)

It would be simplistic and misleading, however, to suggest that delegates to the Section on State Medicine or member of the APHA were constitutionally adverse to the making of money. They were not. The private clinic remained an essential part of the equation in healing the sick. Yet medicine, and state medicine in particular, was a profession founded on expertise. It was more than a business; it was a calling, an avocation.\(^6\)

The self-imposed disinterestedness toward pecuniary gain or fame did not preclude a basic economic motive behind state medicine. If the philosophy of state medicine could be summed up in a single sentence it was “health is wealth.” This phrase was repeated often in defense of public health as economic security. “If the individual is preserved, a productive member of society is added and remuneration rendered,” explained A. N. Bell in his 1874 address to the Section on State Medicine entitled “The Waste of Life.” Establishing the authority of the expert in state medicine, he wrote, allowed the nation to become much more efficient. Halting the spread of disease by calculated intrepidity and eliminating foolish public panic saved untold millions of dollars.\(^7\)

Capitalism encouraged class war. State medicine reduced the tensions between classes by leveling the playing field. Public health laws by their very nature protected the honest and

\(^5\)Kedzie, “Natural Purifiers,” 348-9; Billings, “State Medicine,” 311.
sensitive capitalist from the dishonest and careless, and protected the classes generally from the diseases of one another. Moreover, the demand for sanitary expertise by crafters of law prevented charlatans from rushing "incontinently" to the legislature each time they needed protection for their own industry. Physicians bore the duty to "direct public opinion on all matters of professional interest," wrote New Hampshire physician Granville P. Conn, "instead of having it brought round in the grip of a commercial traveler." The public health practitioner should, in other words, rule over commerce rather than be its subject.78

The necessity of public participation in the institution of public health laws presented some interesting problems to delegates of the AMA Section on State Medicine. To what extent, they asked, should the citizenry understand the science of public health? Public health experts agreed that the lay public had already demonstrated that it could not remember much more than the rudiments of responsible hygiene. "The people are forgetful and neglectful," explained one Section chairman, "and need to be constantly reminded of the sources of danger which threaten their health and lives." Yet full explication of the sanitary scientific principles guarding against such dangers remained the preserve of a "special class of men."79

Success, most agreed, dictated some level of public understanding of the purposes, if not the principles, of state medicine. The public had to be informed of the canards of lawmakers and business people. The next generation of Americans must not see disease as the irrational and unstoppable visitation of divine punishment, but rather as the rational outcome of improper living and sanitary mismanagement. The new generation, in other words, needed a new public health. The public cared little about "germ theories" and "vectors of infection," delegates

78Staples, "Minutes of the Section on State Medicine and Public Hygiene," 359-60; Pratt, "Address of the Chairman of the Section on State Medicine, etc.," 164; Conn, "State Medicine vs. Fads," 864.
assumed, but only wanted to know what to do if diseases were “catching.” The poor especially had a stake in public health as they represented the sole source of “capital” for the earning of wages.

Even if the public at some point submitted perfectly to the expertise of state medicine, a gap always appeared between those who knew and those who did not. “The relation between the physician and public cannot be too closely connected,” explained Albuquerque physician Charles E. Winslow (not to be confused with C.-E. A. Winslow). “The masses look to the physicians as authority on medical knowledge.” Professional detachment required that the physician separate his goals from those of the individual citizen. Each group, physicians and public, had aims and ambitions, but they were often not complementary. “We do not try to make every man his own health officer,” remarked Pennsylvania physician Charles McIntire. “I think the health authorities in various cities submit themselves to much useless trouble to instruct with bullets [bulletins] and circulars they send around.”

As in the American Public Health Association, the miasmic or “filth” theory of disease dominated etiological thought in the Section on State Medicine. Delegates debated the relative merits involved in the proper siting of buildings, improved ventilation systems, and poisonous chemical products of bacteria. Chemical theories also remained popular, and delegates to the Section spoke openly about the production of a “vitiated atmosphere” created by the corrosive action of oxygen. Even alcoholism could be explained as the result of poor dwellings where the “continual inhalation of impure and defective air is always followed by the accumulation of poisons, which in many ways unknown, cause reflex disturbances and reactions” that drove...
people to drink. Cures for alcoholism, sleeplessness, hemorrhoids, nervous disorders, and insanity might be effected if only delegates worked toward the institution of a "society for aerationists." Again, as in the APHA, least popular were Pasteur's living ferments and their poisonous chemical products.  

Robert Koch is often invoked today by medical science as the investigator who subjected Pasteur's ferments to the scrutiny of laboratory analysis and developed rational methods for locating the specific bacteria responsible for diseases. This method is summarized in Koch's postulates. A bacterium is regarded as the cause of infection if it can be isolated from the infected person, propagated in pure form on solid culture media, and produced disease when injected into an otherwise healthy subject. Antisepsis, likewise, is judged successful if the chemical agent breaks the cycle of bacterial reproduction in a sick individual or prevents an infectious organism from entering the body.

Bacteriology did become an ever more important tool in the arsenal of those engaged in public health or state medicine. In 1899 the American Public Health Association established a special, permanent Laboratory Section (the first of many special-interest sections) on Bacteriology and Chemistry. Though problems of control and character, standard nomenclature, and sources of disease were not immediately resolved by the invitation to a new constituency of bacteriologists into the APHA fold, the provision of a "center for the specialist where methods and results can be compared and discussed, so that the evolution of the best as the composition of forces at many hands may be attained" proved a fruitful way to puzzle out answers and erect standards under the unfolding umbrella of the germ theories.  


By 1897, Minnesota delegate to the AMA Section on State Medicine Franklin Staples, who served as first secretary of the Section in 1874, was prompted to remark that

the great discoveries and advances in bacteriology made in late years have laid a foundation for practical work in preventive medicine not before known. Laboratories are provided for by the State and municipal authorities, and expert bacteriologists and chemists are employed not only in the analysis of water and food products, but in furnishing the means of diagnosis of disease, and, of late especially, in developing the various means for rendering the human body immune to the poison of infection.\textsuperscript{84}

APHA members and AMA delegates, however, came around to an appreciation of this new configuration of the laws of propagation of disease reluctantly. Cleanliness remained the ubiquitous principle by which filth, dangerous chemicals, and germs were all eliminated. The new science of bacteriology replaced an ambiguous aesthetic ideal open to individual interpretation in miasma (by nose, taste), and instead emulated the standardized laboratory analysis of chemicals.

Unlike miasma, which was literally sniffed out by an inspection of habitations and their associated systems for water supply and sewage disposal, germs were found under carefully controlled laboratory conditions. Here the differences between the new ideal of bacteriological causes and the older ideal of filth became most apparent. Under the artificially controlled conditions of laboratory practice, nature was not allowed to indiscriminately intervene. Instead, inputs were carefully fed into the system, reducing the possibility of erroneous conclusions. The concept of acclimation in disease production, for instance was no longer studied by collected

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\textsuperscript{84} Franklin Staples, "Concerning the Present Condition of State Medicine in the United States," \textit{Journal of the American Medical Association} 28 (April 28, 1897): 686.
\end{flushright}
meteorological data in the field, but by subjecting test organisms to rigorous laboratory conditions where pressure, moisture, and temperature could be carefully controlled. As a final safeguard, proper conclusions demanded repetition in the laboratories of other experts.85

The senses were enhanced, then, not simply by the addition of a new theory to the armament of sanitary science, but by a different way of experiencing the world, that is, by harnessing natural forces and subjecting every experiment to laboratory verification. "To the exceptionally specialized scientific mind," noted one Section on State Medicine delegate, sanitary science was coterminous in definition "with the artificial cultures . . . of the bacteriological laboratory." The laboratory was a powerful complement to the weighing of information already a staple of scientific data collection and collation. It represented a powerful adjunct to objectivity.86

Finally, like the American Public Health Association the AMA Section on State Medicine dwelled on those classes responsible for what they showed to be a disproportionate share of disease. New immigrants displayed dismaying behaviors especially menacing to civic health. Immigrants flocked to cities already crowded with the dens of paupers, criminals, and the sick. They also exhibited bizarre customs. Immigrants cooked strange and malnutritious foods, wore unusual and unhygienic clothing, and spoke strange languages inaccessible to health officers. A. N. Bell lamented the large numbers of "troglodytes" living in dank New York basements "poisoning the atmosphere around, and sucking the lifeblood of the people." The speed of the new steam-powered ocean liners and railroads allowed immigrants to move around quickly while preserving their habits. Most troubling, perhaps, immigrants refused to settle in America long


enough to become sufficiently Americanized, returning to their homelands periodically. Efforts to reform immigrant life were frustrated by the new mobility of America’s foreign population.87

Recurrent invasions of cholera and yellow fever from foreign ports into the nation also prompted particularly hostile feelings. Immigrants exhibited, in the minds of experts, profound insolence by arriving on American shores with disease. Such arrogant disregard for the laws of their proposed new homeland was considered tantamount to treason. Never mind that these new immigrants were not citizens; they accepted all the responsibilities, if none of the rights, of American citizens the minute they entered steerage in European ports. Section delegates were smug when a “harsh” new Interstate Quarantine Act, the first in eighty years, was passed to legalize immigrant health inspection in 1878.88

These emotions were not restricted solely to American public health experts. The Medical Officer of Health for the city of Glasgow, Scotland, himself became convinced that if he could throw every resident Irishman into the local prison the death rate might be cut in half. In America the Irishman would not become coequal with the native American in society, but proper training in matters of decent health might remake him into a good Irishman, less susceptible to disease and thus less of a threat to groups located higher up the social totem. The higher ranks of society, in turn, had to be prevented from exploiting the urban and immigrant poor. Impure thoughts and imprudent actions were not the preserve only of the underclasses. Extreme wealth and monopoly power could also unravel the social fabric and undermine national health.89

87 Bell, “The Waste of Life,” 363; Hamilton, “Address of the Chairman of the Section on State Medicine,” 782. The ability to rapidly transport people across the oceans was a major factor behind the creation of the International Sanitary Conference in 1885.


So why did the American Public Health Association expand its membership so dramatically between the 1870s and 1910s while the AMA Section on State Medicine withered on the vine? The answer to this question is by no means simple, and has little to do with what has been interpreted as medicine’s increasing distaste for “socialized” health care. Rather, it had more to do with the shared aim of building a glowing pyramid of health—local, state, and national—an aim that made the Section on State Medicine increasingly irrelevant.\(^1\)

Collaborative activity could remove dangerous individuals who by ignorance or dishonesty lived immorally. Individual liberty had to be circumscribed to protect the liberty of the whole. That had been the foundation of “public” health since time immemorial. In the late nineteenth and early twentieth centuries experts assumed that only a strong federal system of authority could protect society from debilitated individuals. Voluntary associations, though useful, could not hope to provide the level of security demanded by industrial civilization. Only an interlocking system of experts working in close proximity and at all levels of government could instill a “spirit of self-sacrifice and restraint” among the people.\(^1\)

Proper administration of health demanded an unprecedented reorganization of health services away from isolated, autonomous units into a hierarchical, systematized whole. Such a whole was to be built from a hierarchy of health boards or departments. It anticipated Governor Robert M. La Follette’s progressive “Wisconsin Idea” of efficient government via a hierarchy of authority and control by civil service experts, and the reorganization persevered intact into the age of community health where it became modified again to meet the new needs. At the top stood the long-awaited and ill-fated National Board of Health. One rung down stood the state

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boards or departments of health, dominated wherever possible by state medical societies. On the bottom rung were municipal, town, and county health boards. Independent voluntary or auxiliary sanitary and health associations continued to exist, guarding the milk supply, rooting out tuberculosis cases and smallpox epidemics, or contributing to the hygiene of war, but ideally operated under the direction of health authorities at each of the three main levels. These boards, at all levels, were to be populated with expert physicians directing the efforts of sanitary engineers, bacteriologists, and law enforcement officials.

The hierarchical ideal, according to Foster Pratt, emerged almost without effort or foresight by "remarkable unanimity" and concordance among the various entities already at work in public health. A central office for health located in the District of Columbia would provide uniformity and standards for principles and practices. This office might derive its power from the commerce clause as plagues traveled from state to state irrespective of political boundaries. State boards would be encouraged, if not compelled, by the national office to communicate with one another about their common problems. Standardized forms would be drawn up by the state boards to transmit the information to others. Vital statistics would be regularized, then regimented, providing a basis for comparison between state boards. Local boards would collect the information tabulated and dispersed at the state level above. In sum, a pyramid of health would solve all of the meddling problems of purpose, etiology, vocabulary, methods, and standards of behavior described in detail in APHA and AMA correspondence and debate.

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93 Pratt, "Address of the Chairman of the Section on State Medicine, etc.," 166; Avery, "State and Local Boards of Health," 1; Schenck, "The Address on State Medicine," 732; Walcott, "Address in State Medicine," 639; Elisha Harris, "General Health Laws and Local Ordinances, Considered with Reference to State and Local Sanitary Organization," Reports and Papers of the American Public Health Association 1 (1873): 477; Charles P. Russel, "A Report on a Uniform System of Registration of Causes of Death Throughout the United States," Reports and Papers of the
Resolutions in favor of the establishment of a “National Sanitary Bureau” were passed in the chambers of both the American Public Health Association’s Executive Board and the American Medical Association’s Section on State Medicine. “We must either lead on or follow,” explained John Shaw Billings of the Surgeon General’s Office, and my impression is we had better lead.” There was great confusion about what other organization might step in to take over the national bureau idea if the APHA and AMA did not act. The Marine Hospital Service and Army Medical Service stood as two possible alternatives to a National Board of Health at the apex of the pyramid of health, but each seemed crowded with political appointees.94

A few sanitary experts thought that resolutions in favor of a national sanitary bureau were premature given the present disorganization of state and local health boards. Others worried that, unless approached prudently, a national health agency might become the tool of politicians. Resolutions for a national board, argued A. N. Bell, were "wholly wasted; or, possibly worse, fraught with success encumbered by political conditions more calculated to hinder than the promote sanitary science."^95

Still, as indicated earlier in this chapter, a National Board of Health did emerge, instituted by Congress in 1878. But the seeds of the National Board's destruction were sown before it even began operating. Billings, one of the most active proponents of the National Board, sensed the fragile position of the organization. "A heavy burden has been placed upon it, and, if it is to succeed, even partially, it must have your assistance and cooperation," he insisted. The confused notions of a sanitary profession and sanitary expertise also exacted a toll on the National Board. "Much of the unfriendly criticism of the National Board of Health has had its genesis in the idea that prophylaxis was an exact science, and that perfect disinfection was at all times within the reach of the diligent and well-informed," argued Indiana physician James F. Hibberd. "Of course a superstructure erected on this feeble foundation soon falls a wreck about its occupants."^96

The National Board lasted only six years (1879-85). In part, the National Board's power was diluted by the scope and diversity of the problems it was to supposed to handle: yellow fever in Cuba, the utility of various disinfectants, the adulterations of food and drugs, sewer


construction, the influence of soil types on public health, and the personal hygiene of the merchant marine. The task was admittedly enormous. But the National Board also suffered intense internal rivalries. These rivalries were stimulated by confusion about who really controlled and administered the National Board of Health itself. It devolved into just the sort of political problem subjective sanitary scientists had tried to avoid.  

The National Board was technically an autonomous bureau of the Treasury Department. In practice, though, board appointees subordinated its authority to serve the interests of their own constituencies. Billings wanted the Department of the Army to direct the activities of the National Board of Health. John M. Woodworth thought the National Board's program would be best guided by the Marine Hospital Service. In the end, "the presence upon the board, of representatives of the Army, Navy, and Marine Hospital Service, however conspicuous may have been the attainments of their respective representatives, was not advantageous," concluded Henry P. Walcott in retrospect. "They represented interests which ordinarily are of far less consequence than those of New York, Chicago, New Orleans, or San Francisco." Each constituency, in other words, was essentially an inferior player in a king-of-the-hill type struggle against the National Board of Health. Each would rather have the organization fail than share what limited power they had. Illinois health officer John Rauch hoped that the board could be reorganized and rehabilitated before it became split asunder. He also wished that Congress would grant it greater power and larger sums of money so that it had a chance to inspire public and professional confidence.  

But Rauch’s desire was never met. Bills designed to enlarge the power and privileges of the National Board of Health were rejected on Capitol Hill. Priorities pulled the organization in a dozen different directions. Money was squandered in haphazardly planned, shoestring operations across the country. When the National Board finally mustered its combined enthusiasm and all of its resources behind one project for Southern quarantining activities, it was destroyed. The National Board was for all purposes bankrupted in a costly yellow fever control operation launched in Pensacola, Florida, in 1882. In a speech before final revocation of National Board of Health funding, one congressman complained that a national sanitary bureau was not established to become only a lowly “epidemic fund.”

The failure of the National Board of Health did not end efforts by either the APHA or the AMA to create a centralized public health agency at the national level. Many public health experts hoped for a reformed National Board established at a higher level, perhaps even elevating it to cabinet status. Dreams of the pyramid of health did not fade away. Worries that a chief of a national department of health might become too much a political animal were regularly discounted.

In 1891, most leading physicians agreed that any national department of health ought to include under its aegis the Marine Hospital Service, the Bureau of Education, the Bureau of Animal Industry, the Bureau of Vital Statistics, the Army Medical Service, the Navy’s Museum of Hygiene, the Geological Survey, the Library of the Surgeon General’s Office, and the Climatological and Signal Service. Illinois physician Liston Montgomery favored a national

\footnote{Wood, “Minutes of the Section on State Medicine,” 415; Roberts, “Address in State Medicine,” 6; Staples, “State Medicine to the Present Time,” 788.}

department complete with its own vaccine farm supplying material for smallpox immunizations and a national bacteriological laboratory. But sanitary scientists did not get their wish. Nothing came of repeated resolutions submitted on behalf of proponents of state medicine by the APHA and AMA throughout the 1890s. The dream of a pyramid of health had to be deferred.¹⁰¹

But the pyramid of health idea inspired sanitary science in yet another profound way. Sanitary science involved the determination, usually in the laboratory, of the rules guiding health promotion and disease-fighting preventive progress among the many classes of people. Successful state medicine, though, demanded that professionals adopt not only laboratory esthetics but appropriate levels of specialization. Without specialization, professionals and their students could not hope to acquire expertise—vocabulary, methodology, techniques—sufficient advanced to meet the needs of changing human wants in all their variety and complexity.¹⁰²

The pyramid also worked in reverse, guiding the articulation and differentiation of expertise. Sanitary and hygienic professionals divided themselves into a burgeoning number of specialties, some new and some old: bacteriology, child welfare, climatology, oral or mouth hygiene, municipal or sanitary engineering, epidemiology, immunology, industrial hygiene, neurology, military hygiene, physiological chemistry, private duty or institutional or visiting or venereal disease or tuberculosis nursing, ophthalmology, orthopedics, pathology, tropical medicine, and vital statistics. Students of these various specialties honed their expertise still further. One could become adept in the subspecialties of sewage farm management, interior lighting or heating or ventilation, mortuary practice, disinfection, garbage disposal, or physical


culture. Simultaneously, clinical medical science reduced itself into more and more parts, into specialties dedicated to obstetrics, pediatrics, psychiatry, neurology, ophthalmology, otology, orthopedics, urology, dentistry, cardiology, hematology, rhinology, and deriving their observations from more and more specialized instruments: spectroscopes, stomach tubes, cystoscopes, roentgen ray machines, bronchoscopes, string galvanometers, and respiration calorimeters.\textsuperscript{103}

This specialization of the profession of health was essentially the mirror image twin of the professional drive for a national pyramid of health. Each problem facing the group—often defined by race or ethnic affiliation—and the individual within each group “must be met by specific measures, adapted to the elimination of the particular factor involved.” Professionals urged each other to define and delineate the one particular path that guaranteed success against each particular malady, whether that malady be alcoholism, poor ventilation, or smallpox.

“Specific troubles must be met by specific measures directed specifically against the real specific cause of disease,” explained Western University professor of public health Hibbert Winslow Hill.\textsuperscript{104}

Still, the process by which sanitary scientists and practical hygienists crafted their professions seemed to inevitably produce remarkably similar, if not interchangeable, answers to questions posed and problems tackled. “The bacteriologist, the epidemiologist, and the vital statistician, sometimes working together, more often alone, in the dark and even at cross purposes,” wrote Hill, “have nevertheless all reached the same point.” Integration into a

\textsuperscript{103}Hill, \textit{The New Public Health}, 1-2; Barker, “The Specialist and the General Practitioner in Relation to Team-Work in Medical Practice,” 774.
\textsuperscript{104}Hill, \textit{The New Public Health}, 2-3.
universal system was possible and achievable, yet that very systematization could be guaranteed only through subdivision.\textsuperscript{105}

And indeed, as noted before, an overwhelming share of the base assumptions derived by individual professionals fit neatly into a set of common underlying assumptions guiding the sanitary and hygienic professions as a whole. Sanitary science separated itself from antebellum public health by tying together common beliefs in a particular way. First, it was a science of health, that is, composed of experimentally verified and standardized facts. Growth of the science of health, noted Providence Superintendent of Health Charles V. Chapin, was after all "merely truth systematized." Sanitary scientists brooked no patience with common sense or guesswork, and treasured instead the spirit of logic.\textsuperscript{106}

Objectivity led to quantification or measurement of natural phenomena in order to standardize and reduce them to scientific natural laws within the laboratory and without. "The progress of a science is largely dependent upon the extent to which quantitative methods are employed in research," explained Chapin in a 1909 address to the American Public Health Association. Careful computation of thermal death points; counting and classification of bacteria; graphing of electrophoresis effects; weighing of biological and chemical samples; and biometrical analyses of anatomy and physiology occurred inside the laboratory. Outside the laboratory vital statistics schedules; appraisal forms; health score cards; surveys; birth, death, and marriage certificates; life tables; morbidity and mortality reports; and population censuses provided a steady flow of information for analysis and synthesis.\textsuperscript{107}

\textsuperscript{105}Hill, The New Public Health, 8, 40.


Both the drive for national administration of public health and the specialization of the profession fatally wounded the AMA Section on State Medicine. Membership in the Section peaked at 39 in 1877, representing only four percent of total AMA membership. The very next year, though, the Section’s chairman complained that a “great majority of physicians and surgeons have taken very little interest in public hygiene.” In 1881, only three delegates attended the first day of meetings. Apparently the weather had been bad, and so the chairman deferred papers to the next day. At the appointed hour only the transcriptionist and the chairman showed up. The section adjourned for the rest of the convention. AMA Secretary R.G. Jennings warned that unless next year’s meeting was better attended, the Section on State Medicine would be discontinued and papers referred to the APHA. Fewer AMA members were attending national meetings of the APHA either, their interests increasingly specialized and thus with less common ground.\(^\text{108}\)

Some longtime state medicine supporters wanted to refocus the Section in the face of dwindling attendance by concentrating, by specializing, on the aspect of state medicine which seemed eminently “medical”: disease control. State medicine was so wide a topic, admitted one delegate, that summarizing all of the new information in the Section each year was becoming “longer than a Mongolian melodrama,” a melodrama which nobody bothered to purchase tickets to see. By 1900, membership stood at only ten. In 1901, the Section on State Medicine was dissolved.\(^\text{109}\)


Sanitary science and state medicine throughout the late nineteenth century were considered quintessentially progressive. The more scientific experiments performed and the more objective knowledge obtained, the greater the possibility for true health advancement among Americans. True health advancement, however, usually meant "racial advancement." Each race or ethnic group, it was understood, rode the rising tide of hygienic expectations in their own boat, and differential improvement was entirely possible. Further, by virtue of the differing hygienic starting points of each race, differential progress should continue but narrow over the course of time. As a matter of fact, the narrowing of positive hygienic potentials among the various races of Americans potentially created its own set of problems. Hygienic advance led to "intermingling" of American races and ethnicities, creating new health problems for groups further along the path of hygienic perfection than others.  

Public health historian Elizabeth Fee is correct in her interpretation of progressive public health as "defined in terms of its aims and goals—to reduce disease and maintain the health of the population—rather than by any specific body of knowledge." But it appears erroneous to see bacteriology as the "ideological marker separating the 'old' public health, mainly the province of untrained amateurs, from the 'new' public health, which would belong to those trained in the techniques of science and laboratory research." The record is clear in this regard. "The creation of public health as a profession in the United States," notes Fee, was "part of a deliberate plan and strategy." But that plan and strategy revolved about the central questions of professional standards, definitions, and mission, and the answers sanitary scientists, public health officials, and physicians. They found that the answers in this continuing struggle for professional identity had

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less to do with the ushering in of a bacteriological era but rather with the systematization and specialization of a hierarchical whole in health.\textsuperscript{111}

That hierarchical whole disappeared in the new era of professional community health emerging around 1915. It is immediately apparent in the work of William T. Sedgwick and C.-E. A. Winslow, two public health experts described in the next chapter. Here, the tensions between specialized, departmentalized principles and practices and generalized principles and practices can be observed in microcosm.

CHAPTER III. TWO VIGNETTES ON SANITARY SCIENCE AND COMMUNITY HEALTH

The professional lives of William Thompson Sedgwick and Charles-Edward Amory Winslow, two of America’s foremost hygienic experts, overlapped in significant ways. Both Sedgwick and Winslow entered college in the expectation that they might become qualified physicians. Both abandoned this pursuit and became enamored with biological and bacteriological science. Sedgwick served as Winslow’s teacher at the Massachusetts Institute of Technology, and together and separately they investigated epidemics, sewerage, and water supply.¹¹²

Still, Winslow’s philosophy of hygiene in his student days at MIT came to differ substantially from the approach advocated by Sedgwick. Sedgwick understood hygiene in terms of “sanitary science,” while Winslow offered something he called “the new public health.” Sanitary science derived from specialization, special privilege, and objective laboratory practice. The new public health, on the other hand, introduced qualitative social scientific objectives as the critical element. The structure of sanitary science was specialized and hierarchical. The new public health was generalized and associational. An examination of the massive corpora produced by these two luminaries in the history of American hygiene reveals the pronounced

¹¹²A similar approach to understanding mid-versus late-nineteenth-century (progressive) health professional thought and activity through individuals is taken by Regina Markell Morantz in “Feminism, Professionalism, and Germs: The Thought of Mary Putnam Jacobi and Elizabeth Blackwell,” American Quarterly 34 (Winter 1982): 459-78. Morantz describes Jacobi, who was professor of materia medica and attending physician in the New York Infirmary for Women and Children, as having “not a trace of sentimentality about her. . . . No one valued rational thinking more highly; no one remained more frustrated with mushy generalities that could not be grounded in empirical investigation and factual analysis. Jacobi chose medicine out of a love for scientific rationalism.” Blackwell, the founder of the institution Jacobi worked in, is described as “nothing if not sentimental. She entered medicine with a perfectionist conception of morality and her own role in the moral universe” (p. 459-60). In the same vein, a comparison of progressive and modern therapeutics is found in Alan I Marcus, “From Ehrlich to Waksman: Chemotherapy and the Seamed Web of the Past,” in Beyond History of Science: Essays in Honor of Robert E. Schofield, ed. Elizabeth Garber (Bethlehem: Lehigh University Press, 1990): 266-83.
discontinuity in the intellectual conceptualization of the profession between 1880-1915 and 1915-1940.

William Thompson Sedgwick began his academic career intending to study medicine. He graduated from the Sheffield Scientific School in 1877 and entered Yale Medical School with this end in mind. Failing to complete his medical degree for unknown reasons, however, Sedgwick then enrolled on fellowship at Johns Hopkins University in 1879. Here he studied biology under Henry Newell Martin, a disciple of the evolutionist Thomas Henry Huxley. For Martin and Huxley the theory of organic evolution, the most important aspect of biological science, involved the progressive and cyclical transformation of lifeless matter into a living physical mechanism, a state soon enough decaying back into lifelessness by microbial action.113 The structure and general plan of *An Introduction to General Biology* (1886) published by Sedgwick and Columbia zoologist Edmund Wilson is attributed to Martin’s guidance. The university granted Sedgwick his Ph.D. in 1881.114

Almost immediately MIT president Francis A. Walker, staff officer and political economist with the Army of the Potomac in the Civil War and former superintendent of the ninth U.S. Census, secured Sedgwick a position as assistant professor of biology. He spent the rest of his life in the MIT Department of Biology and Public Health. Sedgwick conducted scientific investigations in bacteriology, sanitary science and engineering, general biology, and the history of science, publishing several textbooks and over one hundred publications on these

113 Indeed, Sedgwick believed that the process of decay began almost immediately after the creation of life out of inert material. “It is a significant fact that the quantity of lifeless matter in the organism tends to increase with age,” remarked Sedgwick. “The very young plant or animal probably possesses a maximum proportion of protoplasm, and as life progresses lifeless matter gradually accumulates within it or about it—sometimes for support, as in tree-trunks and bony skeletons; sometimes for protection as in oyster and snail shells; sometimes apparently from sheer inability on the part of the protoplasm to get rid of it.” See William Thompson Sedgwick and Edmund B. Wilson, *An Introduction to General Biology* (New York: Henry Holt and Company, 1895), 18-9.
subjects. His researches were assisted by the establishment of the Lawrence Experiment Station in 1886, a state (and soon federal) institution dedicated to cultivating agricultural and engineering expertise. Sedgwick also helped found the Society of American Bacteriologists (1900) and Harvard School of Public Health (1913) while at MIT. Before his death, Sedgwick became recognized within the highest echelon of his profession, alongside such luminaries as medical professor William Henry Welch of Johns Hopkins and Hermann Biggs of New York City's Department of Health.\textsuperscript{115}

Sedgwick inaugurated a new approach to teaching professional sanitary science in his early years at MIT. Most early professors of sanitary science, which involved special-purpose and expert city inspection, laboratory analysis, and removal of nuisances (including, sometimes, disease-ridden segments of the population), derived their authority chiefly from biology and chemistry. Sedgwick added civil engineering to the list of subjects from which he derived his "proper working theory" of sanitary science, by which he meant the developmental natural laws derived from observation of nature. A young George C. Whipple, later a statistician and sanitary engineer at MIT, was attracted to sanitary science specifically because of Sedgwick's popular lectures for civil engineers. Sedgwick apparently could rivet an audience simply by describing the number and types of dangerous bacteria living in a glass of drinking water. Still, "the combination of chemistry and biology with engineering," Whipple later remarked, and not

Sedgwick's somewhat disorganized lectures, “made the profession of sanitary engineering what it is.”

Sanitary science for Sedgwick was much more than simply the sum of its subjects, however, because it involved an entirely new theory and methodology: bacteriology. Bacteriology for Sedgwick represented the natural synthesis of biology, chemistry, engineering, and the achromatic lens. The “microscopical renaissance” revealed to the sanitarian a new world, a world teeming with microbial life. The complexity of this world, Sedgwick claimed, required germ theory, laboratory techniques, equipment, and sterile media. More particularly, Sedgwick likened bacteriology to beekeeping, both subjects where the study of the individual became supplanted by the study of colonies, groups linked hierarchically to a superior form (the queen) or ancestral forms (undifferentiated, common types of primordial bacteria).

Sanitary science generally, according to Sedgwick, involved the conservation and extension of life. He arranged sanitary science into three main divisions. The health of the individual he called “personal hygiene.” Family health he termed “domestic hygiene and sanitation.” The health of the aggregate population Sedgwick called “public hygiene and sanitation.” The purview of professional sanitary science extended only into this last division of hygiene.

Sanitary science in other words represented in essence the science of aggregate longevity, encapsulating the scientific knowledge base developed to conserve and extend healthy living.

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Sedgwick stated that the traditional subjects of hygiene—climatology, clothing, ventilation, and nutrition—should be reduced to “simple scientific terms,” that is, scientific principles grounded in natural laws. Once hygiene had become fully scientific, whole chunks of it could be replaced by the science of sanitation. Perfect health was perhaps impossible, but science could assist individuals and groups to improve their absolute degree of health.\textsuperscript{119}

Disease in particular involved “misbehavior” or “disturbance” in the physiological operation of the human body. Predisposition to disease led inevitably—though perhaps only in the long-run—to deterioration of ideal functioning. Sedgwick identified four ways the body becomes predisposed to disease. First, the body might suffer from a poor internal constitution. These he called “intrinsic defects.” Second, the parts of the body might be poorly joined into a whole. Sedgwick called these “structural defects.” Third, the body might be abused in some way. These abuses he termed “extrinsic interferences.” Finally, “unfavorable environmental conditions,” what Sedgwick called “extrinsic diseases”—typhoid, diphtheria, smallpox, tetanus, et al.—might contribute to a predisposition favorable to disease.\textsuperscript{120}

Sanitary science, though, dealt only with the last category of predispositions. Sedgwick sometimes called this category of external environmental predisposing forces the “diseases of defective civilization,” because ignorance and neglect gave them the freedom to terrorize the populace. Extrinsic diseases were of two types: physical or mechanical obstruction by microbes of the body’s circulatory or vascular systems, and chemical interference in the form of toxic substances produced by microbial fermentation.\textsuperscript{121}


\textsuperscript{120}Sedgwick, Principles of Sanitary Science and the Public Health, vii-ix, 10-13; Hough and Sedgwick, Elements of Hygiene and Sanitation, 296-300.

Applied sanitary science meant removing the “breeding-places” for germs according to scientific principles derived from laboratory experience. These principles were developed by Sedgwick in his MIT laboratory and at the Lawrence Experiment Station. Sanitary science as applied to the problem of sewerage, for example, could be reduced to the fundamental principle of purification. Purification of sewage could be effected by dilution in a clean body or stream of water, by introducing sewage to an “unfavorable environment” that disinfects or digests waste, or disposes of infectious solids by filtration and irrigation on land.

Once the principles of sanitary science had been established, a “sanitary index” might be created to accurately measure the absolute purity of any extrinsic environment, that is to assess the “degrees of disease,” and record the progress of scientific efforts to remedy deficiencies. Experts in state and municipal boards of health—and Sedgwick served a longtime advisor to the Massachusetts Board of Health—were granted special privilege to regulate and improve the sanitary environment. Here, Sedgwick related, these experts frequently exercised the “duty of subordinating personal liberty to the public good.”

Sedgwick spent an appreciable amount of his time refuting the “vagaries of sanitary pseudo-science,” especially mid-nineteenth-century pythogenic public health. Pythogenic public health found the source of disease in miasma: the noxious smells emanating from rotting vegetation, stagnant bodies of water, garbage, and sewage. Sedgwick recognized that these threats were often the foci of unsanitary environments, but rejected the notion that diseases sprung directly from them. Rather, he recommended, they were vehicles for harmful bacteria. Dirt in and of itself was no menace to public hygiene. Rather, a special type of dirt that he called “drit” was a menace since it was by definition infected with excrementary bacilli. Putrefactions,

\[\text{HEALTH, 13-15.} \]
\[\text{122 Sedgwick, “Introductory Essay,” in Typhoid Fever, xxviii; Hough and Sedgwick, Elements of Hygiene and Sanitation, iii, 293.} \]
sewer gas, and other bad smells posed negligible risk to health inasmuch as they did not necessarily contain harmful bacteria. The miasma-laden air supposedly formed in musty cellars, in fact, when subjected to sanitary science revealed a “practically germ free” atmosphere.\textsuperscript{123}

Sedgwick was gifted with the ability to popularize sanitary science through public lectures, but became increasingly irritated by other popularizers of the field without established scientific expertise. “Every Tom, Dick, and Harry is now talking about it,” he related shortly before his death in 1921, “and most of what they say is so exaggerated that it casts discredit on all of us who are trying to speak within the bounds of sanitary science.” Further, Sedgwick argued that sanitary science had not developed sufficiently to allow for global application of the results of the laboratory since “valuable though they are, [they] must wait until their relations to everyday life become clearer.”\textsuperscript{124}

Sedgwick trained many future leaders in sanitary science including among them Edwin O. Jordan (Univ. of Chicago), George C. Whipple (MIT), Charles Edward-Amory Winslow (Yale Univ.), and Samuel C. Prescott (MIT). Sedgwick encouraged his students to seek out bacteria in all sorts of places using his own standard scientific methodology and a plethora of scientific instruments, some of which, like the “aerobioscope” and “Sedgwick Rafter,” were developed at the Lawrence Experiment Station. Sedgwick’s students sought out bacteria in milk, food, ice, sewage, and soil. Students who passed through Sedgwick’s laboratory became bacteriologists, health officers, laboratory assistants, manufacturers, nurses, Red Cross workers, and sanitary engineers.\textsuperscript{125}

\textsuperscript{124} Whipple, “The Public Health Work of Professor Sedgwick,” 176.
\textsuperscript{125} See \textit{Biological Studies by the Pupils of William Thompson Sedgwick} (Chicago: University of Chicago Press, 1906); Whipple, “The Public Health Work of Professor Sedgwick,” 172-3.
Arguably the greatest of Sedgwick's students was C.-E. A. Winslow. Winslow matriculated as an undergraduate at MIT, also intending to secure a life in medicine. He ended up, however, majoring in biology with a specialization in bacteriology under Sedgwick's guidance. Winslow earned his B.S. in 1898, and his M.S. in 1899. Most of Sedgwick's other undergraduate and graduate advisees were inclined to pursue medicine or engineering degrees, but Winslow continued to follow his mentor's sanitary bent. Between 1900 and 1910, Winslow assisted Sedgwick in the Department of Biology and Public Health and supervised the daily operations of the MIT sewage treatment farm at the Lawrence Experiment Station. For the next five years Winslow worked as an assistant professor of biology at City College of New York. He wrote over fifty articles during this brief period at CCNY, and over five hundred thereafter. Winslow for the remainder of his life served as chair of the newly endowed Department of Public Health in the Yale University Medical School.\textsuperscript{126}

At MIT and CCNY Winslow cleaved closely to the work of his mentor. Much of his research and writing followed in the footsteps of Sedgwick and his "proper working theory" for sanitary science. He investigated the source of a typhoid fever epidemic in Newport, Rhode Island, tracing it back to a public well. He located the focus of an outbreak of acute tonsillitis in the town of Boston and its environs to one particular county in east-central Massachusetts. He determined the presence or absence of bacteria in common ice. Winslow also studied the course and effects of the devastating influenza outbreak of 1918-19. It has been noted, however, that in epidemiology he "developed no new techniques; nor did he cut fresh paths through the jungles of the unknown though he sometimes cleared its fringes" during this period.\textsuperscript{127}


\textsuperscript{127}Charles Edward-Amory Winslow, "Typhoid Fever at Newport, Rhode Island, in 1900 and Its Relation to
Winslow's investigations of bacteria-contaminated sewage and public water supplies at the MIT sewage treatment farm were also unremarkable in the sense that they only exemplified Sedgwick's established sanitary science principles. With other Sedgwick students, his wife-to-be Anne F. Rogers and Samuel Cate Prescott, Winslow built upon and more fully articulated the existing framework of sanitary science. He spent considerable energies upon the classification of "natural types" of Coccaceae bacteria, found in great number in sewage, in his first book on *The Systematic Relationships of the Coccaceae* (1908). Winslow used eleven quantitative laboratory tests—morphological dimensions of individuals and groups (colonies) as determined under the microscope, Gram staining, cultural or habitat characteristics, biochemical reactions, thermal death points, etc.—to systematically determine the ancestral bacterial types out of which the various species and varieties had evolved by impressed, environmental, or racial variations. The examodal distribution of the now infinitely varied coccaceae under the biometric curve revealed six natural groups—or genera using the Linnaean nomenclature Winslow favored—comprising together the Coccaceae family.

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128 By "impressed" Winslow meant those characteristics assumed from historicistic evolutionary pressures. "Environmental" evolution referred to immediate changes in the organism determined by observable variations in temperature, moisture, pressure, etc.

Winslow also studied the purification of sewage at MIT, a favorite subject of Sedgwick, and demonstrated its scientific application in New Haven, Connecticut. He and his assistants took over 2,000 samples from the city's five main sewer districts and harbor waters and submitted them to a large number of different laboratory tests to determine constituent bacteria and industrial chemical effluvia. Winslow considered several solutions to the bacterial and chemical pollution of the bay, the beaches, and the valuable oyster crop. Untreated sewage he concluded, as a stopgap, might be dumped into the main channel via a submerged pipe extending far out into the harbor and into which the five current shoreline outlets might profitably be directed. Still, strong tides could churn up the sludge and even deposit it seven miles up the banks of Quinnipiac River. Fine screening of solids, activated sludge aeration and settling tanks, and chlorinating, were all tried and set aside for economic or bactericidal insufficiency. The most efficient and cost-effective treatment system for New Haven's waste, Winslow discovered, was the Miles Acid Treatment, developed by George W. Miles and R.S. Weston at MIT. The Miles Acid Treatment involved adding sulfuric or sulfurous acid to the sewage which precipitated solids, disinfected liquids, and helped recover valuable grease and nitrogen-rich substances.  

Winslow also extended Sedgwick's use of the achromatic microscope in laboratory analysis. Sedgwick's principles of good microscopy were tacked on as a short appendix to his *Introduction to General Biology*. Winslow explored the subject in greater detail, intending his volume on *Elements of Applied Microscopy* (1905) to serve as a introductory textbook for second-year students of chemistry and biology at MIT. As such, Winslow organized the volume into three

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parts. Students began by learning the parts of the microscope, focusing, and preparing the objective. In the second part, students used their microscopes to describe common starches, adulterants in coffee and spices, and textile fibers. This practice proved useful, for these objectives bore relations in parts and size to cells from various parts of the body, microbes, and chemical crystals discussed and illustrated by Winslow in the final chapters of the book.\footnote{Sedgwick and Wilson, \textit{An Introduction to General Biology}, 205-25; Charles Edward-Amory Winslow, \textit{Elements of Applied Microscopy} (New York: John Wiley & Sons, 1905).}

The great bulk of Winslow’s academic life,\footnote{Winslow retired in 1945.} however, was spent at Yale University in the Department of Public Health, and it was here he constructed a “new public health” that came to differ substantially from the professional sanitary science of Sedgwick. From the beginning, Winslow viewed the Department of Public Health as an integral part of the whole medical school, rather than as a specialized subject. Winslow, with this in mind, constructed a combined graduate degree program by which medical students and public health students could receive a joint M.D.-D.P.H. degree. Medical students were encouraged in this manner to appreciate prevention, and public health students became inculcated in the art and science of medicine. Not one medical student enrolled for the joint degree, but almost all of the public health students broadened their programs by studying in one, and usually more, specific areas— including bacteriology, epidemiology, engineering, statistics, clinical medicine, nursing, pediatrics, social work, industrial hygiene, housing, nutrition, education, economics, law, and administration. Indeed, many of the undergraduates enrolled in the graduate program were deliberately recruited out of diverse fields such as these.\footnote{Viseltear, “C.-E.A. Winslow and the Early Years of Public Health at Yale, 1915-1925,” 137, 143-44, 146; idem, “Charles-Edward Amory Winslow,” in \textit{Dictionary of American Biography}, 702; Ira V. Hiscock, “Public Health at Yale,” \textit{Yale Journal of Biology and Medicine} 19 (March 1947): 394-6.}
Lack of interest on the part of medical students under Winslow’s program might be explained in part by his downplaying of the ultimate importance of the physician within his vision of a coordinated, cooperative, community-based public health movement. Physicians as individuals could not by nature possess all of the skills or perspectives necessary for the proper functioning of the whole public health apparatus. The new public health demanded well-rounded physicians and public health experts, but for Winslow also required the assistance of other experts in other fields and lay community involvement. Professionals and laypeople, in Winslow’s conception of community health, were ultimately responsible for the health of all by contributing their own particular skills, abilities, and personalities. Sedgwick’s Y-plan, by contrast, grouped students of sanitation and medicine together in the first year of the program, as they took the required basic science and laboratory courses together, then split them up in subsequent years for more intensive specialized work in their respective professions. The Y-plan was far more popular among those studying medical science.

The new public health, though reminiscent of Sedgwick’s closely circumscribed profession, incorporated much that his mentor excluded. Winslow defined public health as the science and the art of preventing disease, prolonging life and promoting physical and mental health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal hygiene, the organization of medical and nursing service for the early diagnosis and preventive treatment of disease, and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health; organizing these benefits in such fashion as to enable every citizen to realize his birthright of health and longevity.

The science of longevity had been transformed. Winslow’s program, unlike Sedgwick’s, stressed the need to understand the science of all aspects of hygiene, personal as well as community,

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mental as well as physiological. More than this, Winslow's vision stressed the importance of the social sciences in effecting positive hygienic change. Finally, the role and authority of the community health organization as a whole superseded the role of any one of its (nevertheless important) constituent experts.¹³⁶

Winslow further differentiated himself from the specialized sanitary scientific model following his service as chair of the Committee on the Costs of Medical Care between 1926 and 1932. The final report of the Committee, to which Winslow contributed substantially, internalized the spirit of his cooperative, community-based public health. The five main recommendations proposed in the majority report were organized group practice, public and private health service, public and private group payment insurance, coordinated medical service, and a broader educational experience in professional training schools. Sedgwick's older understanding of applied sanitary science, on the other hand, could brook no relationship between public and private efforts to improve public health, and encouraged specialization, not broadening of responsibility by generalization.¹³⁷

Winslow envisioned, by applying the principles of this reconfigured profession, what he called a "coordinated, completely interlocking, dovetailing health program." The time was ripe for the application of scientific principles to the health of the people. The new public health required social activity, not simply the intellectual brooding of disciples of the laboratory. Laypersons and popular language were crucial to this movement for without them the expert could, Winslow claimed, not succeed. Mass distribution of leaflets, posters, popular handbooks,


children's skits, and radio programs became, for Winslow, the best way to educate the public and build a comprehensive community health program. Moreover, the new public health demanded "health promotion" toward a healthy and enriched life, and not merely successful attempts to stay the grave with science. The new public health, Winslow argued, must overcome the avalanche of scientific facts and laboratory techniques and contribute something useful to a new philosophy of life. Sanitary science was deficient, he claimed, because its unbiased, amoral, cynical, and professional detachment cast society adrift on a directionless vacuum. "We have had no time to coordinate, to interpret," Winslow remarked, that is, to apply the scientific resources already gathered to a beneficial end.

Yale's School of Nursing was founded in 1920 along these very lines by Milton Winternitz, Winslow's longtime friend and colleague who agreed that medical specialization often obscured the complexity of disease and all aspects of its prevention and treatment. Winslow, himself active in matters concerning the organization of bedside nursing, clinical nursing, and public health nursing, contributed no less than thirty-five articles on these subjects over the course of his career.

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138 One such skit entitled "Queen of the Milk Fairies" written by Marion Phalam of the USDA may be found in Winslow's *The Laws of Health and How to Teach Them* (New York: Charles E. Merrill Company, 1925), 296-304.
140 A vacuum, incidentally, that the totalitarian nations and religious mystics were exploiting to gain the favor of disillusioned American youth.
The combination of coordinating, cooperating functions and dedication to science gave great apparent authority to the public health nurse in particular. Generalized service, in which specialized nursing services are combined under one roof, offered communities a social and scientific network otherwise unavailable. Winslow saw these nurses as the chief translators of scientific public health principles for patients, school officials, health service workers, and even physicians. Public health nurses on the front lines transmuted the "findings of the laboratory and desk into the language of the man in the street." Supervising public health nurses in community health boards linked "public health science on the one hand—with the laws of physiology and the laws of sanitation and the laws of society—and with the individual family on the other." Winslow demonstrated the place of the coordinating, cooperating, public health nursing association within community health organization graphically [see Figure 1].

Figure 1. Winslow's tracing

Winslow also took great interest in the public health demonstrations sponsored in the 1920s by the Milbank Memorial Fund, started as a philanthropic gift from the wealthy widow Elizabeth Milbank Anderson, in rural Cattaraugus County, N.Y.; urban Syracuse, N.Y.; and the metropolitan Bellevue-Yorkville district of New York City. Demonstrations in a variety of typical communities were "something between research and education," he explained. "It takes a concept which has already been developed to the point of tentative acceptance in general outline and tries it out in the social corpus vile,—to test by actual experience its general validity."

The fruits of these demonstrations, so far as Winslow was concerned, were many. The Milbank demonstrations proved the utility of all sorts of community concepts to improve health: model bakeries and laundries, and even model school ventilation plants.144

The demonstrations were also in accord with Winslow's new public health. He compared the demonstrations to the Greek conception of the city-state as an "organic unit in which diverse individuals and diverse talents play their part for the good of the common whole."

Leaders in these communities represented the motives of the citizens as a whole, Winslow argued, since leadership involved a "mutually educative process, from which the citizen acquired and realized the desire for new satisfaction which he would never have ever dreamed of as an isolated individual."145

In Syracuse, for example, the Milbank demonstration's Technical Board and Advisory Council blended and fused fifty-six public and private agencies into "one intricate and complex

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144 Charles Edward-Amory Winslow, "The Living Hand: Elizabeth Milbank Anderson," in Milbank Memorial Fund: A Meeting Commemorating the Twenty-Fifth Anniversary (New York: Milbank Fund, 1930), 11-62; idem, Health on the Farm and in the Village: A Review and Evaluation of the Cattaraugus County Health Demonstration with Special Reference to Its Lessons for Other Rural Areas (New York: The Macmillan Company, 1931); idem, A City Set on a Hill: The Significance of the Health Demonstration at Syracuse, New York (Garden City, N.Y.: Doubleday, Doran, & Company, 1934). The Commonwealth Fund also sponsored demonstrations in Fargo, North Dakota; Clarke County, Georgia; Rutherford County, Tennessee; and Marion County, Oregon, in the 1920s.

145 Winslow, A City Set on a Hill, 3-11.
pattern for the benefit of the district as a whole.” Winslow described Syracuse under demonstration as an ideal beacon for public health practice, a veritable “City Set on a Hill,” the only American city to generate a perfect score on the American Public Health Association’s Appraisal Form. Cooperation between private benefactors and government programs was also a goal in the Bellevue-Yorkville district. Milbank officials and local citizens sought to blur the lines between prevention and cure by engaging all sorts of experts and laypersons in the interest of public health. The Milbank Fund encouraged coordination between a plethora of official and voluntary agencies at the local, county, and state levels. Groups as diverse as the State Department of Health, mental clinics, crippled children’s committee, county tuberculosis service, plumbing inspectors, and township Red Cross volunteers were all enjoined by Milbank’s “guardians of the commonweal” to cooperate with one another for the common good.

Even Winslow’s efforts to improve “healthful housing” by ventilation, temperature control, and relative humidity demonstrated faithfulness to the new public health. Winslow received funds and facilities to study these components of healthy living from New Haven’s John B. Pierce Laboratory of Hygiene established and supported by the American Society of Heating and Ventilating Engineers in 1933. Winslow understood housing as an environment promoting the psychological and physical equanimity of the individual. Good housing contributed to normal private and public family life. Winslow thus envisioned family rooms as gathering places suitable for family members and club rooms, common rooms, or living rooms as necessary for entertaining guests. Residential communities themselves, moreover, ought to offer side-by-side accommodations for large and small families, and for people of all stations in

146 A phrase cribbed from Plato’s Republic.
147 Winslow, A City Set on a Hill, 3, 50-80; idem, Health on the Farm and in the Village, 79-95.
life. These balanced communities, in turn, ought also have immediately available a wide range of services: schools, churches, libraries, hospitals, parks, theater houses, and shopping.¹⁴⁸

Winslow may have been encouraged and emboldened to reconfigure Sedgwick’s sanitary science by reinterpreting statements attributed to Sedgwick himself. Sedgwick in his writings sometimes seemed to recognize the essential correlation and cooperation of parts in the whole by comparing the living machine to the workings of a timepiece:

For precisely as the experienced watchmaker carries in his mind’s eye and can at any moment summon up a mental image of intricate, correlated and interdependent parts—springs, wheels, bearings—lying concealed within, but which, taken together and in a certain definite and orderly relation one to another, make up the works of a delicately adjusted chronometer in actual operation, and constitute a valuable time-keeper; so the physiologist, familiar with bones, muscles and nerves, with good red blood and beating heart, all cooperating to a common end—the healthy, normal life of the organism—can summon up at will the picture of normal, vigorous, almost superfluous vitality in some vascular life-keeper.¹⁴⁹

In another place Sedgwick noted of the body’s constituents that these parts are mutually interdependent, and that the organism as a whole is greater than any of its parts. Precisely as a chronometer is superior to an aggregate of wheels and springs, so a living organism is superior in the solidarity of its parts to a mere aggregate of organs, tissues, and cells.¹⁵⁰

Another of Sedgwick’s students, George Whipple, also remarked on the necessary correlation of parts in his early work, noting that “the human body is more than a machine; it is an organism of living cells, each a living entity, and each working for the good of all.”¹⁵¹


¹⁵⁰ Sedgwick and Wilson, *An Introduction to General Biology*, 19.

Ultimately, however, Winslow's new public health differed substantially from the sanitary science practiced by his mentor and students, including himself, at MIT. Sedgwick grounded sanitary science in experimental laboratory discipline and quantitative, mechanistic theory formation. He stressed the importance of professionalized sanitation as the exclusive preserve of scientific experts. Expertise, moreover, could be segregated by structure and function. Sedgwick imbued heavily in his age's scientific progressivism in a drive to specialization and hierarchical arrangement of parts.

Winslow, by contrast, grounded his new public health in the methodological fruits of quantitative natural science coupled with advances in qualitative social science. He stressed the defined (though different) roles of the layperson and the expert in successful private and public community health initiatives. The profession and its expertise could not be separated from the good of the whole, and a generalized, cooperative, coordinated model was favored over the inefficiencies and estrangements inculcated by a neutral science. In sum, Sedgwick's sanitary science and Winslow's new public health bore only one great similarity, albeit an important one: a commitment to progress in the sphere of human health.
CHAPTER IV: PUBLIC HEALTH NURSING

An elderly cripple was the ideal candidate for the sort of help that Dorothy Carter could provide. Mrs. Lewis was nearly blind and subsisted on a diet bordering on starvation. The rotten condition of her teeth meant that the widow could barely consume her meager portion of food. Carter, a public health nurse, swung into action, securing and coordinating the efforts of various local health agencies on Mrs. Lewis’ behalf. Within a month a remarkable transformation had taken place. New prescription glasses arrived. A trip to the dentist netted a new set of teeth. Mrs. Lewis soon began receiving a regular allowance of food and money from the local community chest. Carter also called a nutritionist to help Mrs. Lewis establish restorative meals.¹⁵²

Improving the health situations of individuals like Mrs. Lewis during the roaring Twenties and sagging Thirties demanded cooperation between a large number of constituencies. These constituencies conceived of public health as a complex, interconnected whole. Morbidity and mortality depended on the efforts of physicians, but included a variety of other factors like the presence of hospitals, funding from public and private social welfare institutions, family and ethnic customs, wealth, and even climate. No one factor was more important than any other, and an imbalance in any one factor could damage the effectiveness of all public health initiatives.¹⁵³

The key player, if one existed in an era of such close cooperation, was the community public health nurse who, as an educator, home visitor, and social worker investigated homes for

disease and vice. The community health nurse bridged the gap between home and clinic in a way that no other health operative could hope to accomplish. The preeminent middleperson, the community health nurse believed that she could coordinate the entire supply and demand for health. Her especial sensitivities to the needs of the family, the ultimate group, clinched her place as a perfect adjunct to all health work. As such, nurses were widely employed in locally-sponsored community health centers and by city and state departments of health where they worked in close alliance with physicians, health officers, and laypeople.

Community health nurses, seeing themselves as the essential lubricant in the integrated health care machine, struggled throughout the interwar period to achieve greater cooperation between health agents and agencies. Yet, by and large, community health nurses failed to advance as a truly independent profession, or accomplish their goal of merging the public health department and the private clinic. Rapid improvement in communicable disease rates, increasing acceptance of hospitalization by the middle class, and declining numbers of immigrants needing Americanizing have all been offered as reasons for community health nursing’s demise.\textsuperscript{154}

Another impression, however, emerges from an examination of the worries and laments of leading community health nurses themselves. First, nurses conceived of themselves as adjunct to all other professional groups. Community health nurses denied their own independent identity especially in carrying out the physician’s directives. Second, the centrality of the family unit in the health planning of the community health nurse marked her as less a scientific agent for efficiency and more an efficient social scientist or even amateur psychotherapist. Educational prerogatives shifted away from the development of scientific nursing knowledge, which they saw as already

well established by 1920, and toward the development of an appropriate nursing personality. Community health nurses argued that they were collectively empowering themselves in the process, but instead they cast off the mantle of pure science which had made them most authentic.

Third, the coordinating and cooperating role assumed by community health nursing made their efforts less visible than earlier specialized activities. Community health nurses expended less effort organizing immunization drives and giving lessons in hygiene door to door, and more time “selling” more intangible bureaucratic services. Community health nurses stressed their native ability to coordinate disparate public health functions into an organized whole. They reconfigured themselves as comprehensive care providers rather than as specialized caregivers, something they considered an outmoded function first assigned to them in the late nineteenth century. The coordinating position, when administered appropriately, however, moderated necessary commercialization in modern times. Community health nurses appeared to achieve this state of invisibility with great rapidity, a sure mark of the efficiency with which they pursued this aim. It was this positioning of the profession as coordinators and cooperators that hurt it most, for it left community health nursing with no specific, promotable talent. Community health nurses could not diagnose or treat more than superficial wounds; they were not this kind of specialist. They represented instead the eyes, ears, and social conscience of the physician, but never the hands.

Community health nurses usually traced their roots to Lillian Wald’s labors at the Henry Street Settlement House in New York City. Here among some of most treacherous blocks of Lower East Side of Manhattan, social evils supposedly got their start, leaching outwards in concentric circles from immigrant slums to more and more prosperous neighborhoods. Wald
organized this "Nurses' Settlement," as it was first called, in 1893. Henry Street settlement workers stressed science-bound public health initiatives like cleanliness, bacteriological examinations for communicable diseases, and immunization drives to improve what they perceived to be the sorry state of American immigrant life. Workers also sought to curb immigrant passions, thereby making them splendid examples of their own races.  

The Henry Street model for nursing care was widely copied, and by 1900 had spread well beyond purely immigrant communities. Public health nursing services, known at the time as "district" or "visiting" nursing, were inaugurated in Chicago in 1890, Buffalo in 1891, Kansas City in 1892, Detroit in 1894, Baltimore in 1896, and New York City in 1898. In 1895, owners of Vermont's Proctor Marble Company inaugurated nursing visitation to help "conserve the health" of their employees. John Wanamaker, Philadelphia's largest retailer, enlisted the services of visiting nurses two years later. By 1909, heeding advice of Lillian Wald, the Metropolitan Life Insurance Company installed visiting nursing alongside its other famous services to industrial policyholders.  

Visiting nurses began aspiring to membership in national professional organizations soon thereafter. In 1912, nursing leaders established a National Organization for Public Health

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Nursing (NOPHN) under the auspices of the American Nurses' Association, and began publishing a monthly magazine. The purpose of this organization, matching the cooperating and coordinating aims of other professions in modern America, read as follows:

To stimulate responsibility for the health of the community by the establishment and extension of public health nursing; to facilitate efficient cooperation between nurses, physicians, boards of trustees, and other persons interested in public health measures; to develop standards and technique in public health nursing service; to establish a central bureau for information, reference, and assistance in matters pertaining to such service; and to publish periodicals or issue bulletins from time to time in the accomplishment of the general purpose of the organization. [emphases added]\(^{157}\)

Lillian Wald, who served as first president of this new organization, defined the purposes of the visiting nurse further, stressing the need for service to the entire population, not just the immigrant poor. She and other leaders of the new organization conceived professional "public health nursing" as comprehensive, but organized into certain specialized departments that nurses mastered individually. These departments included maternal health, infant and preschool health, school health, industrial nursing, adult health, communicable disease control, clinical care, orthopedic service, vital statistics, sanitation, mental hygiene, nutrition, and visiting nursing.\(^{158}\)

That same year, the American Red Cross organized its own visiting nursing service, first called the "Red Cross Rural Nursing Service," then renamed the "Red Cross Town and Country Nursing Service," and finally in 1920 the "Bureau of Public Health Nursing." In 1923, a third visiting nursing organization joined the ranks in the form of a permanent section of the American Public Health Association. Membership, particularly among the leaders, overlapped in all three of these nursing organizations.\(^{159}\)

\(^{158}\)McNeil, History of the Public Health Nursing Section, 1-5; Farnham, Pioneering in Public Health Nursing Education, 27-47.
Schools for training and specializing public health nurses accompanied this drive for professional organization. M. Adelaide Nutting established the first course in visiting nursing at Teachers' College, Columbia University, in 1910. Other university and college programs followed in quick succession at the University of Pennsylvania, the private women's institution of Simmons College in Boston, the University of Minnesota, University of California, Western Reserve University, University of Iowa, University of Oregon, St. Louis School of Social Economy, Richmond School of Social Work and Public Health Nursing, University of Michigan, Yale University, and Washington University. These nursing programs, though quite diverse, were united in their desire to substitute "scientific matter and manner" akin to sanitary science for the "trial and error method of its infancy."\(^{160}\)

The role or place of visiting nursing changed dramatically in the late 1910s and 1920s. Visiting nursing leaders rejected their traditional position as a specialty under nursing, and they now asserted that all nurses were potentially community health nurses. They argued that visiting nurses, as well as the other two recognized nursing specialties—private duty and institutional nurses—could easily become community health nurses with brief field experiences and a postgraduate course or two. Many private duty and institutional nurses agreed, and distinctions between the three major branches of nursing became ever more indistinguishable.\(^{161}\)

Public health nurses for almost twenty years before 1920 had limited themselves to what later became known as "specialized service." Specialized service meant grounding one's expertise in the scientific principles of one particular subdiscipline. This "compulsion to specialization" represented the driving engine of medical science in the late nineteenth century, but at a cost in

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seeing the whole picture. That, at least, was the claim of later generalized servants. Visiting nurses took classes, beyond standard training or experience in nursing, almost exclusively in the science of bedside nursing. Communicable disease nurses specialized in bacteriological science. Tuberculosis control, diphtheria control, public school health, child welfare, infant welfare, prenatal nursing, maternal nursing, venereal disease control, dental clinic work, and mental hygiene were other possible paths for specializing public health nurses to follow. None of these specialists— theoretically at least—could share in the expertise of any other. \(^{162}\)

The manifold responsibilities and dynamic coordinating and cooperating role of the public health nurse in modern America demanded something more. This something became referred to as “generalized service.” Nursing leaders began advancing arguments in favor of generalized service in the late 1910s, but did not overwhelm those enamored by specialization until the mid-1920s. Mary Gardner, perhaps the great statesperson in modern community health nursing, advocated generalized nursing in the first edition of her textbook *Public Health Nursing*, but only halfheartedly. She repeated the contention of others that generalized service had certain advantages:

(1) duplication of overhead expenses induces a temptation to economy of supervision, (2) the entrance of several different nurses into a household tends to weaken the influence of each, (3) the constant presence in the small district of one nurse so familiarizes her to the people that they learn to call upon her readily for advice in health as well as sickness, (4) the average nurse variety of work acts as a helpful stimulant, (5) specialization delays or prevents recognition of the whole public health problem behind each individual phase of disease, and (6) proof of success by individual nurses to handle all aspects of public health nursing work in rural areas and small towns. \(^{163}\)

Yet Gardner accepted that specialized service worked better than generalized service in the largest cities. Specialized service was preferable in small towns and rural areas too, but was

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practically impossible to support financially. Generalized service fit the typical, or mid-sized city best, as it was practical for one nurse to know and supervise all the families of the community personally. Specialized nurses in the work encountered only a small fraction of the population.\textsuperscript{104}

Generalized service did not become the central organizing principle of community health nursing, or all of public health for that matter, without a fight. Critics charged that generalized service gave too much responsibility to individual community health nurses who might or might not have encountered specific situations and emergencies before. Generalized nurses in rural areas, some thought, became loose cannons without close supervision. Gardner respected this contrary opinion, noting as she did that “serious objections to specialization are not insuperable.”\textsuperscript{105}

Generalized service, which ultimately triumphed over its detractors, meant that nurses had to be multipurpose and multitasking personnel. Generalized community health nurses worked everywhere, from the lonely deserts to the crowded metropolises, and did just about everything. They acted as “probation officer, tenement house and sanitary inspector, county bailiff, domestic educator, and hospital social service worker” all rolled up into one neat package. They were to be acquainted even with the “work of the dog and rat catcher, for if a child is bitten by a dog, it is the nurse who follows up the case.” They treated adults and children, worked in the cornfield and the factory, and gathered information on everything from mental defects to tuberculous infants.\textsuperscript{106}

By 1930, the trend had resolved itself into virtual unanimity. Generalized service reigned supreme among the elite. Public health demonstration projects, very visible displays of

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community health expertise through the mass cultivation of health habits in so-called “natural” or “average” communities, added to a growing corpus of evidence for general-purpose nursing strategies. The East Harlem Nursing and Health Demonstration, in particular, was often cited as conclusive proof of the efficacy and superiority of generalized service. Generalized service did not eliminate the need for specialists, but those specialists became less important in the day-to-day activities of community health nursing. Specialized nurses continued to exist, but increasingly became charges of generalized nurse administrators. Specialized nurses just did not appear as closely correlated to the main movement of community health nursing.\footnote{Rue, \textit{Public Health Nursing in the Community}, iii, 26, 34.}

Community health nurses by the 1930s uniformly argued that generalized training might make their efforts more efficient and more useful to their patients and families. Generalized nursing connoted less intrusion into family life. Not only were the families of patients disrupted less often by visits, but they dealt with a single nurse to whom they could more easily entrust delicate information. Dealing with one nurse also created less confusion in the patient’s mind. Single visit service encouraged patient independence. And, the multipurpose nurse, looking at the family situation as a whole, recognized problems that specialized nurses would undoubtedly miss.\footnote{“Generalized Versus Specialized Nursing,” 561-3.}

The greater variety of work stimulated and satisfied generalized community health nurses. They no longer had to undo or countermand the instructions of another nurse, nor did they need to worry that some aspect of the work at hand might become neglected. Multipurpose nursing avoided the “contradiction of teaching in the home which weakens the influence of each teacher” under specialized routine, commended one community health nursing panel. Finally, generalized
community health nurses usually ended up with a smaller territory to cover each day, a great relief to those who wished to know the community better.  

Multipurpose efforts in community health nursing solidified further in the face of the 1930s bleak economic picture. Generalized service obviated the necessity for multiple trips to the same home for different purposes. A single general-purpose nurse could provide all the necessary functions with just one stop. Generalized service thus saved on wages, overhead, and precious gasoline. Generalized nurses also need to maintain only one set of records, whereas specialized nursing demanded scores of carefully transcribed and copied records. Specialized public health nursing in a time of depression seemed especially “wasteful and ineffective.”  

Health officers and physicians also favored a broader approach to nursing during the Depression. “Generalized nursing,” noted one city health commissioner, “is now recognized as a more effective and efficient form of service.” Other professionals argued that the community health nurse’s mind ought to remain uncluttered by trivialities, instead populated by useful knowledge. Nurses, they argued, should know the essential aims of public health, how to collect and use vital statistics, and regulate milk distribution in schools. Amalgamated services also reduced the number of individual visits between physicians, health officers, and nurses, speeding caregiving and saving money.  

The more varied role ascribed to the community health nurse after 1920 encouraged her to understand community organization and select initiatives in terms of examining and interpreting that which seemed “typical” or “normal.” Typical or normal communities were

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eminently healthy communities. Abnormal and atypical cities were not. This, of course, made
the largest cities and most unpopulated rural districts among the most atypical and hence
unhealthy. Although the nurse ideally did not overlook the small or the large, she usually focused
her attention and gained inspiration for her work upon that which bulged in the middle.172

On a day to day basis, community health nursing's most important coordinating activity
remained home visiting. Neither the superiority of objective science nor simple force was
enough to coerce laypeople into joining professionals in the interest of health. Rather, the nurse
used her more intangible assets like sincerity, intelligent tolerance, and sometimes cajoling, to
marry the two groups. Nursing leaders encouraged publicity work through newspaper editorials
and radio interviews. Nurses acting as "galvanizing agent[s]" adapted their programs to the needs
and history of the family and adapted the family to the needs of the community.173

The environment of the public health nurse was not only a community, but a community
of communities. Nurses knew those communities of communities as "families." Noted one
nursing leader, "The family is the center of interest to a public health nurse, and family health is
the end she hopes to attain." Specialized service had not, in their minds, met the needs of
families because it did not focus on the family, but only upon its constituent parts: individuals.
The maladjusted individual spread disease and disorder to other members of the family.
Assisting the individual, then, did not guarantee that a public health problem had been
eliminated.174

Generalized service, however, seemed tailor-made for familial public health care.

Reaching out to patients or individuals at risk depended on cultivating rapport between the family

173Grant, Nursing: A Community Health Service, 46-9; Wales, Public Health Nurse in the Community, 424.
174Rue, Public Health Nursing in the Community, 78; Beard, Nurse in Public Health, 2-3, 11-2; National Organization for
and nurse. Counseling and educating the individual inevitably failed without the approval of their families. Concentration on the family as the most fundamental unit of community health nursing practice had several benefits beyond securing family members as agents of patient surveillance. Nurses found it difficult, if not impossible, to ignore the wider family problems contributing to sickness or the potential for sickness in the first place.  

Nurses did not separate families from their immediate environments either. Families were members of the community, and that community could harm healthy families or be harmed by unhealthy ones. The mission of the community health nurse was to “bring about harmony between the family and its physical, social, and emotional environment by adjusting the family to that environment or by modifying the environment itself.” Producing healthy families required great choreographic skill on the part of the nurse correlating the needs of the community with those of all families.  

The home was an ideal place to glean pertinent health information. Home visits allowed community health nurses to sample real situations and use their abilities to “think and feel with the family.” Taking family histories rather than individual health histories revealed a more comprehensive health picture, directing the efforts of the community health nurse more surely. Community health nurses recorded their observations in “family folders.” These folders, made of tough manila, contained all the necessary forms for tracking the health and social progress of a single family. Family folders assembled by community health nurses often contained intimate details of family life because, as several authors put it, interrogations in the home loosened the tongues of otherwise reserved individuals. But this was exactly the point. The public health of


the individual was completely tied together with the thoughts, feelings, racial or ethnic customs, and emotional context of the family *in toto*. Nurses, having collected all the pertinent information about households, then turned over particular tasks to particular groups in the community best attuned to carry out her wishes or, in the case of other health professionals, engineer solutions.177

The coordination-cooperation model followed by community health nurses when dealing with families is exemplified in efforts to control venereal diseases and mental illness. Significantly, nurses reconfigured venereal diseases as “family diseases,” not a disease of any one particular individual. Syphilis, for instance, became “familial syphilis” and community health nurses spoke about whole “syphilitic families.” Nurses saw venereal diseases as familial in two important respects. First, syphilis and other “social diseases” tended to strike adult males, the breadwinners of families. This tendency generated all sorts of unpleasant effects upon the family, including poverty and social stigma. “Syphilis in the family causes more unhappiness than any other single disease,” announced one community health nurse. Second, syphilis spread easily from husband to wife, wife to husband, even mother to child *in utero*. Clearly, venereal diseases traumatized the whole family.178

Community health nurses, then, stressed the totality of venereal disease control over the identification of stricken individuals. These diseases moved in families and could not be controlled by simply treating infections as they became known. “Resort to medical control alone is like bailing out the kitchen when the water pipe has burst,” exclaimed one nurse, “instead of shutting off the water and fixing the pipe.” Besides, infected individuals often deliberately eluded

discovery. Prevention depended upon educating the whole family, treating the whole family, and eliminating the immoral influences that encouraged disease.179

Comprehending and reducing mental health problems also became a family affair. Emotional disturbances like fear, worry, irritability, jealousy, suspiciousness, depression, excitability, and aggressiveness gripping one member of the family invariably affected all the others. Anxiety in one member might transfer directly into sons, daughters, siblings, and other family members, or it might create different yet related symptoms like over-zealousness, over-conscientiousness, and hyperactivity. Mental problems in one patient could even provoke physical ailments in other family members.180

Nurses approached the patient as they did their families. Flesh, mind, and spirit became indistinguishable parts of the whole fabric of the individual. Mental stresses, for instance, could enervate physical distresses through “conversion.” Explained the famous physician and mental hygienist Karl Menninger in a 1939 essay for the journal *Public Health Nursing,* “Gastric distress, biliiousness, and heartburn may frequently have a symbolic significance [in] insecurity, or a threatened loss of love, of which the individual is entirely unaware.”181

In complex modern society, nearly every family stood in need of community health nursing assistance. “If some engineer with a flair for social work could devise a coefficient that would express in numerical terms the complexity of 1937 society in terms of the year 1900 as a base, and if 1900 represented by the index number 100, I have a suspicion that the year in which we live might be rated at 1000 or 2000 or perhaps 5000,” argued a lay commentator in the pages of *Public Health Nursing.* Few individuals lived up to their traditional roles in this rapidly changing

181 Ibid.
world with a society turned upside down. The "father" often failed as sole breadwinner, the
"mother" failed as homemaker, and the "children" failed as providers for their elderly parents. Community health nurses bolstered the family by providing continuity at times when family roles and relationships disintegrated. Protecting the family had the prophylactic effect of protecting the community. "Through the improvement of living conditions of this small unit," noted one nurse, "society as a whole is benefited."182

Community health nurses, following principles of "Christian charity" developed in the distant past, advocated no particular religious affiliation or political party. Her "ministry" instead, devolved solely to instilling the principles and practices of good living. Jews, Protestants, and Catholics often cohabited in the same communities in America, and nursing leaders felt that none of these groups ought to feel so uncomfortable by the demeanor or opinion of the community health nurse that they might refuse aid. Community health nurses could, however, encourage a family's preexisting religious or political beliefs. Religious and political participation was not an evil to be avoided, but instead instilled positive feelings toward civic life. Church attendance and voting were, moreover, good ways to link up members of the community.183

Given her role as essential coordinator and cooperator in the community health movement, the nurse's avowed professional apathy toward politics smacks of hypocrisy. It might easily be argued that community health nurses were the most political members among all the health professions of her day. Nurses did not have to repudiate particular religious or political views, only examine their own motivations and mask them from the outside world. They asked


each other only that they submerge personal feelings in favor of cultivating the feelings of the entire community. Nurses calibrated themselves not to create factions, but to marry those factions into a whole.184

Community health nurses, chameleons of sorts in the interwar decades, created roles for themselves that varied widely. They could be rural district nurses, school nurses, communicable disease nurses, child health workers, factory nurses, mental hygienists, or any type of social service nurse. As malleable professionals, community health nurses conscientiously shaped their work to fit the needs of individual communities. Still, the central goal of professional community health nursing was to create and coordinate a comprehensive, integrated health organization by voluntary cooperation between all public and private groups in the community.185

Modern public health nurses, as they saw it, oriented their services with the best interests of the whole community in mind. Nurses abhorred the thought of radically different services geared exclusively to the needs of particular classes, races, or creeds. They challenged themselves and other health professionals not to be islands. C.-E. A. Winslow noted that the nurse who acted alone lacked guidance, and soon "fails to realize the fact that she is a public health nurse at all."186

Public health nurses, in sum, were active participants in community planning and decisionmaking in modern America. They fancied their profession as the critical mediator between participants in the smooth functioning and enforcement of community health standards.

Nurses created for themselves a role as ultimate coordinators and cooperators for the greater

184Wales, Public Health Nurse in Action, xvi.
good in public health, a role which ensured that the relative importance of their work might be sustained and passed on intact to future generations.\(^{187}\)

Community health nurses accepted the truism that “life surges warm and chaotic” around them. They regulated the flow among the professions of health. Community health nursing’s responsibilities for interpreting and educating linked it directly to other professions and to the public. Community health nurses transmitted information and transferred effort throughout the community, interpreting the orders of physicians to social workers, the desires of teachers to mothers, and the worries of children to adults.\(^{188}\)

Their gusto for cooperative service cannot be separated from wider cultural enthusiasm for “group thinking.” While some health care professionals worried about the dangers of an extreme beehive mentality, most regarded harmonious, universal action as more effective. “Just as there is no part of the human body that is safe when infection exists in another part,” noted one nurse, “there is no part of the human body that is safe when infection exists in another part; there is no part of the social body that can remain unconcerned if disease, immorality, delinquency, and crime are allowed to develop at some point.” The conceptualization of society as a network where the whole was greater than the sum of its parts also eliminated the demeaning power struggle naturally accompanying majority decisionmaking. Instead, all players became equal partners, united by common problems and common enemies. The very spirit of democracy depended, in effect, upon voluntary cooperative effort for the common good. Little

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wonder, then, that the new definition of public health nursing encompassed the individual as part of the family and the family as part of the community.\(^{199}\)

Violet Hodgson, Assistant Director of the National Organization for Public Health Nursing in the 1930s, likened the American society which her profession regulated to a “complex machine” which “is only as perfect as the sum total of perfection of its individual parts.” Public health nurses saw themselves as an essential and inseparable part of that community machinery. They were ghosts in the machine, augmenting and shaping its activity but not supervening or subordinating it. Most augured that their profession stood foremost as a buttress against chaos and disorder in conserving the nation’s health.\(^{191}\)

Nurses, leaders asserted, bore responsibility for policing and enforcing the collective will of the people in matters of public health. As such, they countenanced no group that exhibited contrary will or intolerance to community decisions. Leaders strictly warned community health nurses against incubating excessive “agency consciousness” or associating with organizations fostering any hint of exclusivity. Instead, they were to reach out and join the hands of professionals and laypeople, private and public sponsors, making public health one large social-medical complex. As one director of nursing services in Milwaukee put it, “No group is all important and no individual or group is too small or insignificant to be ignored in the effort to pool resources for the greatest common good.”\(^{191}\)

Community health nurses argued that a valuable service had been rendered even when their first attempts to sponsor teamwork met apathy. Their one-sided efforts often brought

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rewards in the long run. Nurses' overtures built up an unconscious awareness of dereliction of duty, of embedded community expectations, among the seemingly bored and uninterested. Some members of the community, they reasoned, did not realize their responsibilities until they became readily aware of them. The more discouraged the potential worker, the more encouraging the calculated response.192

Coordinating the experts and the masses involved pooling all community resources and negotiating mutually beneficial compromises. "To reach her goal she must be willing to use all the forces of her city," wrote Mary Gardner in one of the earliest public health nursing textbooks, "from the timid little volunteer with her inexperience to the worn veteran with his somewhat immobile mental attitude." The windfall of economy and enhanced dynamism wrested from cooperative efforts proved the nurses' place more surely than decreases of mortality revealed in statistical tables.193

No one individual or individual group controlled public health, not even community health nurses. "Alone, the nurse is powerless to change conditions for her patients," admitted one nurse. "To attain her best usefulness she must know every source to tap for health in meeting the conditions caused by the complexity of modern life." Nurses assisted community health by organizing local health councils, or better yet, more inclusive community associations.194

Nurses ideally were also supposed to cooperate with each other. The nursing supervisor acted as coordinator of the coordinators. The supervisor, wrote C.-E. A. Winslow, acted as "the channel through which scientific knowledge comes to the staff nurse, . . . developing each individual's potential contribution and fusing it into a whole which is greater than the sum of its

192Rue, Public Health Nurse in the Community, 76.
parts.” He also encouraged supervisors to act with “centrifugal” leadership, and not “centripetal” leadership. Supervision did not (again, ideally) disenfranchise staff nurses. Far from it. The individual nurse remained ultimately responsible for her own self-interpretation, coordinating her own diverse and sometimes contrary ideas to the wider profession. Any “program is not really successful unless the person engaged in it believes it is important to the sum total of activities desirable for human progress,” noted one nursing leader.195

At the local level, nurses organized themselves into public health nursing bureaus in county and state departments of health where they exchanged information, distributed nursing services, and developed compatible community health projects. At the national level, public health nursing organizations joined together with the three national nursing organizations in a Joint Committee on Community Nursing Service so that a more “fully coordinated and truly effective” health program might be developed.196

“Collective morale” enhanced “individual effectiveness” in all aspects of public health professionalism in the eyes of the community health nurse. The nurse engaged in morale-building activities in part by sponsoring convivial meetings bringing together all professionals, especially those she dealt with most often: the physician and the health officer (almost always a physician himself). During conferences, public health nurses encouraged the incubation of community-wide health policies. The articulation agreements emerging from these meetings with the help of the nurse-intermediary nurtured all the professions of public health.

The sheer numbers of community health nurses and their ubiquitous presence in all community health agencies assisted their organizing efforts. The large numbers of full-time

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nurses working in health and health-related organizations also gave the profession significant leverage. Fully half of all health workers in the United States by the 1930s were nurses. These nurses were employed in over 1,800 health agencies nationwide. Community health nurses found employment in many places in the community, more places than any other type of health professional. Nurses worked for physicians and health officers, but also in insurance companies, tuberculosis associations, industry, and a vast array of welfare organizations.\(^{197}\)

The organization of city services in Cleveland demonstrates the great diversity of community health nursing work, and the large number of disparate public health units that could be brought together. Community health nurses worked in the dispensaries of Maternity Hospital, the Babies’ and Children’s Hospital, the Health Division of the Board of Education, the Visiting Nurse Association, the University Public Health Nursing Station, and the Red Cross Teaching Center. Nurses choreographed these agencies into a Central Committee of Cleveland.\(^{198}\)

Emergencies, whether epidemic, economic shock, or social dislocation, highlighted the utility of close-knit organizations. Community health nurses were keenly aware of the linkages between people that promoted health in good times and illness in less fortunate times. The maladjustment of even one family, though, had consequences that reverberated throughout the network of health. Correction of individual defects by prevention or cure generated positive effects: chain reactions of public health promotion among individuals in the community. The job of community health nurses often involved following a “train of symptoms” back to the source and then eliminating the problems located at that source.\(^{199}\)


Mastering a role as quintessential coordinator and cooperator had some well-known drawbacks. "At times she seems caught in a hampering entanglement of red tape," complained one mental health nurse. Too, health administrators were notoriously stultifying at times. Negotiating a solution sometimes meant bending another's will more than their own: "A tactful nurse will not, of course, appear to be directing her directors, although in reality that is exactly what she must often be prepared to do." And, the community health nurse could be forced into a compromising position by personal or professional skirmishes.\(^{200}\)

The public health nursing's best work in coordinating the efforts of the entire community came when it disappeared into the woodwork. Their role on the stage of public health, nurses thought, should not be a dramatic one. A harmoniously functioning community health agenda left no room for praise for the efforts of the public health nurse, nor praise for any particular profession. Functions assumed by the public health nurse in the wider community also made the problems of authority and subservience irrelevant. "The partner that raises the question of power has obviously missed the essential significance of a working partnership," noted one observer.\(^{201}\)

True community organization meant reconciling two heretofore irreconcilable benefactors of public health nursing: private institutions and government agencies. Coordinating the activities of these two groups was not easy, but frictionless relations gave the nurse some assurance of permanency and elasticity in her work. One of the best ways to accomplish cohesion was to encourage "nurse exchanges" between private and public organizations.\(^{202}\)

\(^{200}\) Gilbert, Public Health Nurse and Her Patient, 353; Brainard, Evolution of Public Health Nursing, 51.


\(^{202}\) Brainard, Organization of Public Health Nursing, 10; Gardner, Public Health Nursing, 63-5.
Physicians controlled expertise within private institutions, and physicians acting as health officers dominated public organizations. "Public health nursing has had in the medical profession its greatest friend, wrote nursing leader Mary Gardner in 1917, "and not infrequently its greatest stumbling block." Nurses actively sought to cooperate with physicians, their closest medical allies, for the great good of the community. The prevailing local medical opinion of their work, in particular, determined their success in the local community.\(^{203}\)

Nurses deliberately constructed their profession as one largely dependent on the skill of physicians. Physicians, more than any other assisting group, encouraged a level of community health nursing quality "impossible alone." Nurses depended on physicians for their "standing orders," without which nurses would be reduced to impoverished duties unworthy of calling professional. Thus, it was commonly assumed that all community health nursing organizations sought to appoint physicians from the local medical society to advisory positions in nursing councils.\(^{204}\)

Community health nurses interpreted the will of the doctor to the patient, but did not prescribe or treat serious illness or injury without the physician's approval. They did not diagnose, prescribe medications, treat more than minor wounds, or even recommend specific doctors. Nurses only observed conditions, susceptibilities, and deviations from normal states, and reported these findings back to the physician for interpretation. "The physician should expect the nurse to supply pertinent information in concise and usable form," wrote a lecturer in Teachers' College, Columbia University. "Exchange of information is mutually helpful, but should be accomplished with the least possible use of time."\(^{205}\)


\(^{205}\)Gardner, Public Health Nursing, 43-4; Hodgson, Public Health Nursing in Industry, 32; Grant, Nursing: A Community
Yet the nurse conceived her position as neither above nor below that of other medical or public health authorities. Nurses dealt “with the professional staff as partners,” noted one nurse. The relationship between the health officer and the community health nurse was ideally equally congenial. One nursing director described the relationship as similar to that “between an administrator and an executive.” The health officer as administrator determined policy and controlled “the progress of the enterprise in its fight for existence and advancement.” He kept public health initiatives in “proper balance” by coordinating the various “paths of action.” The community health nurse as executive, in turn, bore responsibility for executing and supervising the work assigned by the health officer.²⁶⁶

Nurses worked hard to overcome an unequal balance in their relationship with physicians. They supplied information quickly to harried physicians and gathered evidence in the home a physician might never uncover in the doctor’s office. They referred business by supplying patients with lists of approved local physicians. Each nurse was “handmaiden to the doctor, and soother of fevered brows.”²⁶⁷

The community health nurse counted herself perfectly coupled with the health officer and engaged in the same heady enterprise. They held each other, again ideally, in high esteem and refrained from stepping on the other’s toes. “With the fellowship and understanding of a health officer who invites friendship and cooperation,” explained one American Public Health Association section member, “a nurse should grow into ever broader ideas of service and ever increasing value to the community.” Community health nursing leaders were adamant that physicians never be criticized in public or private. “Professional etiquette,” though, was a

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²⁶⁷ Grant, Nursing: A Community Health Service. 84-5; Ruth B. Freeman, Techniques of Supervision in Public Health Nursing (Philadelphia: W.B. Saunders, 1945), 3.
two-way street. Nurses demanded respect from physicians as surely as they gave it. They expected superior scientific knowledge, procedural guidance, and trustworthy decisionmaking from the health officer. The community health officer, in turn, appealed to the community health nurse to popularize service and represent the interests of the family. Nurses also provided a valuable “connecting link and buffer” between the health officer and clinic doctor. Most intriguingly, community health nursing leaders assumed that health officers held slight advantage in terms of power even though they usually supervised the hiring of new staff nurses.288

Becoming a coequal partner with the general practitioner proved more difficult. The nurse had a double responsibility to put herself in the shoes of the patient and the doctor. Undeniably, however, the authority of the patient paled in comparison to that of the medical man. “Virtually everything that you say, everything that you do, everything that you attempt,” explained one National Organization for Public Health Nursing officer, “is subject to the veto of the family physician.” Nurses did not argue that they possessed equivalent skill in the healing arts, merely that their skill bore no relation at all. They could not be compared on the same scale. The nurse’s skill in debriding of wounds and monitoring of bed sores could not rival a physician’s skill in surgery, but because each skill was indispensable they therefore were equally important. Community health nurses dispensed valuable services too routine, too irregular, or too labor-intensive for physicians to copy. Nurses ordered biological supplies and directed immunization clinics. They took throat cultures and temperatures, listened to heart and lung sounds, charted bowel movement irregularities, and looked for predisposing causes in the home. Community health nurses also deflected a large, impoverished population with no potential for

fee-paying away from the doctor's office. But they also supplemented the income of physicians by encouraging patients with ability to pay to seek a physician's care. "Seldom does a mother delay calling the doctor after the nurse points out the importance of doing so," noted one nurse.²⁰⁹

No other health agency proved more difficult to integrate into community service than the private clinic. The community health nurse thought that physicians felt intimidated by the scope and power of her collective resources, and that they worried incessantly about being replaced. Nurses also assumed that physicians stood as traditional bastions of individualized health care. Physicians appeared indifferent or unwilling to change for the better by adopting a generalized community health model. "She is a member of a group; he is on his own," remarked one nurse. "He fears her because she appears less as an individual than a group member. If he could only know her as an individual his apprehension about her activities would probably fade away." Community health nurses accepted partial responsibility for ongoing disarray in the nurse-physician relationship. Nurses occasionally overstepped their bounds, misunderstood orders, or evinced "lapses in professional ethics." They also aggravated physicians by inaugurating free clinics without consulting the local clinics, or by requesting free service for patients more often than warranted.²¹⁰

The community health nurse ultimately, and unintentionally, constructed a place for herself that dramatically circumscribed her own powers. Acting as warden of professional health communication put her in an awkward position. Nurses took it as their responsibility to break down boundaries between the professions of health, even as they sought to police those same

boundaries. Cooperation without duplication created for community health nurses, in the words of one medical social worker, "a maze of apparently conflicting responsibilities and relationships."\textsuperscript{211}

The unenlightened in the medical community hampered greater consanguinity between the professions. Physicians, especially in small towns, tolerated each other well. In larger communities, however, they exhibited (in the nurses' eyes) narrow individualistic attitudes and disdain for public health nursing work. "Unless she takes the initiative in formulating a plan for cooperative work with the private physician," wrote one nursing leader, "the correlation of medical practice and nursing is likely to remain an unsolved problem."\textsuperscript{212}

As community health nurses assumed more responsibility for coordinating public health efforts, they increasingly refused to act as "first lieutenants" to health officers and private physicians. The possibility of conflicting physician opinion or orders predisposed nurses to assume a deferential attitude in the presence of other health professionals. One nursing leader cautioned her colleagues to "deal with physicians on the assumption that the highest ideals of the profession dominate its every member" even while conceding that doctors as humans made grievous mistakes.\textsuperscript{213}

Relationships with laypeople proved easier. Community health nurses situated volunteers as intermediaries between themselves and the unorganized public. Recruiting them for public health work involved reducing health principles and practices to "language as simple as that of the radio," recommended one authority. They worked hard not to belittle their audience and


some nursing leaders suggested that the profession try to interpret complex directives to laypeople in words of no more than two syllables. Others advised that the attention of the public could be gained by using “lay language and lay thinking” to tell human-interest stories, that is, by being as “untechnical, as dramatic, and as brief as possible.” Volunteers selected from the masses tended to share characteristics like pliability and erudition. The best volunteers spoke the language and experienced the emotions of the common man and easily acquired lofty ideals instilled by experts. Volunteers ideally had no special interests or preconceptions.214

Laypeople enlisted for public health work complemented community health nurses in several ways. Voluntarism alone contributed directly to producing community unity. Volunteers motivated apathetic laypeople to action. They added to causes “zeal and spirit” as “potent as that of the early pioneer.” They organized citizen’s groups to raise money or manpower, and engaged preexisting community organizations like the American Legion, PTA, Junior League, Federated Women’s Club, labor unions, church denominations, and service clubs like the Rotary, Kiwanis, Civitan, and Lions to do the same. These organizations formed a “blood brotherhood” to community health nursing. Interestingly, community health nurses saw lay leaders as they saw themselves, as anonymous coordinators of effort. The remarks of one nurse is instructive: “The key man is not always the chairman or president of the group. He may be the person who shuns the limelight but who will always be found as a powerful influence behind the scenes.”

Collectivity in lay participation focused the disorderly if well-meaning work of individual

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laypeople. Nurses, often faced with inadequate funding and pinched priorities, saw a vast reservoir of public energy being squandered on haphazard, uncoordinated relief efforts. Laypeople carried out tasks that professional community health nurses considered drudgery. They sought out patients who missed appointments and drove them to the proper clinics. They restocked supply closets and the nurse’s bag, typed up reports, made bandages, and weighed babies. Volunteers with special skills mimeographed statistical reports and fliers, took dictation, and copied and filed nurses’ field notes. Some checked on the progress of shut-ins and contributed slogans for publicity campaigns. To guarantee their continued support, nurses demonstrated to laypeople the “the relationship between such duties and the work of the organization as a whole.”

Public organizations gradually came to dominate community health nursing activity. In absolute terms, publicly-employed nurses outnumbered privately-sponsored workers by a substantial margin. Tax-supported community health nursing departments by and large controlled the purse strings, spending the bulk of total available fund for projects. “No longer can the public health nurse be called the ‘Servant of the Poor,’” remarked one leader. Instead, “she has become a ‘public servant.’”

Government nursing agencies at the local, state, and national level stressed the importance of efficiency in their operations, favoring tried and true solutions to organizational


and distributive public health problems. Nurses had to take care not to step heavily on the imaginations of private organizers who had, after all, inaugurated most of what community health nursing had become. They did not expect private efforts to disappear, despite the growing margin between public and private in both employment and funding. Rather, community health nurses anticipated an outpouring of new perspectives and new strategies from these dedicated private helpmates. Public funding lent private workers freedom and a strategic place in the community. 218

Those nurses working in the private sphere were thought of as experimentalists. Private parties cared less about efficiency—though always a consideration—and more about demonstrating new and progressive preventive techniques. Mistakes, then, could be ironed out before a particular program was taken up by public agencies. More and more, field work in remote countries imbued with so-called alien “local color” replaced the cold artificiality of the scientists’ laboratory. Indeed, the private demonstration project became the new “laboratory where new pieces of work are tried and tested,” and where waste could be whittled away.219

More importantly, private organizations safeguarded public health’s soul. Privately initiated community health nursing efforts brought to the profession a “spirit of devotion and self-sacrifice” of incalculable value. Reducing or channeling these projects into a narrower spectrum of activity only retarded initiative in public health as a whole.220

Public health nurses brought private and public interests together into community health boards. All public health problems could be equilibrated in these boards. The nurse provided the crucial link between each member, and between the board and the public at large. The nurse was responsible, particularly as the health boards got larger, for providing an “intimate

218 Brainard, Evolution of Public Health Nursing, 393; Grant, Nursing: A Community Health Service, 39.
220 Gardner, Public Health Nursing, 63-5.
anonymous picture” of the health needs of the community since no one board member could possibly visit all homes.221

Community health nurses did not seem particularly alarmed about merging their own identity with other professionals on health boards. “In the past, public health nursing was frequently developed as a separate entity,” noted one nurse. “Nursing leaders now recognize that it should be developed as an integral part of the entire community public health program.” Community health nurses consciously sought to make their aims and abilities indistinguishable from those of the health professions generally. Though “more and more manifold duties are being assigned to the nurse, greater responsibilities are being placed on her shoulders, and a keener initiative is being demanded of her,” explained another nurse. “Her very designation as ‘nurse’ is becoming a misnomer.”222

Community health nurses also brought the powers of coordination and cooperation to lay councils. Councils brought together the medical and health professions, businesses, churches, fraternal orders, and women’s and men’s clubs together in service to the community. Such councils or associations seemed in part “self-evident,” but there were tangible fruits too. Sharing ideas in common councils promoted better understanding of the plans, purposes, and needs of community members. Acting in unison produced a synergistic effect as each player sought to fortify the activities of the others, producing services of uniformly high quality. “These workers are, indeed, like the fingers of one hand,” explained Lillian Wald. “They cannot grasp any measure or untangle any knot unless they work with a feeling of sympathy and mutuality and a full realization of the contribution made by each of them.”223

Combining professional and lay public health services into united organizations generated great efficiency. Cost savings came by eliminating overlapping and duplication of effort produced by multiple agencies. “It is not difficult to demonstrate that time and money are saved if one central agency is doing a piece of the work,” commented one member of Cleveland’s Central Committee, “instead of a number of isolated agencies.” Community health nurses eliminated duplicated services and reduced the number of intrusions into a patient’s life by establishing multiple functions for each health worker. “We have thinned our services by dividing them up into too many parts and too many agencies,” remarked one nurse. “In some communities . . . one generalized service is sufficient.” The community health nurse herself became a multipurpose figure in the process.²²⁴

Community health nurses only became alarmed when their functions became wholly coterminous with those of lay organizations. They fretted, for example, when their activities became interchangeable with such relief efforts as the coordinated fundraising activities of local community chests. Nurses themselves bore some of the blame for this difficulty. Differentiating themselves became difficult after so much of their effort had gone into homogenizing public health motives. Nurses could not separate themselves from the public without refusing to assist in certain parts of the whole of public health, which they refused on principle, or by raising the bar for membership in the profession through educational qualifications and credentials.²²⁵

Community health nurses pursued this second option vigorously. Concerned about distinguishing themselves from the masses and refreshed by the broader generalized conception

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of their profession, a large number of nurses returned to the classroom or sought out different field experiences to differentiate and round out their expertise. Holism, the organization of parts into a whole greater than the sum of those parts, triumphed in the classroom as it had on the "front lines." Modern community health nursing education represented no "mere hodge podge of unrelated though interesting information," but rather "closely related aspects of one vast subject." Nursing classes ideally netted an "awakened spirit" among students while alerting them to the widening horizons of their work.226

Paradoxically, perhaps, generalized practice simultaneously eroded the value placed on the nurse well-versed in the basic sciences. Admittedly, science remained a crucial component of community health nursing in modern America. Since the 1870s, public health nursing derived significant authority from guiding scientific principles. Nurses were expected to know some chemistry, some medical terminology, antiseptic wound dressing, something about immune sera, and quite a lot about anatomy and physiology. Nurses sought to keep abreast of new scientific advances by attending local, state, and national conferences and by reading relevant periodicals.227

The combination of coordinating, cooperating functions and dedication to science gave great apparent authority to the community health nurse. The nurse described herself as the chief translator of scientific public health principles for patients, school officials, and lay health service workers. She transmuted the "findings of the laboratory and desk into the language of the man in the street." Supervising public health nurses in community health boards thus linked "public health science on the one hand—with the laws of physiology and the laws of sanitation and the laws of society—and with the individual family on the other."228

Yet as public health nurses assumed more responsibility for coordinating the health of the community, they found themselves assuming a bewildering array of skills for which they had never been trained. Nurses had to know something of social relationships between family members, the effects of income, and better ways to educate illiterate and recalcitrant patients. Remaking the public health problem as irredeemably interconnected with social and economic matters bolstered the community health nurses' choreographic function. Nurses had always attempted some aspects of social work, but these functions expanded greatly in the 1920s and 1930s.229

Moreover, experts generally agreed that the science of public health nursing by the late 1920s represented an adequately tilled field. The great discoveries had already been made; now was the time for application. Much remained unknown about human interactions and transactions, creating a public health nursing profession "out of step" with society. Public health nurses turned to the social sciences for direction in applying their scientific principles. University public health nursing curricula adopted new subjects derived from the sciences of society like psychology, sociology, economics, health promotion, and family case work. "Psychologic science" in particular helped nurses understand the underlying emotional and intellectual components of sickness and health. Public health departments clamored for graduates of these programs, and looked especially to hire combination "nurse-social workers," considered ideally attuned to family and community service.230

The meager stable of potential public health nursing students available during the interwar period meant that many nursing schools accepted marginal applicants. The average

applicant for a position had three years experience as an undergraduate hospital nurse and no experience in a public health agency or private clinic. The average applicant, admitted one nursing leader, was “not a very intelligent . . . woman.” Graduate programs strained to improve the skills of student nurses with low intelligence and poor work habits. Most public health nursing programs sought to improve the pool of applicants by encouraging high school students to set a goal to become a professional community health nurse before they began their undergraduate training.\footnote{Rue, \textit{Public Health Nurse in the Community}, 89.}

\textit{In the 1920s debate turned to selecting and inculcating appropriate nursing personalities.} The cooperating, coordinating, community-oriented role of the public health nurse highlighted the importance of personality in getting her message across. “Knowledge alone is not sufficient,” explained one nursing educator. “The way it is used is of parallel significance.” Public health nursing educators began selecting students on the basis of their personalities and commonsensical knowledge of human behavior. Educators by no means abandoned the promise of scientific management of the patient, but increasingly saw scientific expertise as a secondary qualification. Indeed, dramatic proof of this came in a survey conducted by the Public Health Nursing Section of the American Public Health Association which found that members preferred nursing recruits “with insufficient public health nursing training or experience, but with excellent personality and good general background” over those “with good public health training or experience, but lacking in personality.”\footnote{Hodgson, “Whom Do We Serve and How?” \textit{Public Health Nursing} 25 (1933): 299-301; I. Malinde Havey, “What Preparation Should the Public Health Nurse Have for Rural Work?” \textit{American Journal of Public Health} 20 (1930): 734-40; Gardner, \textit{Public Health Nursing}, 41; Rue, \textit{Public Health Nurse in the Community}, 238-9; Hodgson, \textit{Public Health Nursing in Industry}, 65.}

A good community health nurse understood human and family nature by sharpening her native abilities of intuition. In this way nurses put on appropriate masks and adopted appropriate
strategies to achieve desired ends. That is, they defined personality as plasticity. Community health nurses held court in a businesslike way when it seemed expedient, and engaged families in more entertaining, even playful ways when that seemed a better approach. They also became emotional or expressionless when necessity dictated. Overall, a pleasant disposition went a long way toward advancing the community’s health:

The acquisition of a smile can be cultivated like a personality. If you think smiling is a common practice, notice people on a bus or streetcar, or pedestrians whom you pass on the street. How many of them actually look happy? [The nurse] should not only radiate happiness through her smile but through leaving a cheerful word. A mere “Good morning,” for example, will often change the day for an individual. He will look around and see that it was really a good morning. He will absorb part of her radiation of happiness and carry it to his associates.

Community health nurses debated the constituent parts of public health nursing personality extensively. One nursing director maintained that the ideal community health nurse had a “New England sense of obligation” and an “Irish sense of humor.” A health commissioner described the successful community health nurse as tactful, discriminating, expressive, and (finally) adequately trained. One nurse described the ideal candidate as a “helpful psychotherapist . . . and ambassador of good will.” Other adjectives used to describe the appropriate community health nursing personality included poise, friendliness, kindliness, loyalty, honesty, gentleness, sympathy, dependability, courtesy, sincerity, tactfulness, diplomacy, industriousness, coolness, and cheerfulness—all the qualities of a saint and a Saint Bernard.
Most commentators agreed that, whatever her particular personality strengths, community health nurses ought to demonstrate unobtrusiveness above all else. Nurses with good personalities did not drive patients away with threats or coercion, denigrate the illiterate, or underestimate the citizen’s common sense. They ideally listened to complaints from patients and their families, professed allegiance to the patient and the patient’s physician, and responded honestly.\(^{336}\)

Despite the importance of personality in the community health nursing programs of American educational institutions, nurses were emphatic in asserting that they were not psychologists or social workers. Nurses discerned and analyzed the social components of public health problems; psychologists and social workers analyzed the health components of social problems. The difference in the eyes of community health nursing leaders was enormous. Health problems were the preserve of community health nurses, not social scientists, no matter how wedded they became to social science ideas concerning the mental and social disturbances of the family.\(^{337}\)

A large percentage of newly minted generalized community health nurses failed to live up to the standards demanded in the real world. One pedagogical tool, the “case conference,” sought partially to fill the gap between the skills and personalities of these new graduates and the demands of health departments and clinics. Case conferences emphasized “group thinking” to solve the real health problems of anonymous families in the local community. Nurses constructed solutions to problems with the help of other professionals and the health library rather than individually.\(^{338}\)


\(^{337}\)Grant, *Nursing A Community Health Service*, 81.

The instrumental source for continued growth and funding for community health nursing in modern America came about through passage of the federal Sheppard-Towner Act in 1921. Sheppard-Towner, also known as the Maternity and Infancy Act, provided support to state programs for child health centers and prenatal care. By 1927, all but three states had inaugurated matching fund programs under the requirements of the act. Community health nurses tended to dominate the activities of these centers, dispensing information to expectant mothers and examining newborns. Rural districts and small towns especially made marked progress in establishing health centers under Sheppard-Towner.239

Sheppard-Towner funds, apparent unity of purpose in community health nursing, and a rosy economic picture helped create what seemed a golden age for the profession in the 1920s. Representatives of the Children's Bureau in the Department of Labor who administered funds provided under Sheppard-Towner, claimed great success in their efforts. The bureau staff maintained it had nearly halved the infant death rate for gastrointestinal diseases and significantly lowered those for respiratory disease in only six years. The National Health Congress, organized to unify the disparate public health agencies working in the country, welcomed community health nurses with outstretched arms. Outstanding individual figures in public health like Charles V. Chapin and William H. Welch singled community-oriented public health nurses out for special appreciation in national addresses.240


The health centers created under Sheppard-Towner proved too effective, it seems in retrospect, because intense lobbying by American Medical Association in 1927 convinced Congress that maternal and child health services were too important and too lucrative to leave in the hands of community health nurses. They were, moreover, interfering with the more inclusive family practice clinics maintained by physicians. The program lost all funding just as the Depression began. Repeal of the act hurt health centers, particularly at the local level, greatly. Community health nurses closed centers in several states, particularly in the South and West. Community health nurses were, then, already vulnerable to unemployment and underemployment when the economy collapsed in 1929. Loss of Sheppard-Towner funds and general economic malaise represented two main threads undermining what even AMA members conceded were important efforts to transform public health nursing education and practice from specialized to generalized, from knowledge-based to personality-enhanced.

Community health nurses speculated greatly on the public health effects of drought and economic privation, yet their conclusions did not immediately match realities. Prognostications by nurses were decidedly negative, and they endorsed the pessimistic positions of other health officials. Mental health was sure to worsen, they reasoned, as were nutritional problems, epidemic diseases, and care for the elderly. Children, the special preserve of the nurse, were particularly susceptible to poor health during economic disasters, they claimed, and stood to suffer from stunted growth and reduced stamina.241

Interestingly, however, the rise in mortality predicted by health officials failed to materialize until the late 1930s. Communicable disease rates, save those for the relatively “new” disease of polio, continued their historical decline. Food shortages seemingly improved the

nutrition of some children spoiled with sweets by their parents. Maternal underemployment left women available for regular breast feeding which favored the development of infant immune systems. The lack of immediate trouble on the health front, beyond a long-standing deplorable national maternal and infant mortality rate, bred public apathy. “An outstanding problem in public health publicity and interpretation just now,” exclaimed one anonymous commentator, “seems to be to get the public opinion back of reasonably high standards of public health work in face of generally low death rates which seem to make retrenchment much more safe than it really is.”

Low mortality figures did not relieve many in the public health professions who saw chaotic epidemics around the next corner. Members of the public health nursing community warned that this lull could not continue. They blustered about warning signs cropping up around the country. The drought on the high plains brought about an early harvest of typhoid and pellagra. Drought compromised the milk supply in many areas as bovine udders shriveled from want of water and grass. The number of children identified as seriously malnourished doubled in 1929 alone. Typhoid fever sickness in Missouri rose over one hundred percent that same year.

Community health nurses also faced the prospect of dwindling dollars to service a population they saw as increasingly at risk. Public and private health agencies learned to stretch each dollar as far as possible. The services of community health nurses quickly became diluted over larger geographical areas as each nurse sought to maximize her efficiency. Soon, however, it became obvious that some functions of the community health nurse would have to be sacrificed

in order to avoid jeopardizing the entire enterprise. Community health nurses shed those
time functions that the public found unable or unwilling to afford, those that demanded great expense
in terms of training, and those that did not fit into the "total community picture" formed by
other health care providers, particularly private physicians who were hard pressed to collect
fees. 244

The economic pressures of the Depression reinforced preexisting conceptions of
community health nursing as cooperative and community-oriented. Nurses accepted above all
that public health was no individualistic matter, and that the community health nurse performed
intricate teamwork eliciting the envy of physicians and laypeople. The community health nurse
strived for team play, not just with other nurses, but with the wider professional and social
communities. Nurses understood that success in raising the health consciousness of one body
strengthened all bodies. Most importantly, they decried "cold and heartless ostracism" and an
absent spirit of "sympathetic help" that accompanied health work in previous decades. 245

Community health nurses positioned themselves carefully to meet the public health needs
of the Twenties and the Great Depression. Uniformly, the community health nursing profession
argued that it had succeeded in meeting the needs of the time. Indeed, one nurse proudly noted
that community-oriented public health nursing was "the only professional group that did not
have to revise our program to fit the New Deal." 246

When viewed with late-twentieth-century eyes, it appears that emphasis on personality
and generalized service cheapened the profession and left nursing with a sizable credibility gap.

Relatively speaking, other professions of health emphasized specialization and basic science as

244 Alma C. Haupt, "How Can Public Health Nursing Fit into a Budget?" American Journal of Public Health 24 (1934):
17-21.
245 W.W. Bauer, "How the Official Health Organization Can Aid the Nurse in Industry," Public Health Nursing 22
(1930): 382-4; Anderson, "Role of the Public Health Nurse," 66-75.
defining characteristics of professional character to a greater extent than did nurses. By not stressing her scientific qualifications and the application of those qualifications to specific problems in the form of carefully cultivated abilities, the community health nurse found herself marketing less concrete skills of cooperation, coordination, and personality. The redefinition of public health nursing practice as general-purpose and personality-driven left the nurse in the long run with no specific, tangible skill which she could call her own, or that could be reduced to numerical amounts on medical bills or health department reports. As community health nurse Rachel K. Miller explained it,

The profession of public health nursing is unique among the professions in that it never functions independently of that other great profession, the medical profession. The public health nurse does not originate knowledge—the scientist does that and the nurse accepts it for public dissemination only when the medical profession accepts it. She does not determine what the health needs of a community may be; the statistician does that, and she looks to the medical profession to interpret the facts for her; she does not recommend what treatment an individual should receive, she refers to the individual physician for that; she does not inaugurate policies and programs of public health nursing, she looks to the constituted health authorities for that.247

Finally, the requirement that nurses serve many masters, a key component of her cooperating and coordinating responsibilities, often had the opposite effect. Community health nurses, with their hands in every pot, sometimes seemed like inefficient duplicators themselves. Physicians increasingly resented nurses who trespassed their professional boundaries using generalized service as an excuse, and cozying up too close to private and public agencies. The community health nurse’s easy movement from agency to agency and family to family produced the vilest insult physicians could throw at them: that they represented “excessive individualism.”248

Still, community health nursing leaders and educators in modern America impressed what order they could out of chaos. They used their skills as cooperators and coordinators in generalized service to generate creative, coherent programs out of a cacophony of public health needs, desires, and demands. Nurses enlisted everybody to work on their behalf, including professionals, private endowments and organizations, and laypeople. Nursing stressed the family as the locus for flexible activism and the importance of the nursing personality in interpreting her work. Ideally, with effort and experience, professional community health nurses tried to “become that superior being: ‘all things to all people.”’

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249 Waterman, Nursing for Community Health, 64.
CHAPTER V. CHILD HYGIENE

The federal government of the United States undertook unprecedented action to improve child health between 1921 and 1929. Funds for child health programs allocated under the Sheppard-Towner Act of 1921 created new clinics in small towns and rural districts, extended community health nursing, and encouraged specialization in pediatric medicine. The infant mortality rate tumbled downward at a three percent annual rate. Health experts promoted American infant and child mortality out of the lowest ranks where it languished with nations like Egypt and India. By 1929, when the act was repealed, American child health compared favorably against that found in European nations.250

The effects of the Sheppard-Towner Act have been scrutinized elsewhere. The history of child health between the repeal of Sheppard-Towner and the restoration of this work under the Social Security Administration in 1937, however, has not been carefully examined. During these years, private agencies and local governments stepped into the gap, cooperating to provide some health services to children. Promoting child health became an especially important goal of the American Public Health Association (APHA) during this period of social and economic insecurity. The work of the Child Hygiene Section of the APHA stands as an exemplar of the kinds of child health activity pursued in the 1920s and 1930s. The Child Hygiene Section had few financial resources at its disposal. Instead, the Section published recommendations and

guidelines for physicians, nurses, public health officers, and other professionals to follow and adapt to their communities. Section members focused their attention on the “normal child,” an entity that grew from fetus to schoolboy or girl by demonstrating greater mental and physical complexity, passing regular developmental benchmarks, and displaying dynamic, well-adjusted responses to the external environment.²⁵¹

The Child Hygiene Section did not dwell upon particular therapeutics: vaccines, feeding techniques, eye drop regimens, or proper diaper disposal. Rather, the Section sought to coordinate all the various community agencies with a potential stake in child health. Though these agencies included the American Child Health Association (ACHA), the United States Children’s Bureau, and United States Public Health Service at the national level, the Child Hygiene Section directed most of its energies towards reforming health organizations at the regional level or lower. Health workers were encouraged to work together with laypeople in their communities, molding uniform, balanced children. Tracking and directing every aspect of the health of the “whole child”—that is, the child before and at birth, in infancy, as preschooler, and at school—produced “superior children,” children that grew at a regularized rate and with normalized behaviors.²⁵² Members of the Child Hygiene Section, noting the great complexity in normalized child development, became the chief choreographers of child health in the Great Depression.

The economic pressures of the Depression reinforced and clarified a preexisting model of cooperative, community-oriented child health organization. Already by 1920, a patchwork of


private and public organizations at the local, state, and national level worked to improve child health. These organizations reflected a new desire to apply modern science towards alleviating the sufferings of the smallest Americans. Public health professionals "followed up the feeders of the river of human misery" and located the wellspring of poor health in the social and environmental conditions of children. Moreover, these organizations began in the 1920s to change their goal from "child saving," where lowering infant mortality by controlling communicable diseases was the primary goal, towards "total child welfare," where the physical, social, and mental health and development of children in all age groups was at issue.\(^5\)

Child health professionals themselves could not really be distinguished from one another. They recognized in practice that prenatal, maternal, infant, preschool, and school health were separable, and that each authority must select a specific part of child development upon which to concentrate. However, these lines or boundaries of expertise were ultimately illusory since all experts contributed an indispensable service towards the total health of children. In other words, each authority concentrated upon a particular span in child development, but all authorities were accepted as contributors to the whole child. "The field of education, of industry; the field of child welfare, of health; the problem of dependency, delinquency, and crime," wrote one public health nurse, "and now we realize that our various fields are but small lots, separated from each other only by imaginary lines, in one great general field where we must do joint battle for our common cause: conservation of our greatest national asset, our men, women, and children."\(^4\)

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Child health experts approached their task in a rigorously scientific manner, framing their research questions around specific problems endangering normal, balanced development. Much knowledge had been acquired within the public health and medical communities by the 1920s, knowledge that the various organizations interested in child health found useful when generalized and applied in specific situations. Most direct causes of infant mortality, for instance, were known: congenital defects, prematurity, syphilis, cyanosis, diarrhea, dysentery, pneumonia and bronchitis, tuberculosis, whooping cough, measles, influenza, scarlet fever, and diphtheria. Indirect causes were also suspected in abundance: racial stamina, manners and customs, population homogeneity, stability of residence, prevailing winds, relative humidity, milk and water supply, public and private sanitation, housing conditions, and unemployment of parents, for instance.255

However, child health experts generally agreed that the interconnected problems of public health demanded the formulation of a science more inclusive than that developed in the laboratory. The social sciences could help link direct causes of poor child health with their indirect causes. Child health workers began incorporating methods gleaned from classes in psychology, sociology, economics, mental hygiene, and family case work. Public health departments clamored for graduates trained in the social sciences and child health science as these combination workers were considered better attuned to family and community service. Renewed interest in teaching pedagogy was also evident.256

Child health professionals also began recognizing the important role of laypeople in their social engineering efforts. Laypeople, “Mrs. Everybody and Mr. Ordinary,” were as important a


factor in promoting the health of children as medical science or social science professionals. Physicians, nurses, and child social workers worked more effectively when the community as a whole supported them. “Certainly progress at present made in the field of maternal and infant hygiene in the cities would not have taken place had the sole responsibility been assumed by the professional workers,” claimed one public health worker. Professionals were even enjoined to refrain from using the personal pronoun “I” in their speeches, but should rather use the more inclusive “we” in the best interests of community. Mothers and fathers were critical players in the drama of child health. Ultimately, they were the inviolable guardians of child health, and trained child health workers who did not understand this guardianship were, as one field director put it, “doomed in large measure to failure.”

The USPHS, Children’s Bureau, APHA, and ACHA in the 1920s manipulated the many direct and indirect factors contributing to public health to influence the health of children. This proved no small task. Surveys of the twenty million elementary school children in 1920 revealed intolerable levels of ill-health in children. One quarter of all children had defective eyesight, hearing, or tonsils and up to seventy-five percent had teeth so rotten they had difficulty eating. Ten to twenty-five percent of all elementary school children suffered from malnutrition. Home visits by child health workers revealed stunning poverty, neglect, improper guardianship, immorality, and cruelty towards dependents. Funds were often difficult to come by, even in this period of relative prosperity. The public generally supported the work of child health workers, but rarely contributed their own muscle without prodding.

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One instrumental source for funding, prioritizing, and coordinating child health efforts came under the Sheppard-Towner Act of 1921. Sheppard-Towner provided matching funds to state programs for child health centers and prenatal care. By 1927, all but three states had inaugurated matching funds programs under the requirements of the act. Public health nurses tended to dominate the activities of these centers, dispensing information to expectant mothers and examining newborns. Rural districts and small towns especially made marked progress in establishing health centers during the period.  

Sheppard-Towner funds and a rosy economic picture helped cooperating authorities and laypersons reduce many exacerbating child health problems in the 1920s. Representatives of the Children’s Bureau of the Department of Labor, who administered the funds provided under Sheppard-Towner, claimed great success. The Children’s Bureau inaugurated breast feeding campaigns, set educational requirements for pediatricians and specialists, and set minimum goals for child health in its publication, *Standards of Prenatal Care.*

New York City utilized the windfall of revenues to expand the scope of the Maternity Center Association, originally organized as a small locally-funded demonstration project in 1918. In 1920 the Maternity Center Association served only a small fraction of the population of the city. Sheppard-Towner dollars, claimed one authority, helped “organize a local effort to control the unnecessary maternal and infant tragedies” by shaping “a sound public opinion which would demand correction of the existing evils.” The Association offered free clinics to women, home

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visits by nurses, instruction during pregnancy, postpartum physicals, and periodic infant health assessment throughout the 1920s.\(^{261}\)

The Minneapolis Infant Welfare Society, first organized in 1910 and reorganized in 1922, offered many of the same services with the new infusion of federal money. Well baby clinics were launched throughout the city, and immunizations against smallpox and diphtheria were furnished free of charge. So popular was the program, recounted one clinic worker, that local private practitioners protested for lack of work. Soon, parents earning over $130 per year became ineligible recipients of aid. This conflict of interest between free clinic providers and private practitioners in Minneapolis mirrored those emerging at the same time in other cities.\(^{262}\)

Improving and maintaining the public health and child health in the 1930s—as in the 1920s—was perceived as a complex, interconnected phenomenon, demanding cooperation among a large number of constituencies. Infant mortality represented only one factor among many contributing to child health. Editors of the *American Journal of Public Health* argued that the economy was only one among many reasons for the poor state of child health. The number of hospitals and children's homes in a community, family and ethnic customs, and wealth also affected child health. No one factor was more important than any other, and an imbalance in any one factor could damage the effectiveness of all child health initiatives.\(^{263}\)

The importance of community balance in the protection of child health cannot be overstated. The nurseries of New York City hospitals, for instance, suffered excessive


mortalities due to the outbreak of an unspecified disease in the summer of 1934. Seventy-two children exhibited signs of the malady, and thirty-two died. An event such as this was unremarkable in its time. However, a description of the causes and effects demonstrates the interconnectedness seen by child health authorities:

Although infants born to mothers of the poorer classes of the city have been attacked most heavily, yet babies of the better classes are also affected, depending upon the operating interrelationships of the ward and private maternity services of the various individual hospitals.  

Negro child health, historically notorious in this country, was also perceived as a community-oriented problem. The death rate for black infants was double that for whites in the 1920s. The Negro death rate surpassed 200 per thousand live births in some places. New York City's black infant mortality rate in 1920 was 164 per thousand and the white infant mortality rate 82 per thousand. Some of this disproportionate mortality exhibited in black youths was deemed hereditary in the 1920s and 1930s, but a preponderant share of it was blamed on isolation of Negroes into “communities of their own.” Hence, the “worth while racial potentialities of Negro infants born and reared in the rural southern environment are not sufficiently well developed at chronological maturity to make them either a local community asset or prepare them for respectable social adjustment elsewhere.” Blacks, some child health workers claimed, were not fully habituated within American culture, costing them jobs, education, and health. Further, they were becoming reservoirs of ill-health and disease. 

Segregation of blacks from other segments of the population could not help but breed neglect and, as USPHS Office of International Health Relations Surgeon Hildrus Poindexter  

266 An African American, Poindexter was later director of the USPHS Mission to Liberia, which sought to control
argued, blacks bore much responsibility for poor child health by seeking out neighborhoods where they could not be accosted by well-meaning and benevolent police officers, public servants, and health workers. Hence, “the history of the social evil in Chicago,” explained the author of the 1921 Chicago Vice Commission report, “is intimately connected with the colored population. Invariably the largest vice districts have been created in or near settlements of colored people.” The deliberate isolation of blacks into exclusive communities, it was thought, prevented them from enjoying the fruits of the wider whiter community as a whole.267

The rural-urban dichotomy of American life also demanded reconceptualization in the complexified, community-oriented 1920s and 1930s. The particular problems of rural child health were of great interest to public health officials everywhere because the hospitalization of expectant mothers brought in from the countryside skewed the mortality rates of urban hospitals. These pregnant women overburdened the facilities and generated unanticipated cost overruns, and included primarily the most difficult cases, that is, those that could not be dealt with successfully by rural physicians.268

Maternal and infant mortality rates in urban hospitals, then, were higher than they might otherwise have been. Flight of mothers carrying difficult pregnancies to the cities also lowered the mortality rate in rural areas. “Conditions in the rural field of child health point toward a cooperative program as the only one that can really reach every child,” argued one public health nurse. The solution, ultimately, was the creation of a new geographical space for child health diseases and establish a sanitary regimen there.


activity—the district—including within its bounds a designated share of rural and urbanized populations, oftentimes irrespective of preexisting political boundaries.\footnote{269}

Moreover, only a variety of public health workers could alleviate the problems of child health. Child health demanded technical expertise in many areas, but the best child health workers were generalists. "Leaders in child hygiene must have adequate training in both pediatrics and public health administration with its related subjects of vital statistics and sanitary engineering," noted one Boston pediatrician. "They are not expected to be technical experts in pediatrics, bacteriology, statistics, tuberculosis, or other specialties." \footnote{269} Demonstrable expertise in several areas removed work from those "intrusted [sic] too often, . . . lay persons whose only qualifications were based upon interest in and sympathy for children." \footnote{270}

The key expert, as in community health as a whole, was the public health nurse who investigated children’s homes for disease and vice. Public health nurses struggled throughout the Depression to achieve greater cooperation between health agents and agencies. Funds for child health education were extremely limited throughout the 1930s. State boards of health and their child health divisions lived "hand to mouth" or not at all. Diphtheria and typhoid control programs were curtailed or halted all across the country as an economizing measure. It was difficult to encourage nurses and physicians to take up child health because there was so little money in it. This was, of course, true of public health generally. "Present conditions as to compensation and security of tenure are too unsatisfactory to attract the best class of young men


and women to public health work," decried one administrator. "Moreover, many of those now engaged in this work are not very promising persons."271

Opportunities for improving the pool of child health workers were limited. University programs in child health were usually restricted to courses in clinical pediatrics. Only a few schools treated child health in more than a cursory fashion in their training of doctors, nurses, and sanitarians. Johns Hopkins used a mishmash of activities to impress the importance of child health. Classroom education was confined to one elective course meeting twice each week for a semester. Most training occurred in the field by observing the operation of milk stations, open air schools, schools for the blind and other handicaps, and childhood tuberculosis sanatoria.272

Harvard devoted more time to classroom instruction in three elective child health and welfare classes, coupling these activities to a semester's work in the field observing an assortment of prenatal clinics, postnatal clinics, child welfare clinics, school health programs, and institutions for the feebleminded. Yale's School of Bacteriology, Pathology, and Public Health had a single course dedicated to child health, though the Graduate School of Education occasionally used its "Psycho-Clinic" to study child development and health. The University of Iowa conducted summer courses in child welfare, focusing upon principles of nutrition, child psychology, physical growth, and genetics. The University of Minnesota had an Institute of Child Welfare providing a master's or doctorate to students, dwelling upon child training


regimens, physical development, parental education, and mental assessment. Child health was only a small annex to the Institute.²⁷³

More common were the experiences of the Massachusetts Institute of Technology and Boston University. MIT argued that no specific training was necessary in child health; the general health education classes of the Department of Biology and Public Health were thought sufficient to render whatever experience necessary. No field work in child health was offered either, even though practical experience was advised. Boston University restricted itself to providing health instruction in those areas useful to future teachers: first aid, school lunch nutrition, mental hygiene, and athletics.²⁷⁴

Despite the best of intentions, child health work was thought to be exceedingly inefficient and divisive at the outset of the Depression. "The borders of the field are continually impinging on the rights and prerogatives, real and fancied, of other official and nonofficial agencies," noted one state health commissioner at the 1929 Washington Conference of State and Provincial Health Authorities of North America. "The [mortality] figures . . . are most disheartening, and a reproach to public health administration and its frequently vaunted claims of rapid progress in the achievement of definite results." The patchwork of organizations supporting child health began looking like an ineffective crazy-quilt, rather than the tightly organized, interlocking, holistic enterprise it was supposed to be.²⁷⁵

The Child Hygiene Section was organized during the 1927 meeting of the APHA following a floor debate over the presentation of a paper by Lee K. Frankel, second vice-president of the Metropolitan Life Insurance Company, entitled "The Present Status of

²⁷³Ibid.
²⁷⁴Ibid.
²⁷⁵Nicoll, "Maternity as a Public Health Problem," 961.
Maternal and Infant Hygiene in the United States." The expiration of Sheppard-Towner added an aspect of urgency to the proceedings. The Child Hygiene Section may not have had the money to solve the public health problems of children during the depression years, but it became a clearinghouse of information on the subject from 1929 to 1937 and beyond. The Section encouraged studies of all sorts, and sought to ameliorate the deleterious effects of the Depression on America's children. The Section also reported on child health initiatives in Europe, Canada, and South America. It encouraged studies in child nutrition, school health, prenatal and maternal care, rural and urban health, parental and professional health education, mental health, child labor, and sponsored Child Health Day programs every May Day.276

In 1935, the twenty-six year old American Child Health Association was absorbed by the Child Hygiene Section of the American Public Health Association. All copyrights held by the ACHA were transferred over to the APHA the next year, including the popular magazine Mother and Child, and the more staid, professional organ, the Child Health Bulletin. The American Child Health Association had formerly focused primarily on weighing and measuring children and making scientific recommendations for progressive, non-normed, development. Revenues secured from dues paid by members of the merged group increased briefly, but deficit spending for programming quickly absorbed the new windfall.277

The chairman and most prominent member of the Child Health Section in the 1930s was Richard A. Bolt. Bolt during the 1920s was chairman of the American Child Hygiene Association and director of the Cleveland Child Health Association, an organization intensely interested and active in community-oriented child health. Bolt helped solidify the general


program of health during the Depression, outlining on several occasions and in many places how modern scientific methods might be commingled with social science experience in forming a single child health team composed of physicians, educators, welfare agents, and lay volunteers. Mustering together the community resources appropriate to child health was difficult, he admitted, but was the only guarantee that the health of the total child could be secured. Bolt himself identified no less than nine constituencies that contributed to and had a stake in the good health of children: (1) physicians and dentists, (2) local health centers, (3) public and visiting nurses, (4) local health departments and their bureaus of child hygiene, (5) nurseries and kindergartens, (6) guidance clinics, (7) PTA organizations, (8) municipal playground authorities, and (9) parent educators.  

Bolt encouraged Section members to define health in homeostatic terms, as a “delicate balance which the individual maintains between a number of conflicting forces, some of which reside in the child himself, . . . others from his immediate environment.” He wrote that no children were so well adjusted that unanticipated forces could not upset their “health equilibrium.” He agreed with other experts that the necessary scientific knowledge for child health already existed, and that it only required more extensive application. Preserving the balance of child health became the central goal for all Section members under Bolt’s tutelage.  

Seven planks formed Bolt’s holistic child health platform. The first was extension of systematic health examinations of children. All health workers were to examine children separately and within their age group. Second, all children should be guaranteed access to vaccines, but administration of these vaccines depended upon the cooperation of the parents.  

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Promotion of good nutrition and prevention of malnutrition formed a third goal. Fourth, Section members advised prompt treatment of rheumatic fevers that caused heart disease and abnormalities in children. The fifth point was directed at good “mouth hygiene,” by which was meant care of the jaws and teeth. The sixth plank was school safety programs to prevent unnecessary injuries. Last, the members advocated intensive clinic-based mental hygiene projects to improve the psychological and physical health of children.²⁸⁰

Bolt, however, left the country just as the Child Hygiene Section was finding its Depression-fighting bearings. The APHA had awarded Bolt the Oberlaender Trust Award to “carry on a detailed study of maternal and child welfare conditions in Germany and Austria,” and build a new friendship between Americans and the German-speaking nations of Europe. His absence proved critical, hamstringing the progress of child health in the United States as a result.²⁸¹

Bolt expanded the mandate of the Oberlaender Trust to include visits to child health institutions in England, France, Russia, and Belgium. He grew particularly enamored of child health progress in Fascist Italy and Nazi Germany. Point XXI of the Nazi Code, he explained, guaranteed that “the state must see to raising the standards of health of the nation by protecting mothers and infants, prohibiting child labor, increasing bodily efficiency by obligatory gymnastics and sports laid down by law, and by extensive support of clubs engaged in bodily development of the young.” Bolt considered the Hitler Youth with its regimentation, active sports program, and fresh air, a model for child health programs in the United States. Initially, Bolt was not alone among American health authorities in his praise for state-controlled child-rearing, and especially Germany’s “community units of cooperative health work.”


Members of the Child Hygiene Section created programs and crafted recommendations for community child health beginning in the womb. They uniformly considered prenatal development the first stage in normalized child development. Some members went so far as to advocate then-fashionable "racial hygiene" principles. While child health "theoretically" began with conception, Richard Bolt summarized at one point, it "has its background in the health of father and mother and the stocks from which they have sprung."\footnote{Bolt, "The Infant Before, During, and After Birth," 843-50.}

Members blamed poor obstetrical care, particularly in the largest maternity hospitals, for a large share of maternal deaths. Hospital care for expectant mothers remained fraught with considerable danger. American hospitals were much less successful than their European counterparts in containing septic infections. Puerperal fever remained a great danger despite abundant research on the importance of aseptic and antiseptic practice. Hand washing, sterilization, and chemical disinfection were all neglected in American hospitals for many reasons, but foremost among them was the mistaken belief that "hospital fevers" arose in crowded hospitals with little ventilation. Less crowded American hospitals, unlike the largest European hospitals, were long thought immune to such dangers. This conclusion was bolstered
by significantly lower puerperal fever death rates in the rural countryside. American hospital staff did not awake to these dangers until the late 1920s when statistics began to show that the septic infection rate of European hospitals had declined precipitously while the American rate had only marginally improved. By 1928, the United States bore an ignoble distinction for the second highest puerperal fever rate in the world.  

The dangers of hospital delivery were especially embarrassing to health professionals considering the low maternal and neonatal death rate among practicing midwives. Infants delivered by midwives died much less often than those delivered in hospitals. In 1928, hospital mortality was nearly four times as high, 21.8 per thousand compared with only 5.6 per thousand among midwives. Some of this difference was explained as the natural gravitation of women carrying difficult pregnancies to trained obstetricians.  

Other “tendencies of modern life” creeping into obstetrical practice were also thought partially responsible for high maternal and neonatal death rates. Forceps, general anesthesia, Cesarean sections, and use of the drug pituitrin were all blamed for high hospital mortality. Physicians, it was thought, had capitulated to the woman’s desire for the alleviation of pain, and the results had been devastating. Forceps in particular wrought all sorts of havoc upon the infant: bruises on the face and scalp, injury to the brachial plexus and subsequent paralysis, and fractured femurs.  

The acknowledged skill of the midwife played a substantial role in lessening mortality. Strict regulation and training of midwives, demanded by most state boards of health and state medical societies, gave them definite advantages over male obstetricians in many places.

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placed the country among the worst in the world. Infant mortality in urban areas topped sixty-eight per thousand, though this rate was among the lowest ever attained.289

Members of the Child Hygiene Section agreed that infant health was a problem particularly suitable for public health because both sanitary and environmental factors played such a large role. "It is futile to argue which has the more influence, heredity or environment," explained Chairman Bolt. "Both are integral parts of the whole individual and act and react, one upon the other." These factors depended solely upon general community provisions for public health. Infant health was a complex problem demanding a coordinated response. Infant health demanded, in the words of one Section member, "intense awareness of the characteristics special to maternity and childhood within a total family health service."290

Poor community coordination diminished the quality of service provided to infants. 5" x 8" child record cards and larger family record cards were kept by public health nurses monitoring the health of individuals within the family group. Birth and death certificates, as well as standardized causes of death reduced "masses of meaningless data" to uniformity and made information more accessible by all health workers. Coordinated, generalized services ensured a balanced, proportionate response to infant health problems.291

The preschool child was recognized by child health authorities as the most neglected segment of the population where health was concerned. Charles Wilinsky, a Boston health commissioner, likened the preschool years to the "plastic age" then dawning, one opened up by

the manufacture of flexible consumer products like acetate and rayon. Richard Bolt agreed: “The years before school entrance are those in which many habit and behavioral difficulties occur.” The preschool years were the years when traits and habits were formed, and character solidified. Personal traits lasting a lifetime—suspicion, cruelty, jealousy, timidity, curiosity, conscientiousness—were all confirmed in the preschool years.\footnote{Wilinsky, “The Community Health Program as It Applies to the Child of from One to Six Years,” 851-4; “Mental Hygiene,” Annals of the American Academy of Political and Social Science 98 (November 1921): 54-5.}

Where health was directly concerned, proper posture, eating habits, and essential morality were all locked in, Wilinsky asserted, before age five. The preschool years also were the years where potentially debilitating injuries and sicknesses could be prevented. Measles, whooping cough, diphtheria, and scarlet fever all plagued preschool children, threatening to destroy their ability to lead productive adult lives. Endangering any aspect of normal health and development interfered with the totality of functioning of children as individuals within groups. Normal preschooler digestion was impossible without normal excretion and vice versa.\footnote{Wilinsky, “The Community Health Program as It Applies to the Child of from One to Six Years,” 851-4; Bolt, “Child Hygiene,” 1162; idem, “Health of the Preschool Child,” American Journal of Public Health 21 (1931): 1162; William Alanson White, “Childhood: The Golden Period for Mental Hygiene,” Annals of the American Academy of Political and Social Science 98 (November 1921): 54-60; 54-5; Esther L. Richards, “Are the ‘Nerves’ of Badness of Childhood of Any Importance to the Field of Public Health?” American Journal of Public Health 23 (1933): 198.}

Nourishing development assured the appropriate community-enhancing activity and reactivity in the child:

A balance between extravert and introvert . . . obviously is more advantageous than an extreme expression of either one of these personality trends. The preschool child who is allowed to cultivate his independence, who is encouraged in attention, persistence and coordination; who is aided in the establishment of habits of order and regularity in function . . . has the finest opportunity for building up normality in health to the time of school entrance.\footnote{Ira Solomon Wile, “Mental Health of the Preschool Child,” American Journal of Public Health 23 (1933): 191.}

Parents, however, seemed to exhibit much indifference as it was popularly understood that mortality was greatest among children in the first year of life. Preschoolers did indeed
exhibit a much lower mortality rate than infants under one year of age. Still, preschoolers caught colds easily and were prone to debilitating accidents during play. Parents also harbored the belief, to the detriment of proper nutrition, that preschoolers could and should eat anything and everything.  

The Depression only exacerbated the problem of providing health services to preschoolers. In 1929, for instance, only four hundred children in the boroughs and suburbs of New York City were reached by a single free clinic. Most free clinics, like that established by the Child Hygiene Section of the Akron (Ohio) Health Department gave little or no medical attention to children or provided specific diagnoses to avoid offending private practitioners. These clinics were manifestly referral mills for children, largely born to immigrants or blacks, and with no doctors of their own. Parents did not, or could not, always take the advice of clinic workers to seek assistance for their children among the private practitioners. Some of the most indigent cases were eventually sent to hospital dispensaries, but the depressingly low rate of defect correction exhibited in clinic children testified to the inadequacy of the clinic referral process.  

Child health programs in the Depression tended to focus narrowly on what could ideally be done in carefully circumscribed local communities rather than divide meager funds among the too many needy children. "Most of our efforts in this field have been either spasmodically intensive or conservatively prolonged," explained Richard Bolt. Many organizations funded child health demonstrations in needy rural counties and urban cores, concentrating their efforts to avoid a dilution of prestige in the public eye. The Milbank Fund set up the only operating

preschool clinic in New York in 1929. The Commonwealth Fund sponsored a Child Health
Demonstration Committee to set up such programs as early as 1925 in Clarke County, Georgia,
and Rutherford County, Tennessee, where the black and poor white population was substantial.
The child health demonstration in Marion County, Oregon, launched by the Commonwealth
Fund in 1925 was typical of the majority of child health demonstrations. The Commonwealth
Fund cooperated with local health officials for a period of five years, after which responsibility
for continuing the program fell to a new locally-controlled county health board.297

The limited scope of preschool child health demonstration projects also reflected the
recognition by public health authorities that, as Bolt put it, “It is comparatively simple to outline
a broad program for child hygiene. It is, however, quite another matter to fit such a program to
the diverse needs of various types of localities.” Each community had its own distinct
personality that contributed to the larger whole American community. Thus, the norms of
behavior for children varied greatly from local community to local community. “Personality as a
unit consists of the interaction of numerous trends,” noted one APHA hygienist. “For example,
lying would be regarded by one family as an evidence of mental ill health and by another as
natural, normal, and expected.”298

School health authorities understood that normal mental and physical fitness in
individual children—revealed in self-control, temperament, and inhibitions—translated later in
life to social fitness as a whole. The uneven health of preschool children was, then, a matter of
much dismay. “Children, at the time of school entrance, are very unequally conditioned
physically, mentally, and emotionally,” wrote one school health inspector. “This difference

297 Nicoll, “Maternit)' as a Public Health Problem,” 965; Wynne, “Free Clinics for the Preschool Child,” 268; Bolt,
“The Infant Before, During, and After Birth,” 843; “Child Hygiene Work of a Count)' Department of Health,”
arises primarily from hereditary factors, modified by social environment, nutrition, infections, and various handicaps due to accident or disease." The solution was to encourage each school child to do his best to exercise originality, initiative, and responsibility as a member of a social group. All children became more normal by cooperating with others. 299

Much of the necessary public health initiatives planned in the 1930s were stymied, however, by the sheer poverty of information concerning the prevalence of sickness and retardation of normal development among school children. The Child Hygiene Section deferred to the APHA's Committee on Record Forms for the construction and evaluation of appropriate forms for determining the health of school aged children. School sickness charting by the Committee on Record Forms, in turn, was modeled after the Appraisal Forms for certifying the progress of local public health associations being constantly created and modified by the Committee on Administrative Practice. 300

Tight-fisted economy demanded that public health authorities give school teachers and nurses more power as a first line of defense against the maladies of childhood than ever before. Teachers heretofore were little trusted by public health authorities who thought such responsibilities for child health were beyond the capabilities of those who had little or no education beyond high school. Now, the teacher became an indispensable helpmate of professional health workers. "The doctor needs to have an intimate knowledge of the problems of the schoolroom, and the teacher needs to have a larger concept of health education than is now hers, and both doctor and teacher need more knowledge of the homes from which school children come," reported one school nurse. Teachers were to inspect their charges for anything

out of the ordinary, and report any changes to the closest available medical personnel. Specially trained "visiting teachers" and "home and school visitors," heirlooms from the 1910s, were also occasionally employed to seek out the deficiencies of children. Yet, the teacher proved not interested in the particular diseases afflicting her charges. They remained in the sole the purview of the physician. "She is interested only in determining the presence or absence of any deviation from normal which indicates that the child may be suffering from some acute disease," explained one school health administrator.301

The great weight of school health during the Depression, then, fell upon the scant supply of school nurses. Nurses were responsible for showing teachers how to look for any conditions regarded as deviations. Their other chief duties were to conduct periodic inspections of children, administer first aid, and conduct home visitations where necessary. The child was supposed to be considered as a "whole," that is, not a collection of "tonsils, teeth, eyes, ears, etc." School nurses were to look for cuts and abrasions on children; evidence of impetigo, pediculosis, and scabies; and toothaches. Signs of communicable diseases were to be reported to school inspectors and local physicians immediately upon discovery. Thermometers, medicine droppers, bandaging material, ointments, disinfectants, and soap were all supposed to be found in the basic first aid cabinet of any school nurse worth her salt. Home visitation was especially valued, because remedying some problem in an individual child usually required remedying a problem in the whole family of which the child is a part. The school nurse, observed one Section member, "serves as the go-between for the school and the health department in making

use of community resources in the interest of children, and in carrying out special directions in
times of emergency.\textsuperscript{302}

The nutritive qualities of the diet of youth were important components of the school
health projects of the Depression, bolstered by the discovery of various vitamins by E. V.
McCollum at Johns Hopkins University. Many community summer programs for preschoolers
and school children sought to correct abnormal nutritional deficiencies and restore children to
their appropriate developmental group. Lowell, Massachusetts, established one such summer
camp for malnourished children. The camp was located within the city limits of Lowell, but
provided something of a pastoral landscape for children debilitated by the deforming effects of
industrial life.\textsuperscript{303}

The main services provided by the Lowell camp were regular feedings, recreation, and
rest. Weight-gain was the chief determinant of success though regular examination and a
regularized diet fortified with vitamins A, B, and C. Bananas were served daily because they
contained essential vitamins and were easily digested. Milk and ice cream provided vitamin D.
The children attending the camp boasted an average weight gain of seven pounds. Playground
equipment was donated by the Lowell Gas Light Company, but as Lowell’s director of school
hygiene John McNamara explained, “These children, undernourished and underweight, need
rest rather than strenuous exercise.” Rest periods lasted 24 hours at times. Punishment for
insubordination also took the form of lengthened rest periods.\textsuperscript{304}

\textsuperscript{302}Wilson, “First Aid Cabinet of a School Nurse, Her Standing Orders for First Aid, and Her School Nursing
Procedure,” 148-54; Elma Rood, “Part the School Nurse Plays in the School Health Education Program,” \textit{American

\textsuperscript{303}E.V. McCollum, “Nutrition as a Factor in Physical Development,” \textit{Annals of the American Academy of Political and
Social Science} 98 (November 1921): 34-7, 41; John J. McNamara, “Lowell Fights Undernourishment Among its

\textsuperscript{304}McNamara, “Lowell Fights Undernourishment Among its School Children,” 610-19.
The Social Security Act of 1935 restored several initiatives begun under the defunct Sheppard-Towner Act and kept alive by child health experts in the Depression. Title IV of the Act provided money to needy dependent children in need of social protection because of death or incapacitation of parents. The Social Security Administration stressed the "mutuality and cooperation" aspect of all child health programs at all jurisdictional levels. One fundamental objective was "development of a fully balanced and correlated national plan of program and procedure, with each of the three elements of government (federal, state, and local) assuming full responsibility for the functions it is best situated to perform." Again, an imaginary line was drawn in the sand. The Administration pledged to cooperate with local private and public medical, health, nursing, and welfare groups, and granted funds to the Children's Bureau and state child health organizations. It also hoped to make a career in public health "as attractive, lucrative, and permanent as any other professional field.\(^{305}\)

Unfortunately, Aid to Dependent Children under Social Security represented a drop in the bucket when compared against Old-Age Assistance programs. Federal aid to dependent child rose from less than a million to $7 million dollars between January 1936 and January 1938. Disbursements to the aged, by comparison, rose in the same period from $4 million to more than $31 million. A disproportionate share of the benefit of Social Security where child health was concerned went to rural families in western states. Six of the top eight child recipient rates

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in January 1938 were found in states west of the Missouri River: Oklahoma, Utah, Idaho, Washington, Arizona, and Colorado.\textsuperscript{306}

ADC payments in 116 urban areas which had slowly risen from slightly under $2 million in 1929 to about $3 million in 1937, rose more rapidly to $4 million the next year. Assistance to urban retirees, however, rose much more quickly and to significantly higher funding levels. All supplementary payments to the elderly were already in the neighborhood of $6 million when Social Security engaged. By 1938, over $15 million was pouring into eldercare programs. These funds were distributed to 1.6 million urban aged Americans and almost six hundred thousand urban children in the single month of January 1938.\textsuperscript{307} The Social Security Administration hired nutritionists for its fledgling school lunch program. Some of these nutritionists were immediately dispatched to the larger school systems in the country where they operated within the interdependent matrix of community child health activity.\textsuperscript{308}

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The Social Security Administration echoed the spirit of the Child Hygiene Section in 1935 by promising that “the most far-reaching contribution [child health workers] can make to a county or community program is through developing local resources for continuing participation in the work of the local unit.”\textsuperscript{309} The community remained the locus for child health efforts and all interested parties were tied together into a dynamic network of responsibilities. Physicians, sanitarians, public health nurses, school health nurses, parents, and taxpayers coordinated their efforts in a holistic way, perceiving the normal development of the

\textsuperscript{306}From Chart IV & VIII, Table 7 in the \textit{Social Security Bulletin} 1 (March 1938): 45, 50-1.

\textsuperscript{307}From Chart III in the \textit{Social Security Bulletin} 1 (March 1938): 61.


\textsuperscript{309}Ibid.
whole child as the product of the careful manipulation of a sometimes bewildering number of external and internal shaping forces. Expiration of the Sheppard-Towner Act dramatically reduced the number of federal dollars available to child health activists, but did not significantly alter the conception of group involvement in child health.
CHAPTER VI. INDUSTRIAL HYGIENE

In 1936, the American College of Surgeons surveyed the employees of 116 companies operating throughout the country. The College wanted to know why the average American worker missed so much work, almost a week and a half each year. Reports collected from 350,000 workers revealed that, on average, a worker lost just over half a day to on-the-job injury per year, but less than one-one hundredth of a day to occupation-induced diseases. Workers lost fifteen times as much time it appeared, fully nine days, to injuries and illnesses (the largest share: respiratory diseases including the common cold) unrelated to their activities in factories, retail establishments, and mines.110 Two years later, Clarence D. Selby, chief medical consultant to the General Motors Corporation, figured that GM employees on average spent twenty-five percent of each day at work, but acquired only six percent of their illnesses and injuries there.111

The American College of Surgeons and GM studies confirmed what health professionals already generally knew about the intertwined, interpenetrated nature of human experiences. Injuries and diseases suffered in the homes of workers affected the efficiency and profitability of modern industrial and commercial America. “We are beginning to realize,” explained J. J. Bloomfield of the USPHS, “that industrial health forms an integral part of the health of the community.” Loyal Shoudy, president of the American Association of Industrial Physicians and


Surgeons, echoed this view. "Factory health and community health are so closely related that they cannot be separated," he concurred, "but must be carried on together." More importantly, he assumed that industrial medicine and hygiene had the obligation and right to do something about it.  

The ideas and ideals of "industrial" physicians, hygienists, and nurses, then, flowed with the main currents of community health as they postulated the inseparability of domestic and industrial health matters. "Industrial hygiene is concerned with every phase of the health of the man behind the machine," explained James Townsend, "whether it is the industrial dust in the air he breathes or the food his wife has packed in his dinner pail.” Workers’ health influenced not only industrial productivity, but the productivity of all the members of their families. The health and safety of family members also weighed on the minds of employees. "If there is uncared for illness at home," suggested C.-E. A. Winslow, "his worry and distress may gravely impair his efficiency." One industrial hygienist identified this home effect in a female employee forced to leave her children with a "perverted" sister. "She wanted the children to be decent, and her distress over the home situation was seriously interfering with her efficiency in the factory," he explained. "In industrial hygiene, it is as impossible to separate the home from the factory, as it is in school hygiene to divorce the school from the home."

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313 In accordance with contemporary sources, I use the term broadly to include anyone engaged in the production, distribution, or sale of goods and services. As Lanza and Goldberg put it in the preface to their widely cited textbook, “Industry is an all inclusive term; within its confines are to be found all the different kinds of labor which furnish us with everything we use in our present complex life.” See Lanza and Goldberg, eds., Industrial Hygiene, v.  
This interconnected view of home and work encouraged industrial hygiene workers to establish health services not only for workers, but for spouses and their children. The modern workplace sprouted with pre- and post-employment clinics, well baby stations, prenatal care lectures, and first aid stations. Industry hired thousands of physicians and nurses to staff these facilities. Even where the enterprise was small, experts encouraged owners and managers to participate and contribute to the efforts of the local health and medical establishment and draw upon this resource for advice and support regularly.316

Health professionals gained unprecedented access to the American workplace between the world wars. The union of public health and industry seemed not only a natural consequence of community-oriented thinking, but a necessary and immediate response to the costly yet preventable industrial problems of absenteeism, fatigue, morbidity, and mortality. These problems invariably led to higher rates of labor turnover which in turn destabilized production and caused “maladjustment between the requirements of industry and worker.” The health problems of industry, in other words, were tangible and expensive when viewed from the standpoint of corporate managers or of health professionals. Management and health experts, then, could see eye to eye and agree that the “maintenance of a productive group which can turn out the products of the company on a reasonable schedule” was of paramount importance.317

Emery R. Hayhurst, one of America’s foremost industrial hygiene experts and a consultant hired by many factories, noticed membership changes in his profession concomitant with the reorientation of industrial hygiene as a community health problem. He noticed that an "old guard" in the Industrial Hygiene Section of the American Public Health Association had

become disaffected. This disaffection stemmed, Hayhurst argued, from deliberate attempts on the part of the old guard to isolate themselves from other APHA sections. This old guard industrial hygiene, he complained, represented a specialized “style” not in vogue because it artificially separated itself from other generalized activities. Industrial hygiene as practiced before and during the first World War, it seemed to him, resisted integration into the larger universe of public health programs. Now it had to be belatedly brought back into the fold by a younger generation of industrial hygienists who took a broader, more inclusive, approach.\textsuperscript{318}

It is unrewarding to evaluate the old guard Hayhurst identifies for their resistance to or ignorance of modern trends. More worthy of scrutiny is the long tradition of industrial health history-making that has focused more upon toxicological problems, admittedly a staple of “old guard” practice, than that of industrial health’s integration into the wider field of community health. Toxicological hazard identification remained an important, even crucial part of industrial hygiene practice in postwar professional practice, but became an adjunct to other equally important inquiries into ventilation, lighting, noise, and employee relationships. Preference in documenting the abuses, effects, and controls placed on poisonous substances illuminates only a thin slice of the activity of the modern industrial hygiene expert. One industrial hygiene expert’s comment speaks volumes in this respect: “The great majority of persons engaged in industry and commerce do not so much need protection from their work as they need adjustment to the industrial civilization of which they form an integral part.”\textsuperscript{319}


Indeed the toxicological laboratory, so useful in isolating offending workplace toxins, could not easily describe or measure quantitatively newer industrial health problems like “fatigue,” “comfort level,” or “glare.” Scientific methods also seemed insufficient in fully describing and harnessing workers’ mental creativity, and indeed were sometimes thought to have “handicapped” this industrial resource. C. O. Sappington delimited laboratory methods as “largely chemical and physical in nature,” good chiefly for analyzing air samples, testing protective clothing and apparatus, and examining worker body fluids for signs of chemical exposure. As a consequence, places like the Industrial Hygiene Laboratory in the Connecticut State Department of Health limited its responsibilities to gathering samples for comparison against exposure standards set by the USPHS, the United States Bureau of Mines, universities, and other toxicological laboratories.320

Industrial hygienists exploited the advantages of community health perspectives best when they engaged their faculties in “social laboratories,” that is, out in the nation’s factories, offices, and department stores. There they found natural communities in the homogeneous groups engaged in exactly the same tasks day in and day out, varying little in mental and physical capacity, and laboring under the same environmental and social conditions. “Every large factory

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is a community in itself and presents the public health problems of a small village,” remarked one
industrial health worker. Natural communities simplified the task of experts because they did not
require individualized health planning, but instead flexible group planning.321

Because their job requirements had expanded to include all the health services of the
communities where employees lived, hygienic experts reached a sudden and stunning consensus:
industrial physicians, nurses, and allied personnel suffered under the burden of inadequate and
narrow training. “The industrial physicians of today have too much of a one sided training,”
complained Iago Galdston, professor of public and social health at Fordham University. “The
majority are well versed in the science and technique of their specialty, but rather neglectful of
the sociologic and economic aspects of their realm.” The National Industrial Conference Board,
established to redress these perceived inadequacies, recommended that industrial hygiene workers
have experience in general practice, industrial relations, applied preventive medicine,
occupational diseases, psychopathic medical investigation, recreation, accident prevention,
employment methods, housing, physical examinations, transportation, and education. Others
experts recommended knowledge of ventilation, illumination, and posture. To surmount these
numerous hurdles, training and retraining in industrial hygiene necessitated invitations to and
enlistment of assistance from engineers, chemists, nurses, personnel directors, and attorneys. In
this manner industrial hygienists might become more that just “first-aid men,” a common
misapprehension.322

322Comment by Galdston recorded in response to paper by W.S. Bean, “The Role of the Federal Government in
Promoting Industrial Hygiene,” American Journal of Public Health 15 (July 1925): 629; National Industrial Conference
Personnel,” American Journal of Public Health 33 (1943): 545-9; Robert T. Legge, “Relation of Industrial Medicine to
Harvard University established the first program leading to a degree in industrial hygiene in 1918. Students holding the medical or public health degree worked in the occupational disease clinic of the Massachusetts General Hospital and took School of Public Health classes in industrial toxicology, factory sanitation, safety engineering, physiology of respiration, vital statistics, nutrition, industrial health administration, orthopedic surgery, general circulatory physiology, and neuromuscular physiology to achieve this certificate. Harvard's industrial hygiene graduate program also launched the professional *Journal of Industrial Hygiene*. The next year, in 1919, the University of Cincinnati Medical School inaugurated a one-year series of courses that granted a certificate of public health in industrial medicine. The school offered field work experiences in cooperation with the National Safety Council. Many other universities quickly followed in establishing new industrial hygiene courses and certification programs, exploiting the gap between workplace realities and potentialities. Columbia University’s College of Physicians and Surgeons offered eight industrial hygiene lectures to fourth-year medical students enrolled in public health administration. Columbia also offered field service to graduate students. At Yale, students in introductory public health classes listened to three lectures in industrial hygiene, attended two discussion sessions on the subject, and observed the industrial hygiene apparatus of a large factory. Graduate students engaged in an additional thirty hours of lectures and field investigations. Ohio State University required all senior medical students to take six hours of industrial hygiene lectures and laboratory demonstrations. An elective industrial hygiene course also existed for advanced students in medicine, engineering, education, business, and art. The University of Pennsylvania developed an elective twelve week course of lectures, demonstrations, and field work for its medical students. Many observed patients in the Occupational Disease Clinic of the University Hospital. Graduate students interested in
industrial hygiene spent a half-day each week for a semester conducting surveys of industrial
hygiene and hazards of cigar manufacturers, felt-hat makers, organic color mixing plants,
bearing factories, and stove foundries. Ohio State University, Rush Medical School, the
universities of Wisconsin, Michigan, and California, Albany Medical College, and Howard

The many young industrial hygiene programs born in American universities around 1920
all stressed the inclusiveness of industrial hygiene principles and practice. Industrial hygiene
never stood apart from the main intellectual currents of public health and social medicine, and
indeed developed largely to reinforce it. The birth of industrial hygiene marked not only the birth
of a new specialty in medicine and public health, but a radical rejection of heretofore the intuitive
definition of “speciality” itself. “The majority of specialties in medicine tend to develop along
some specific line to the exclusion of the other branches of practice,” announced Harry E. Mock.
“This new specialty of industrial medicine and surgery includes every scientific branch of
medicine and in addition requires a keen understanding of practical sociology.”\footnote{Harry E. Mock, “Industrial Medicine and Surgery: A Resume of its Development and Scope,” \textit{Journal of Industrial Hygiene} 1 (May 1919): 1-7.}

These programs also taught industrial hygienists to act ideally as intermediaries between
industrial offices and their agents, and local health officials. They were to coordinate the
resources of the community and apply them to meet the health needs of workers and their
in industry and, therefore, should cooperate with all of the official health agencies in his
community.” Industrial hygiene experts also worked as coordinators and cooperators inside the
factory walls. Here they acted to integrate the work of emergency surgeons, industrial nurses,
clerks, ambulance drivers, safety engineers, and refuse collectors. They also ideally played a central role in the routine activities of the hiring department, group insurance agency, and sociological department.\(^{325}\)

This charge to husband the resources of the community to protect and improve worker health rested heavily on the expert's shoulders. Speaking in mechanical metaphors, industrial nursing leader Violet Hodgson noted that "too much play between the teeth of the meshing gears,' 'stripping of the gears,' 'lack of care in operation,' and 'unrelated gears,' each, in turn, produces a condition in which 'coordination and proper sequence' are interfered with, resulting in lost energy and interruption of power transmission from the motor to the drive wheels." Caught between a multitude of agencies, offices, and constituencies, industrial hygienists had to appear at all times not make intemperate decisions or to take sides. Balance or evenhandedness, in other words, was required.\(^{326}\)

They needed to avoid the appearance most often of being employer's lackeys, though owners almost invariably paid the hygienist's wages. They had to maintain strict confidentiality in their relationships with individual workers and their health problems, avoid charges of malicious troublemaking in pointing out particular hazards to plant managers, and balance the health expenses of the workplace with the fiscal-mindedness of owners. Sometimes the industrial health officer played the role too well, seeing no evil, hearing no evil, and unfortunately, acting on no evil.


In many ways, industrial hygienists had fewer free hands with which to do their work, even as other health professionals and laypeople threw up more balls for them to juggle. As United States Public Health Service Reserve Surgeon William J. McConnell noted,

The task of the industrial physician is by no means easy. He occupies the position of liaison, as it were, between management and employees. His duties toward the former are to increase the efficiency of the workers, in order to secure and maintain a high rate of production; to prevent wastage; to minimize labor turnover; and to interpret the workers to the management, by pointing out causes of dissatisfaction among them and suggesting remedies for it. His duties toward the employees are to promote health, sanitation, personal hygiene, and contentment; to maintain cleanliness and order; to lessen the possibility of accidents and disease to protect against dust, industrial poisons, inadequate ventilation and illumination, over-fatigue, draught, extremes of heat and cold, danger of fire; to advise in the selection of jobs suitable to the physical capacity of individuals; to improve the morale; and to interpret the management to the workers.\(^\text{32}\)

The industrial hygienist also had to fend off intemperate physicians in private practice who saw community-oriented occupational hygiene as a threat to their livelihood. "The family practitioner sees nothing, as a rule, in plant medical work but a loss of patients," noted J. D. Hackett, former manager of the medical department of the Nichols Copper Company in New York, even though "the sphere of the [industrial] medical department ends where that of the family doctor begins." Finding the dividing line between industrial and family practice still could be difficult. Fences could often be mended by communication and cooperation. The situation became compounded where community services already existed outside the plant for the emergency treatment of workers injured on the job. Industrial hygienists hired as salaried or wage-earning workers threatened to upset an older balance achieved by fee-for-service contracts between employers and private practitioners or between employers and insurance companies. Regardless "however well founded or erroneous the workers' suspicions of the industrial

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physician may be,” emphasized Columbia University sociologist Bernhard Stern, “such attitudes are real factors in limiting the effectiveness of his work.”

Industrial hygiene leaders routinely recommended cultivation of a pleasant personality as an essential lubricant in the reorganization of individual assets (even recalcitrant private doctors) into a network of interacting and responsive servants of industrial health. The power of personality could not be overestimated in measuring the potential success of industrial hygiene personnel. “The medical department in the industrial plant,” wrote medical officer M. Burnett Franklin of Philadelphia’s E.F. Houghton and Company, “must have human personality and the spirit that inspires confidence in the human element with which it deals.” Personality included not only the habits, appearance, integrity, and humor of the industrial hygienist, but even his mental acuity, training, and skills. It allowed the industrial health department to gain the confidence of the workers it shepherded and the trust of plant officers it advised. Effective industrial health workers possessed a liberal education, tact and judgment, upright bearing, and ability to work in a variety of professional contexts demonstrated through experience in city health departments, community dispensaries, and private practice. “The character of a man’s work is the best advertisement which he can have,” argued South Manchester, Connecticut, physician C. C. Burlingame. “And as long as you are a doctor, and as long as you are a nurse, remember that you have a medical obligation to smile, smile, smile.”

Inside large businesses, industrial hygiene experts divided their time between the plant dispensary or health and safety office and the plant floor. Their first responsibilities to employees and employers alike usually came with the pre-employment interview. Industrial physicians and nurses examined all job candidates for signs of preexisting injury, cardiac condition, mental instability, or communicable disease. These exams varied widely. Prospective employees could expect anything from chest tapping for signs of tuberculosis to a complete workup including x-rays and culture sampling. Some hygienists required complete undressing, others mere shirt untucking. Many hygienists also checked mental acuity from normal conversation in order to ascertain the candidate’s personality as well as whether or not they might “fit in with the Spirit of the Hive.” As a practical measure, health examinations protected the employer from invalid medical claims and fragile candidates from exacerbating their conditions. But there did exist another important motive. Hygienists used exam results to help employers place new hires in jobs matching their physical and mental attributes, and thereby avoiding “fitting the square peg to the round hole.” This helped to prevent costly accidents and reduced labor’s desire for insurrection.330

Candidates who did not pass the pre-employment exam might still be hired by enlightened plants with strong industrial health services. Miriam Lincoln in the Social Service Department of Massachusetts General Hospital spoke for many when she noted that “the economic security of the community requires that every member be a contributor to its maintenance and welfare and not a drain upon its resources.” Frankel and Fleisher echoed this view when they noted that “the purpose of the entrance examination should not be to reject or

discharge the great number of applicants or employees who are physically imperfect, but to prevent their employment in particular kinds of work for which they are disqualified.” Rather, work should be found that was “fitted” to them. Hygienists argued that “defective” workers suffered fewer accidents than their apparently “normal” coworkers when properly married to a particular job. This was because, as one expert explained it, “the defective worker knows his limitations and will not overstep them, while the normal worker will expose himself to dissipation and excesses of various sorts.” And once the candidate was on the job, rehabilitation regimens for physical and mental diseases could begin, a boon not only to industry but to the community as a whole.\textsuperscript{331}

Industrial hygienists agreed that debilitated candidates ideally should not be refused employment solely on the grounds of their afflictions, but instead placed in jobs where their handicaps no longer mattered. They found, for instance, many occupations where cardiac patients could contribute their skills rather than simply drain community resources.\textsuperscript{332}

Architectural firms could hire cardinals as draftsmen, blue print filers, and plan estimators with little danger of stress or strain. Automobile manufacturers could hire them as battery and steering wheel assemblers, tinsmiths, supply clerks, and salesmen. Bakeries could place cardiac patients in packing, labeling, or wrapping departments depending on the severity of their conditions. Clothiers might hire cardiacs as buttonhole makers, beaders, or embroiderers where physical exertion was at a minimum. Industrial hygiene experts found them jobs in department

\textsuperscript{331}Miriam Lincoln, “Industrial Aspects of Heart Disease: A Study of Eighty Industrial Workers from the Cardiac Clinic of the Massachusetts General Hospital, Boston, Mass.,” \textit{Journal of Industrial Hygiene} 6 (May 1924): 1-13; Frankel and Fleisher, \textit{The Human Factor in Industry}, 169; Frank Leslie Rector, “What O’Clock is it in Industrial Hygiene?” \textit{American Journal of Public Health} 19 (December 1929): 1327-33.

\textsuperscript{332}A disease Hackett described as “non-industrial in origin, arising as it usually does, from arteriosclerosis, rheumatic fever, or syphilis,” but nevertheless of major importance to the industrial physician. See his \textit{Health Maintenance in Industry}, 138-9.
stores, theaters, banks, fountain pen factories, hotels, jewelry stores, dental offices, and pencil factories.\textsuperscript{333}

Once hired and on the job, industrial hygienists justified continued focus on worker health and safety and the amelioration of hazards as influential components in increasing productivity. Natural times for reevaluating employee health came when workers transferred between departments or returned to work after long absences. Hygienists remained especially vigilant for those diseases that, relatively speaking, plagued the enterprises they supervised. Hygienists employed in the glass industry kept a wary eye for workers with eye disorders (glass-blowers’ cataract a common disease in this respect), syphilis (from shared blowpipes), and lead and arsenic poisoning. In the garment industry hygienists looked especially for diabetes (a disease prevalent among the many Jews employed in this work) constipation, flat foot, varicose veins, and respiratory infections. Hygienists in pottery factories watched for signs of carbon monoxide and lead poisoning, pneumonoconiosis, and persistent headache (from turpentine odors). In post offices they looked for flat feet, exposure, and cardiac disease.\textsuperscript{334}

Plant hygiene professionals looked in general for those diseases of occupation associated with the kind of work employees performed. Still, because modern industrial hygiene in principle and practice had widened the circle of focus, it behooved them to seek out the home and community contributions to plant diseases. This effectively rendered occupational diseases nonoccupational. As Hackett explained, "occupational diseases are those of ordinary origin when aggravated by industrial conditions." In modern America industrial hygienists magnified their assault on diseases that made it harder for workers to do their jobs, but discounted (but of


course did not entirely ignore) those diseases caused by factory or workplace. Occupation in this way became what Truesdell called a “double factor, made up of direct hazards, which affect only the worker” and “of the attendant living conditions, which affect both the worker and his family.”

The new perspective increased interest in those diseases, regardless of source, that affected the life of the modern worker because they not only reduced efficiency and drained the resources of American business but also threatened the pool from which workers were drawn, that is, the community. Chronic syphilis and tuberculosis became two of the greatest threats to industry on this account. Syphilis came from virtually nowhere to become a “prolific source of industrial inefficiency.” Success in prophylactic treatment of social diseases with neosalvarsan in the Allied Expeditionary Force in the late Great War raised the profile of hygienic experts in preventive efforts against syphilis. Yet, it had “just dawned upon the profession” at war’s end that the ranks of the army and rank-and-file of industry might appear as equivalent groups for the elimination of syphilitic infection.

Industrial and social hygiene experts estimated that one percent of the adult population of the country was under treatment for syphilis at any given time in the 1920s and 1930s. One industrial hygienist claimed in a popular treatise that “ten million Americans have it.” Physicians recognized that fully ten percent of all workers had some kind of venereal disease. One pinned the blame on venereal infections of all types for rendering ineffective seventy percent of all

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employees. Syphilis complicated other diseases, and sped to conclusion many degenerative disorders. It worsened preexisting conditions like angina, apoplexy, Bright's disease, epilepsy, and cirrhosis. Syphilis accounted for ten percent of all mental hospital admissions and fifteen percent of all diagnoses of organic heart disease.\(^{337}\)

Syphilis undermined the health of the community, and diffused slowly but insidiously into the workplace. It invaded the working population by sexual intercourse between family members. It invaded by sexual intercourse with prostitutes. It invaded through hereditary affliction from mother to child. Rarely, though at the time it seemed an important source of infection, it invaded by incidental contact as in the exchange of sputum from shared drinking glasses or by stabbing accidents with sharp objects. Despite the curative value of neosalvarsan, Walter Clarke, director of the Division of Medical Measures of the American Social Hygiene Association, computed syphilis' toll at eighty-four million dollars annually.\(^{338}\)

Syphilis came not only from the wider community, but also found refuge within the natural industrial order. It was assumed that syphilis spread easily between workers, reducing the efficiency and output of the plant in general. The seeming communicability of syphilis between "people working in close contact, with common tools or utensils" made it doubly dangerous inside the plant. Hygienists worried especially about social contacts between workers, the intimacy of their relations in the locker room, and the uncouthness of their behavior in the lunch


\(^{338}\)Clarke, "Dealing with Syphilis and Gonorrhea as Industrial Problems," 82. The spirochete requires moisture to survive for more than a few minutes outside the body. Hygienic experts swapped countless anecdotal examples of extragenital transmission of syphilis, but as with the contemporary case of AIDS this mode is relatively insignificant. Hygienists blamed such things as kissing and wet nursing, and shared cigars, nails, pencils, pipettes, needles, and coins as ways to spread the disease. See Kober and Hayhurst, eds., *Industrial Health*, 9; and Charles C. Dennie, *Syphilis: Acquired and Heredofilhis* (New York: Harper & Brothers, 1928), 295-304. By 1940, it had become clear that syphilis was almost exclusively a disease caused by sexual contact or *in utero* for children. See Joseph Earle Moore, "Syphilis and Unemployment," *Journal of Industrial Hygiene and Toxicology* 19 (May 1937): 189-90, 192.
room. Fully eleven percent of a group of railroad employees surveyed for syphilis infection tested positive for the disease, making the disease appear culpable at least in part for rocketing accident rates in the industry. Coal miners breathing the same fetid air and using the same tools expressed itself in annual rates of infection topping ten percent. But syphilis had more insidious effects on the mental stability of workers. Hygienists and managers complained that syphilitic workers caused unrest on the job. Cerebral syphilis, they claimed, produced delusions of grandeur. This condition not only resulted in disastrous accidents, but could cause otherwise balanced minds to follow the deranged into absenteeism, dereliction of duty, strikes, and desertion. “Employees who possess exalted ideas as to their importance are quite liable to stir up labor troubles,” explained Michigan Central Railroad Company chief surgeon W. Louis Hartman, “whereas if their mentality is normal they will not think of it.”

Factories and shops, industrial hygienists asserted, reintroduced syphilis infection to the wider community. It spread to customers receiving certain types of services provided by undiagnosed syphilitics. Food preparers, hotel housekeepers, barbers, beauticians, and porters all handled items that might infect unsuspecting individuals. In one famous case, a fruit vendor who spit-polished his apples transmitted syphilis to several girls. Syphilis destroyed relationships in the home for workers with syphilis-induced mental deterioration. Explained one syphilologist, “Many men have developed softening of the brain and have squandered the savings of a lifetime in a very few days, leaving their families destitute.”

Physicians diagnosed syphilis by physical examination, but had at their disposal the more accurate blood and spinal fluid Wassermann tests, the Kahn precipitation test, or

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Despite this hygienists insisted that tuberculosis was a peculiarly industrial disease because the workplace harbored and exacerbated the disease. A contributory role seemed clear. Industrial policy holders of the Metropolitan Life Insurance Company died of tuberculosis at nearly twice the rate of policy holders generally. But longtime AMA Council of Physical Therapy steward Harry E. Mock and others absolved the employer of direct culpability, but because of his indirect role found him in a positive "strategical position" to wipe out the disease in the very place where the diseased congregated. "The seeking out of the tuberculous employee and removing him from the presence of his fellows, placing him under proper conditions for recovery, have resulted in decreasing both the morbidity and mortality rate," claimed Mock. "But the employer alone cannot be blamed for these deplorable conditions which make the disease so prevalent." He suggested outlawing on-the-job consumption of alcoholic beverages and moderating plant temperature and humidity (presumed to be predisposing factors), and ventilation systems to control dust.\(^3\)

Though pulmonary tuberculosis could be diagnosed by x-ray examination, sputum study, and skin-reacting tuberculin testing, there was no cure before streptomycin. Employers and industrial hygiene experts defended themselves against this highly contagious disease by isolating infected workers in hospitals and sanatoria, but community reinfection easily subverted attempts to keep the disease out of the workplace. Some exasperated employers resorted to ineffective cold vaccines. One paper manufacturer dispensed one such preparation to its 2,400 employees every fall, hoping to hold down the number of tuberculosis infections.\(^4\)


\(^{4}\) National Industrial Conference Board, Inc., Medical Supervision and Service in Industry, 52.
Industrial hygienists addressed more than specific occupational diseases. They also adopted functions described as "social engineering" today, but better described at the time as human management, composed of those sciences dedicated to producing individual physical and mental equilibrium and social tranquillity. Hygienists became interested in interwar America in the community problems of industrial health, but they also saw the factory itself as a community in microcosm. Some of the representative "social," or better "associational," problems included worker fatigue and malingering, but also what appeared (on the surface at least) as chiefly technical problems related to illumination and assembly line practice.\(^345\)

The question of fatigue, once we get past the progressive political question of the "eight hour day," designed in the first decades of the twentieth century primarily for women and children, demonstrates the importance hygienists ascribed to interdependent, dynamic, associational relations within the plant and with the wider community beyond. The most serious questions facing modern industrial hygienists with regard to fatigue was definitional. What exactly was fatigue and could it be measured? The second question was one of relevance. Was it an inevitable product of the frenetic pace of modern production or a preventable property heretofore unscrutinized by hygienists? Or perhaps it didn’t exist at all as a relevant object. Rex Hersey, associate professor of industry at the University of Pennsylvania, summarized the issue of fatigue with particular concision. "The chief difficulty facing one in such a study [of fatigue] is the indefiniteness of the feeling," he noted. "Can it be taken for granted when such a person says he feels tired, that he is really fatigued?"\(^346\)

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Hersey tried to quantify the “feeling of tiredness,” but the subjectivity of fatigue as a category eluded objective analysis. The problem, he concluded, is “expressed in [the following] mathematical relationship: the amount of energy available at the moment divided by the amount of energy demanded at the moment equals feeling of pleasure or feeling of fatigue.” This, he admitted, gave relative dimensionality to the problem, but did not capture or define fatigue dissociated from human social science.\(^{347}\)

Difficulties calibrating fatigue to personal health complicated the analysis further. Fatigue, most industrial hygiene experts presumed, was (and always had been) normal and not a functional disease. Indeed, it could be beneficial. Eugene Lyman Fisk, medical director of the Life Extension Institute, considered fatigue “a part of the normal rhythm of life and a condition to be welcomed as one necessary in maintaining the balance of mental and physical health.” Fatigue did not precipitate illness or ill-health, though “excessive fatigue” produced by the modern pace of industry might. But what was excessive? Hygienists were unsure. Clearly, fatigue could not be represented in a binary way where employees tested positive or negative, but rather only in a continuous way as described by a spectrum or scale. Finding the positions demarcating the unhealthy-fatigued and the healthy-fatigued proved especially difficult because of individual human variability.\(^{348}\)

These problems aside, projects for identifying sources of excessive fatigue in the plant and ameliorating them arrested the attention of modern industrial hygiene experts. Hersey proposed many possible factors contributing to fatigue in the plant: physical activity, emotional tension, bodily tension, mental activity, colds and other diseases, the physical environment, malnutrition, boredom, and futile effort. Emery Hayhurst, professor of hygiene at Ohio State

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\(^{347}\) Hersey, “The Subjective Side of Fatigue in Industry,” 188.

University, blamed excessive fatigue on "spurt work . . . disharmonious rhythm . . . faulty illumination, faulty ventilation, and many forms of distraction such as jarring or jiggling processes and noise." Others fingered poor lighting and ventilation, noise, vibrating floors, monotony, speed, poor posture, overcrowding, overtime, Sunday shifts, and unsanitary conditions.349

Conditions and activities outside the plant contributed to excessive fatigue at work at least as much as internal factors. J. D. Hackett blamed dancing, movies, routine family affairs, and public transportation and infrastructure. E. E. Southard, professor of neuropathology in the Harvard Medical School, accused family, housing, and drinking. Hersey identified many non-industrial sources of worker fatigue, many identical to those found inside the factory: recreation and entertainment, physical activity, emotional tension, bodily tension, colds and diseases, physical environment, malnutrition, climate, and too much sleep. All could be identified as the common stresses of modern life. He noted that recreation, family responsibilities, and sleep habits (all external or community factors) were the most important factors contributing to industrial fatigue.350

That Hersey and others discovered many of the same factors influencing fatigue inside and outside the factory is important. It suggests, and suggested to them, that fatigue was not only an occupational disease, but a disease of the whole community. Its home and work causes were inseparable in many instances. Philadelphia Housing Association director and former consulting hygienist with the USPHS Bernard J. Newman, in fact, credited "a compound of plant activities

and home or other environmental conditions" for producing fatigue. Home and factory, in sum, both were places for toil and rest.

Industrial hygienists attempted to correct excessive fatigue in many ways. Many hygienists endorsed the "eight hour day" as a way to reduce excessive fatigue. Others altered the flow of assembly lines or bench work to equilibrate muscular or mental effort. Hayhurst noticed that when walls and machines were painted white "the whole tone of workmanship is better." As an added benefit a bright factory tended to remain clean because workers noticed accumulating dust, oil, grease, and trash.

Remediying poor plant illumination in particular reveals an especially clever way industrial hygiene experts confronted the unquantifiable problem of fatigue in terms of a continuum with a solution at least as unquantifiable and continuous. Hygienists worked closely with illumination engineers to alleviate fatigue and other health hazards in plants across modern America. Both groups asserted that the illumination problems of industry were not the simple result of inadequate lighting. That is to say, they noticed the troubling phenomenon that adding more and more bulbs over a particular factory floor might improve lighting on an absolute scale of foot-candles, but did not necessarily translate directly into less fatigue. In fact, intense beams of high candlepower became irritating if not blinding. Instead, hygienists and engineers answered worker fatigue with hard to measure but eminently satisfactory terms like illuminary "continuity," "diffusion," and "comfort." They often grouped these terms in modern industrial practice under the umbrella problem of "glare."

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Glare, like diffusion, comfort, and fatigue, existed as an airy, continuous, quality rather than discrete concrete quantity. Glare became pronounced when engineers increased candlepower to that hard to isolate nexus where “brightness” became intolerable, and where considerations of fatigue and eye strain still had not been satisfactorily eliminated. Glare captured the essence of what happened when a large number of nonspecific factors came together unsatisfactorily. Eliminating glare, then, involved intertwining all the relevant factors or qualities into a networked, hygienic, and gleaming visual whole.354

Improving the luminosity of workplaces while simultaneously reducing glare became one of the foremost preoccupations of industrial hygienists in the interwar period. They justified their efforts on the grounds that proper illumination increased productivity, reduced fatigue and accident rates, and improved general health. In cooperation with illumination engineers, hygienists modified the position of fixtures above working surfaces. They learned that lamps mounted well overhead produced more evenly distributed and more comfortable “general” illumination than individual “local” lamps, and exploited the fact that creating reflective surfaces improved lighting indirectly without increasing candlepower requirements. They altered the shape and frosting of glass bulbs to mimic diffused natural sunlight, or replaced artificial lighting altogether with solaria or banks of exterior windows.355

Shading, filtering, and curtaining of bare incandescent lamps—so mundane today—appeared to modern industrial hygienists as miraculous innovations for reducing glare. These devices advantageously modified and redirected rays of light for occupational purposes. Shades reduced violent contrasts and the dark spots of vision created when workmen looked

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directly into lighting fixtures in plain view. Indeed, bulb frosting was just one type of shade, albeit a built-in one. Shading, filtering, curtaining and frosting also alleviated visual disturbances associated with brighter gas-filled and fluorescent bulbs.  

General Electric lighting researcher Percy W. Cobb, like many of his compatriots, noted that industrial hygienists occupied with the problems of hygienic illumination “must consider such intangible ‘mental’ influences as comfort and the maintenance of good spirits generally.” However, it would be a mistake to pigeonhole illumination hygiene as merely subjective and thus unscientific. The Illuminating Engineering Society clearly thought of glare as an authentic problem, as did the industrial hygienists. Indeed, Matthew Luckeish, modern America’s foremost illumination engineer, called the field devoted to lighting the “science of seeing.” Foot-candle measurements did not disappear, and in fact photometric equipment used in gauging adequate lighting proliferated rapidly. Alongside the old standard candle-power lamps and illuminometers for measuring light intensity engineers developed devices for measuring the speed of vision recognition, examining the optical behavior of air contaminants, and calculating light distribution curves.

The Industrial Accident Commission of the State of California codified remarkably precise rules for illuminating workplaces. Order 1505 demanded that lamps be shaded where “suspended at elevations above eye level less than one-quarter their distance from any positions at which work is performed.” Order 1506 limited local lighting “in such a manner that the

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intensity of the brightest square inch presented to view from any position at which work is performed” to no more than three candles. Order 1507 defined standards for general lighting where local lighting was the primary source of illumination so that the “contrast to the surrounding darkness” did not precipitate eye strain, general fatigue, or accident.\(^{359}\)

Malingering was another tough nut industrial hygienists attempted to crack. Industrial hygiene experts divided malingering into two categories of behavior, first those employees who thought they could not work (at least at full capacity) and suffered legitimate neuroses, and a second dishonest group of “fakirs” (fakers) who suffered no illness or injury. Professional industrial hygiene attempted to explain and solve both problems. It quickly became apparent to experts that modern malingering, like fatigue, represented a continuum. Malingering in moderation, in fact, appeared requisite to the proper socialization of employees. And, what sometimes appeared as malingering on the part of the employer could often be ascribed to employee ambition for attention or sympathy.\(^{360}\)

Excessive malingering, however, led to inefficiency in the plant and social dislocation and crime in the community. Committed malingers tended to be unsafe, unhealthy, and disheveled in appearance. They bred accidents, disease, and embarrassment. Hardened malingers filled their idle time plotting revenge against their employers, imitating or impersonating managers and experts, and feigning hysterics. Some of the most disturbed malingers loitered in factory washrooms and on street corners looking for easy marks for confidence games.\(^{361}\)

\(^{359}\)Bell, “Industrial Lighting Codes,” 137-8.


Industrial hygienists dwelt less on the hardened malingerer than on those employees who exercised acceptable conduct most of the time. These workers, identified as quiet, shy, and conscientious, that is, usually steady and hardworking caused a disproportionate share of plant disturbances. Hardened malingerers were considered "very rare." These malingering neurotics, more numerous than the isolated but hardened malingerers, cost employers real time and money. Malingering neurotics had diagnosed or diagnosable physiological or mental illnesses of varying intensity. Some were "convulsionists," having epilepsy or other seizure disorder. Some were manic-depressives whose exaggerated behaviors surfaced occasionally or regularly. Others had paranoid delusions or hysteria. Many took refuge from the world in day dreams. Others evinced symptoms of neurasthenia, hyperstimulation by modern civilization. A few suffered head traumas and their associated bizarre behaviors. Some were feebleminded idiots, imbeciles, and morons.362

Whatever of the source of their malingering, industrial hygienists tried to modify the work and home environment of workers as well as their unhealthy behaviors. The modern workplace and home, they found, exacerbated malingering behavior. In the factory, monotonous work dulled the senses making workers "duller and duller" so that many became "near-morons." "Habits of introspection" developed by boring work led to "self-pity" and "dissatisfaction" that could spread like wildfire to the "mass-mind." Hazardous occupations produced hypochondria, self-consciousness that produced very real illnesses. Discontented workers took their discontentment home, wreaking havoc in family and civic life, which created even more stresses on the job. Those repressed employees with "strong religious feeling" fared especially poorly.

alienating their coworkers on the job and stimulating neurotic behaviors that surfaced in diatribes in defense of their minister, priest, or rabbi. Other men of “high ideals” but little interaction with others also suffered this sort of disillusionment and resultant neurosis. Anything that established team play among these repressed or high-minded individuals might prevent general industrial unrest. Mock preferred exposing the malingerer to his family and relatives, the social group to which he or she was most responsible. Others advised employers stimulate group pride without giving up authority. As New York City industrial insurance expert Judson C. Fisher put it, “the employer should be kind, gentle, courteous, and jolly, but firm and not unwisely generous.”

Employers and industrial hygiene experts worried that normal but neurotic malingerers might trigger strikes. Malingering led not only to accidents and expensive or unscheduled work stoppages, but could bring owners to their knees. Fear of strikes justified hygienic activities in the minds of many plant managers. As Hackett put it, “a sick man is a discontented man; a discontented man is a potential striker.”

Industrial mental hygienists attempted to address concerns about malingering and discontent by “adjusting” worker minds. Mental hygiene activities dwelt on the human personalities involved, the sources of maladjustment and monotony, and the psychology of the industrial group. Mental hygiene reduced both the environmental preconditions surrounding plant problems like fatigue and malingering. Industrial hygiene workers complained that earlier efficiency studies had ignored the most important aspect of American production: the human worker. At best, they thought, efficiency experts treated employees as just so much “muscle,” or simply as “hands” or “foot-pounds of energy.”

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364 Scheffel, “The Mental Hygiene of Industrial Workers” 186; Hackett, Health Maintenance in Industry. 10.
Instead, industrial hygienists elevated humans, their thoughts and emotions, and their daily existence in and out of the plant to the most important position in factory work. Not content with simply improving the fortune of the individual, however, hygiene experts widened the circle to consider the group or mass mind as the most fundamental unit of production. Humans did not work efficiently as isolated "automatons." Efficient work involved the mobilization of all the workers and their managers into a "working partnership." No employee could any longer be thought of as "number so-and-so" but instead as part of the "corporate group." Only by choreographing their labors did the factory become a modern, organic powerhouse, an example for the world to emulate.\textsuperscript{366}

Mental hygiene was frankly inseparable from industrial hygiene, and from public health generally. In almost every way, industrial mental hygiene intersected and overlapped with other professional activities in the plant, especially industrial psychology and psychiatry, and industrial human relations. Like industrial hygiene, the mental hygiene of workers included scrutinizing their lives outside the plant. Mental hygiene was the joint responsibility of the job and the community as a whole. The community already supported a "large army of misfits" through welfare programs supported by churches, family, religious agencies, and ethnic social institutions. Why should the modern factory be any different in supporting, supplying, and most of all adjusting these potential contributors to community and industrial life?\textsuperscript{367}

The physical, mental, and social problems of fatigue and malingering folded nicely into the wider world view of the modern industrial hygiene expert. They were both problems of the whole and could not be solved by simple alteration of the part. They were continuous, organic


problems expressing themselves only as the melding of body and mind, individual and group. They required complex reactions depending on the variability of the individual worker, the objectives of the entire plant, and the wishes of the community. Proper illumination did not single-handedly solve the problem of fatigue, yet it most surely affected plant malingering. Mental hygiene practice in the shop equilibrated the mind and softened neurological disorders, but also lessened the incidence of fatigue. White paint applied to factory walls reduced fatigue in the home as surely as malingering in the home caused strikes at the factory.

The famous Hawthorne experiments, conducted in the Hawthorne Works of the Bell System's Western Electric Company between 1924 and 1933, demonstrated the significance of industrial hygiene within the larger context of industrial management in modern America. The Hawthorne experiments were the brainchild of experts, many in the social sciences, but were largely coordinated by two researchers from the Fatigue Laboratory of the Harvard Business School, Lawrence J. Henderson and Elton Mayo. Henderson and Mayo wanted to determine the variables most and least material to worker happiness and productivity at Hawthorne. They were driven, like the industrial hygienists, by the problems of fatigue and monotony and potential for absenteeism, labor turnover, and strikes among the company's workers.  

Henderson, Mayo, and other experts investigating the Hawthorne Works conducted several sets of experiments designed to isolate the various factors driving worker fatigue and plant productivity. Hawthorne's workforce, primarily female, assembled relays and bank wiring systems for automatic telephone switching. These relays and systems contained many parts, some quite small, and the experts concluded that most fatigue probably developed out of eye and

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mental strain coupled with the monotony of endlessly repeated steps in assembly. Industrialists generally agreed with this idea since boosting lighting was a relatively cheap solution promising manifold returns on the primary investment. General Electric, specifically, already recommended turning up the lights to resolve fatigue problems, directing that productivity could be boosted fifteen percent by increasing light intensity from two to eleven foot-candles. That increased lighting improved worker behavior and output seemed a reasonable, intuitive hypothesis, but testing showed it simply was not the case.\textsuperscript{369}

Illumination experiments, paid for by the National Research Council, began innocuously in November 1924 among relay assemblers, coil winders, and inspectors. The tests, conducted in three separate series, lasted more than two years. In none of the cases did productivity correlate with light levels. In fact, increases in productivity in control groups matched those seen in the experimental groups. The difference, researchers concluded, seemed to be the presence of the researchers themselves. Workers, knowing that they were being monitored, consciously or unconsciously increased their output for their observers. Lighting had little to do with it. Even one group working in as little as 1.4 foot-candles of light managed to match its production levels under normal lighting conditions.\textsuperscript{370}

A second series of experiments began in 1927, modeled after the illumination tests. These relay assembly test room experiments were designed to isolate many other variables implicated as causes of industrial fatigue. They lengthened and shortened rest periods, moved around eating times, altered the length of the working day and week, changing or rotating positions in the test room, special pay rates, and even group pay systems. The results were (and


\textsuperscript{\textsuperscript{370}Gillespie, \textit{Manufacturing Knowledge}, 41-6; Roethlisberger and Dickson, \textit{Management and the Worker}, 15-19; Mayo, \textit{The Human Problems of an Industrial Civilization}, 55-76.}
for many in the social sciences, still are) astonishing. Regardless of the arrangement of the work environment, changes introduced into the daily schedule, or type of payment for work, worker productivity almost invariably increased. Between April 1927, and February 1932, average hourly relay output increased inexorably from 49.6 to 54.5 to 66.5 to 72.4. This occurred despite twenty-three separate changes in specific variables.\textsuperscript{371}

The results of the illumination tests and relay assembly tests convinced many experts, among them the MIT health educator Clair Elsmere Turner who briefly attended the experiments, that individual environmental variables did not matter, but rather all the variables acting together with intangible human factors of individual physiology and psychology and collective worker relationships like “morale” and “social order.” Future experiments were designed to reflect these changed assumptions.\textsuperscript{372}

These landmark conclusions, that factors impinging upon workers could not be examined independently and that environment and worker cannot be separated and should instead be thought of as coextensive have been questioned endlessly ever since. One interpretation circulating today maintains that Henderson, Mayo, and their entourage of scientists merely proved what they wanted already assumed to be true, or at the very least what they came to agree was true. Many others describe the various experiments as flawed and worthless. One argues that productivity increases in either the illumination or relay assembly tests might simply be attributed to the learning curve of employees.\textsuperscript{373}

Yet this misses the point. Henderson and Mayo’s arguments dramatically confirm the social and associational spirit of modern industrial hygiene principles and practice, albeit in

\textsuperscript{371}Gillespie, \textit{Manufacturing Knowledge}, 48-57, 64-5; Roethlisberger and Dickson, \textit{Management and the Worker}, 19-89.
\textsuperscript{372}Gillespie, \textit{Manufacturing Knowledge}, 69-75; Roethlisberger and Dickson, \textit{Management and the Worker}, 161-188; Mayo, \textit{The Human Problems of an Industrial Civilization}, 99-121.
\textsuperscript{373}Gillespie, \textit{Manufacturing Knowledge}, 1-6.
different ways. Where industrial hygienists generally worked to reduce serious mental and eye fatigue by reducing the tangle of variables causing glare, Hawthorne experimenters discovered that fatigue and illumination had no direct relationship. Both essentially denied the utility of the foot-candle as a separable and independent variable in industrial life. Similarly, though the Hawthorne experiments never really rigorously examined the effects of home and community life on operations in the plant, it did establish the positive effects of collaborative worker effort in plant. Everything was interrelated; nothing existed apart. 

Outside the plant industrial hygiene experts advised employees in matters of personal hygiene and domestic sanitation, but also attended to those problems of a more personal nature like relationships with family members, financial problems, and moral lapses. They encouraged such virtues as thrift, domestic bliss, and sobriety. "To conserve human values is their common purpose," explained A. J. Lanza and Jacob Goldberg in their introduction to *Industrial Hygiene* (1939). 

Educating workers played an crucial part in the sum total of industrial hygienic activity. The perception of inadequate worker education was pervasive among industrial hygienists. "The workers of today now know more about banking, unemployment, insurance benefit societies, etc., than they do about health work and industrial work," complained USPHS surgeon W. S. Bean. Industrial hygiene experts warned employees of specific safety hazards and dangerous chemicals, but broadened their entreaties to cover general health in the home and community as well. Experts dwelled on proper nutrition and food sanitation, exercise, dental hygiene, and the virtues of clean water at least as much as they warned workers of the dangers of arsenic, benzol,

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or mercury exposure. They did this through lectures or (more popularly) "health talks," poster campaigns, brief and attractive plant journals, motion pictures, and blackboards upon which daily messages were placed. Sappington enjoined employers and experts to sell general health and safety principles, instilling in them "the idea that the safe way is the best way" to guarantee a long and profitable career with the company. Industrial health management failed unless employees appreciated the benefits of their own good health. Thus, "it is not enough to inform and instruct," related W. A. Evans of the Chicago Tribune's Health Department. "The habits of the people must be changed."376

For employers, industrial health education paid dividends in rising plant efficiency. Knowing this, many companies had extensive education programs. General Electric's National Lamp Works sponsored thirteen annual health talks for its employees. The Remy Electric Company issued pamphlets on such topics as rheumatism, blood-poisoning, pneumonia, constipation, "tobacco heart," and of course syphilis and tuberculosis. The Eastman Kodak Company, Colorado Fuel and Iron Company, Brooklyn Rapid Transit Company, Dennison Manufacturing Company, and Norton Company all sponsored extensive model health programs for their workers. Many offered lectures in several (sometimes dozens) of languages.377

Professionals also enjoined employers to actively support health projects outside the plant and occasionally lead in the development of community facilities. Depending on the existence or nonexistence of community centers and services, employers could become enmeshed in the building of playgrounds, parks, gardens, hospitals, schools, stores, and clubs. Hygienists favored

“group exercises” over games played by individuals because these activities stimulated evenly developed muscular development and mass participation, both useful to industrial employees. Charities also benefited from pressure placed on employers by industrial hygienists. Employers, as the experts constantly reminded them, had a vested interest in “the domestic environment, recreation habits, and [even] dietary customs” of their workers.\(^{378}\)

Male physicians trained in the principles and practice of industrial hygiene oversaw these activities in larger plant facilities and in their surrounding communities. In smaller plants, public health nurses working as industrial health nurses often maintained the facilities and led as crusaders for health initiatives. Their devotion to community health principles and practice remained as great as that of the industrial physicians. Industrial nursing service, in fact, shows in microcosm the public health nurse acting as a cooperating, coordinating, community health leader. Violet Hodgson of the New York State Department of Health defined industrial nursing as “the application of nursing skills and procedures to the sick or injured worker, and the sharing of information on the fundamental principles of healthful living as applied to the needs of the worker.” Industry presented the industrial nurse with a social laboratory producing public health improvements in a fashion similar to rural demonstration projects. Nurses interpreted their service in private factories as nurses looking from without also viewed them: as experiments of interest to the wider community health.\(^{379}\)

Industrial nurses like industrial physicians saw their service as inextricably linked to the larger community. Nurses did have to overcome a “distinct handicap” (namely their subservience to physicians) in communicating their needs to other professionals. Still, industrial


nursing depended on close cooperation with allied health servants and plant foremen. Nurses reached out as part of the "social aspect" of their duties to experts and laypeople in both public and private organizations for help. Nurses enlisted the aid of physicians and other health professionals from the outside world. They also engaged the attention of plant owners and studied the health programs of various other plants.\textsuperscript{380}

Still, nurses did not mistake themselves for physicians or engineers, for they recognized that they were neither one. Industrial nurses placed dramatic limits on what they could do for employees injured on the job. They functioned mainly to treat minor injuries, scrapes, abrasions, contusions, and the like. Much of their time was spent keeping careful records of sickness and absenteeism, and in the dressing and redressing of wounds. Many times they accompanied industrial physicians as they examined female workers to avoid "unfavorable criticisms." Some industrial nurses acquired special skills through training in x-ray machine operation and routine laboratory analysis. In the smallest of enterprises, they might even hold janitorial functions keeping toilets and sinks adequately disinfected, referred to occasionally as "factory housekeeping." Serious injuries demanded the attention of a trained medical practitioner whether a full- or part-time industrial physician or physician engaged in private practice. Full-time physicians always remained on call for just such eventualities, though they might not always be stationed in the plant dispensary.\textsuperscript{381}

Industrial nurses took their coordinating function seriously. Coordination meant acting in the full interest and with the full understanding of all people working in the plant. "The acid


test of a good nursing 'contact' in industry," noted Hodgson, "is a one hundred percent cooperation from all economic levels—from the watchman to the president—all nationalities, and all degrees of cultural background prevailing in the plant." It also meant connecting the factory to the community with her social service work. Hodgson emphasized "knowledge of and cooperation with the community machinery" as "prerequisites for the proper relationship of the gears in the machinery for such human adjustment." The National Organization for Public Health Nursing recommended a wide variety of education experiences to reinforce this cooperative function, from courses and field work in public health administration, family social work, factory psychology and industrial relations, as well as basic courses in industrial hygiene, safety, and sanitation.\(^\text{382}\)

Care for members of the worker's family was a professed goal for industrial nurses. Factory personnel and their dependents represented an artificial family for industrial nursing practice, much as the school nurse superintended the health of children. "So closely can her teaching in the fundamental principles of personal and plant hygiene coincide with those of the visiting nurse and school nurse," noted Hodgson, "that we can truly speak of the joint efforts of all public health nurses in terms of a family and community health program." Industrial nurses often required home visiting to discover the interconnected phenomena that led to the ill-health of the worker. They were sometimes under pressure from management to seek out employees in their homes for no other reason than to root out malingerers and fakers, but this they were never to do. Visits were instead to be made only in the "spirit of friendship, never of spying."\(^\text{383}\)


Generalized service, here as elsewhere, became the favored plan of organization. "The field is wide," remonstrated one industrial nurse. Industrial nurses called for many and varied technical skills and a wide understanding of the particular needs of individual workers. Nursing education for future factory nurses stressed the same core curriculum applied to other public health nurses. Industrial nurses, like their peers, needed more flexibility than they received in diploma programs in hospitals. "The nurse needs a pioneer spirit," argued Bethel McGrath of the National Organization for Public Health Nursing. "She needs energy to experiment and explore, courage to risk mistakes if necessary, and judgment not to make the same mistake twice." Traditional nursing schools were just not inculcating this spirit in the minds of many public health nursing leaders. Industrial nurses desperately needed courses in the theory and application of psychology and sociology.\(^{384}\)

As with industrial physicians, personality also turned the wheel of progress in coordinating industrial nursing. Personality development facilitated good relations between all the various parts of the plant. As the industrial nurse M. Gray MacDonald explained, she should be a woman of culture and refinement, mature in mind if not in years, . . . a woman of poise and personality. . . . She should ask herself, "Do I like people? Do I like them even when they are dirty and have to come to me reeking of unpleasant odors, so often a part of their daily labors?" The industrial nurse must be broad-minded, especially regarding race, color, religion, and social beliefs, remembering always that she must suppress personal prejudices in the interest of both the management and the employee.\(^{385}\)

A pleasant personality served particularly well among workers who did not fully understand American language or culture.\(^{386}\)

No place existed for partisanship in industrial nursing service. At all times a “mistress of tact,” professional detachment kept industrial nurses in good stead. Nurses avoided becoming embroiled in labor disputes and steered clear of union activities, confining themselves to those activities that could “in no sense jeopardize the employer-employee relationship.” Industrial nurses also refused gifts from employees for services for fear of creating embarrassment or a competitive atmosphere on the factory floor that discouraged the truly needy from seeking medical attention.387

Clearly, the profit motive and the production and sale of goods and services generally remained of preeminent concern in American industry throughout the period 1915 to 1940. Health matters always took a back-seat to the bottom line whenever belts were tightened. Yet experts also surmised that industrial health service and education itself supported the expansion of business. The pure water campaign bolstered the sales of pipe and fixtures manufacturers. The pure milk campaign increased demand for sanitary dairy equipment and outbuildings. Other health campaigns stimulated purchases of soap, disinfectant chemicals, hot water heaters, and laundries. Virtually no manufacturer or retailer could argue that they had not directly or indirectly reaped benefits from rising public health awareness; some depended upon public health for their very existence. “It seems to me,” reasoned Paper Cup and Container Institute public health expert Homer N. Calver, “that we should have no hesitancy in requesting an industry to aid us in a program without which that industry might never have come into being.”388

By 1940, Memphis health department superintendent L. M. Graves and others could say with confidence that the “term industrial hygiene” had been “stripped of some of its highly

specialized meaning. Yet despite this, industrial hygienists strove throughout the period 1915 to 1940 to carve out a niche for themselves and exhibit their indispensability to the rest of community health. Industrial hygiene sections sprouted everywhere in the landscape of modern public health to conduct scientific research in the particular problems of industrial hygiene, disseminate knowledge derived from laboratory, clinical and field investigation, train and retrain its professional workforce, and tout the value of the industrial hygiene perspective. Experts worked through the American Public Health Association, American Medical Association, National Organization for Public Health Nursing, American Chemical Society, American College of Surgeons, Conference of State and Provincial Health Authorities of North America, the National Industrial Conference Board, National Safety Council, American Standards Association, American Association for Labor Legislation, Association of Government Labor Officials, American Management Association, American Society of Heating and Ventilating Engineers, Illuminating Engineering Society, and National Tuberculosis Association, and various manufacturing associations and insurance organizations to promote themselves. The APHA Industrial Hygiene Section entertained committees on the issues of lead poisoning, workmen's compensation, volatile solvents, skin irritants, and ventilation.

Sometimes they started entirely new organizations, most notably the American Association of Industrial Physicians and Surgeons founded in Detroit, Michigan, in 1916, the Conference Board of Physicians in Industry, and in 1939 the American Industrial Hygiene Association. Nurses formed the American Association of Industrial Nurses in 1942.

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hygienists also stood in the vanguard of the Air Hygiene Foundation of America, in Pittsburgh, founded in 1935 by the Mellon Institute to ameliorate the heating and ventilation problems of industry.\(^{391}\)

Valuable leadership came from industrial hygiene experts placed at the federal level in the Division of Industrial Hygiene of the United States Public Health Service, the Bureau of Mines in the Department of the Interior, the Children's and Women's bureaus, the Bureau of Labor Statistics in the Department of Labor, and the Navy and War departments. Twenty-two state departments of health, conscious of growing authority and prestige accorded industrial health service, created industrial hygiene divisions.\(^{392}\)

Long considered a specialty devoted to the emergency treatment of injured workmen, the moment of modernization in industrial health service, with its concomitant dedication to community health, had arrived.


\(^{392}\) Ibid.
CHAPTER VII. MENTAL HYGIENE

A large share of professional discourse in industrial hygiene examined the physiological bases for absenteeism and labor turnover. Psychological and social problems of workers, though, appeared in industrializing America to be a large and growing source of danger to worker health and to business efficiency and profitability. Many observers linked this mental hazard to the pace of twentieth century life, including psychiatric social worker Margherita Ryther, who remarked to colleagues,

the increasing complexities of modern life demand an ever-increasing “speeding up” of the mental faculties in order to meet the requirements of the times. The result of this high-pressure activity upon the people is demonstrating itself in many ways, of which incomplete adaptation to environment is the most conspicuous.  

C.-E. A. Winslow stated that “this [mental health] problem is clearly not only a dominant problem in the field of public health, but it is going to be the dominant problem in the field of public health and human relationships.”

More and more in modern community health, experts began examining employee mental processes, relating them to the patterns of group or social “adjustment” and grounding them in a newer conceptualization of the “normal” hygienic mind. Mental hygiene, the profession which crystallized around this equation of health with normality, represented an eclectic collection of

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393 Margherita Ryther, “Place and Scope of Psychiatric Social Work in Mental Hygiene,” Mental Hygiene 3 (October 1919): 637.
individuals often drawn to the subject as an interrelated extension of their primary fields of interest: psychology, psychiatry, sociology, social work, neurology and physiology, and the many professions of public health. Downplaying what they perceived as obsessive interest in disturbed or criminal individuals, “mental hygienists” (as those interested in such matters occasionally, but not always or with regularity, referred to themselves) refused to bisect society into the apparently normal (adjusted) and abnormal (unadjusted). Instead, they cultivated a gestalt view of the hygienic individual mind and body, composed of coexisting cooperating and conflicting native and conditioned traits totaling a “personality,” and an associational view of society, integrated or dissociated by the mental attitudes of its members.396

Most students of mental hygiene credited Clifford Whittingham Beers, a businessman and Yale graduate, for founding the mental hygiene movement in America. In 1907, Beers published A Mind that Found Itself, documenting a personal “mental civil war” he fought against insanity. Beers decried many aspects of the treatment he received and leveled damaging criticisms (overuse of restraints, abusive attendants and physicians, and unsystematic and unscientific research agendas) against custodial institutions. He called for the adoption of a “Bill of Rights for the Insane,” guaranteeing that they be treated with the same sympathy accorded sane people. The book, carefully balanced to avoid the impression of polemic, launched a firestorm of interest, especially among psychiatrists, psychologists, and physicians.397

397See Clifford Whittingham Beers, A Mind That Found Itself: An Autobiography (London: Longmans, Green, and Co., 1907); Dain, Clifford W. Beers: Advocate for the Insane, xxiii; Frankwood Earl Williams, “Is There a Mental Hygiene?”
Beers enlisted the assistance of a large cast of characters impressed by his own account drawn from firsthand experiences. Supporters included Adolf Meyer, director of the prestigious Ward’s Island, N.Y., Psychiatric Institute; the philosopher and psychologist William James; Anson Phelps Stokes, Yale University’s influential secretary; William H. Welch, pathology professor at Johns Hopkins and chairman of the Rockefeller Institute for Medical Research; Julia Lathrop, lately of Hull House; Livingston Farrand, then of the National Tuberculosis Association; Jacob Riis; and many others. Together they advised or oversaw first the organization of a Connecticut Society for Mental Hygiene (1908), and the following year along the same plan a more encompassing National Committee for Mental Hygiene.

The acceptance of *A Mind that Found Itself*, with its account of abuses and indiscretions, did much to stimulate interest in humanizing inmate life in America, but did not presage the broader mental hygiene movement that followed. An enlarged community focus for mental hygiene, as described in the first paragraph of this chapter, did not emerge until many years later. Indeed, the original goals set by the National Committee and its growing constellation of affiliate state mental hygiene societies were directed simply to “correct abuses” occurring among institutionalized and recently released inmates. And, as Beer himself later admitted, “work previously done had made it easier to formulate part of the plans of the National Committee, namely, those features relating to State care and to aftercare of the insane, in both of which fields

*Psychoanalytic Quarterly* 1 (April 1932): 113-20.


399 The preliminary constitution of the Connecticut Society is reprinted in *Twenty Years of Mental Hygiene, 1909-1929* (New York: National Committee for Mental Hygiene and American Foundation for Mental Hygiene, 1929), 11-6.

the New York State Charities Aid Association had done pioneering work so far as this country is
concerned."

The mental hygiene movement as it developed in the 1910s and early 1920s owed much
to the enthusiasm of its chief salesperson Clifford Beers, but derived its intellectual focus and
(more importantly) its expert authority from others. The psychiatrist Adolf Meyer, not Beers,
coined the term “mental hygiene” to describe the new reform movement that *A Mind that Found
Itself* had sparked. Meyer, Beers’ early champion and chief critic, noted that the new term
incorporated a preventive element into an otherwise curative specialty, much as the public health
movement had extended medicine into previously uncharted somatic territory. His early writings
and practice, though, do not suggest that he considered extending mental hygiene activities
outside the bounds of the psychiatric hospital. Instead, Meyer advocated, as contemporary
sanitary scientists did, rigorous adherence to systematic and scientific research, classification,
record-keeping, and clinical treatment. The National Committee chiefly concerned itself with
collecting and collating statistics of mental illness in America, surveying conditions in specific
institutions, and surveying laws related to these institutions."402

By 1917, though, with the inauguration of *Mental Hygiene*, official organ of the National
Committee for Mental Hygiene, mental hygiene became transformed into a profession devoted to
the mental prophylaxis of all people, well and unwell. The journal exposed a “general realization
... coming into existence that mental factors underlie not only inability to make a living and the
gross disorders of conduct, but all the social activities of man.” Committee members agreed the

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401 Letter from Charles Macfie Campbell to Clifford Whittingham Beets reprinted in *A Mind That Found Itself: An
Autobiography*, rev. ed., 257-9; George K. Pratt, “Twenty Years of the National Committee for Mental Hygiene,”

Dain, *Clifford W. Beers: Advocate for the Insane*, 79-80, 101, 185-6; Pratt, “Twenty Years of the National Committee for
Mental Hygiene,” 400-7, 417-20.
journal addressed the need "to present non-technical articles on the practical management of mental problems in all relations of life." By the 1920s even Clifford Beers could only remark that the greatest failing of the messengers of mental hygiene (including himself) so far had been not demonstrating that "the mental hygiene movement is of vital concern to everybody [his emphasis]."

Mental hygiene in this way became modern, now devoted to protecting the health of communities, families, and their constituent individuals. The mentally ill belonged to society even when they themselves felt withdrawn, and could not simply be excised like a bruise from fruit. Feebleminded, depressed, and criminal individuals posed a threat to society by malicious destruction or by indiscriminately spreading communicable diseases, but they also burdened society materially and emotionally in state and private institutions. The mentally unstable, reminded social service director Jessie Taft of the New York State Charities Aid Association, "belongs to a home whose love for him and belief in his possibilities will have to be taken into account in any plan we may formulate." Mental hygiene experts more and more hoped to restore the ill to productivity, as well as increase the efficiency of the apparently well. "More and more of these mild cases were coming to be recognized," remembered George K. Pratt, assistant medical director of the National Committee, "as psychiatric knowledge widened its boundaries to include, under the term 'mental disorders,' numerous conditions heretofore not considered as falling within its precincts." Mental hygiene, then, became community hygiene, addressing itself to "these non-institutional or 'community' types of problem[s]," and its adherents dedicated themselves to exploring and adjusting social situations to ideally bring or restore order and mental health to the many and the few. "The group has two interests in the individual, to

403 As articulated in the prefatory to the first volume of *Mental Hygiene* (1917), edited by Frankwood Earl Williams.
suppress wishes and activities which are in conflict with the existing organization, or which seem the starting point of social disharmony, and to encourage the wishes and actions which are required by the existing social system,” explained psychologist William I. Thomas. “Every new invention, every chance acquaintanceship, every new environment, has the possibility of redefining the situation and of introducing change, disorganization, or different type of organization into the life of the individual or even of the whole world.”

Disciples of this “new” mental hygiene objected strenuously to an obsession with the abnormal perpetrated by the last generation of scientists. Studies of criminals, the wicked, the disoriented, the insane, and the pathological did nothing, they generally agreed, to further an understanding of normal individuals, nor did they reveal the overwhelming natural correspondences between the abnormal and normal. “Those who like to stamp persons in an ‘either-or’ dichotomy of ‘normal’ and ‘abnormal’ types are uninformed or unwholesomely biased with respect to facts of individual differences and individual likenesses,” concurred two mental hygienists. “There is nothing in the abnormal that is not in the normal, potentially, latently, or actually.” Human personalities instead wavered between states of relative normality and abnormality, establishing as the battleground for academic debate the location and enumeration of factors responsible for that dynamic balancing act at work in the individual, as well as its place amid fluctuating human conventions and societal norms.405


The qualities of "normal" mental health remained in dispute throughout the interwar period, but hygienists ascribed to one common denominator: integration, or said another way, the possession of wholeness. Mental hygienists agreed that normal individuals were connected to themselves, understood their own needs and desires, and acted on them in concert with the needs and desires of communities. Their mental and physical functions betrayed a fundamental "unity in action." As public health nurse and psychiatric social worker Julia Weld Huntington extrapolated in the poem "Integration,"

My fingers pattern a symphony,
Whimsical, quaint, of industry;
The shining needle slips in, slips out
Like a silver horn; the cymbal's shout
Of dissonance clangs from pan against pan;
The thud of the iron sounds round about.

My irrelevant mind constructs a plan.

Apart from this surfacing melody
Of design and task, the essential me
Yields itself to the ecstasy
Of complete experience, suffers, sings,
Broods; atuned, is questioning
Enveloping worlds; is absorbed, remote . . .

I am synthesized by a single note
From without! In sudden harmony,
Thought and feeling and act are bound
Into one response; swift chords resound,
In released progression, triumphant, free!

Is the master key
To inner music reality?  


407 Said another way, they possessed good physical health as a precondition for good mental and emotional functioning, good mental health as a precondition for good physical and emotional health, and good emotional health as a precondition for good physical and mental health.


The Columbia philosopher John Dewey described integration as the touchstone of civilized life; integrated accomplishment allowed individuals to "accomplish something beyond themselves."410

This is not meant to suggest that conflict or discord did not exist in normal personalities. Ideally, the well-adjusted always carried (though tidily tucked away most of the time) this impetus along with them in life. Integration, it was agreed, emerged only out of the success of individuals in their struggle to maintain equanimity in sometimes hostile natural and societal contexts. Conflict advanced the personality to new levels of integration when used in a constructive way. Conversely, disrespect for power of conflict in the personality led to disintegration and dissolution of normal personality.411

Mental hygienists more or less uniformly termed these dissolved personalities "maladjusted." The qualities of the maladjusted also formed a locus for dispute in mental hygiene circles, but again revolved around a core conception of disintegration, or disharmony. Maladjusted personalities possessed, relatively speaking, little or no aptitude for maintaining internal or social cohesion. Again, as in the normal personality, maladjusted individuals always possessed some mechanism for integration or wholeness, but appeared incapable of mastering (or remastering) that mechanism in adhering to the rules for the game of life, or of bending those rules in socially acceptable ways. Maladjusted mental processing caused disintegration of intellectual functions, but also perpetrated bodily and emotional harm as well.412

Personality, then, was a pliable thing beyond its hard hereditarian core. It sprang from shifting and cumulating native and acquired mental patterns. Indeed, personality proved much

more ephemeral than that, for mental hygienists found that they could only observe its impression upon others, and not the thing itself directly. "Personality," noted Stanley P. Davies of the New York State Charities Aid Association, "is the very stuff out of which social relationships are made, and from which what we know as human society is built up." Yet, observed Clarke University professor of education and school hygiene William H. Burnham, "both personality and character are largely social evaluations." The eminently human desire to understand the world required integration for its fulfillment, but an understanding of personality as a social artifact meant that integration ultimately derived from interaction with others. The role of the practicing clinical mental hygienist, then, involved "adjusting" personalities by reacquainting them with societal conventions and appropriate outlets for individualism.  

The social evaluation of Jewish mental life, to cite one specific and lively debate, illuminates just how professionals constructed appropriate mental hygienic problems and solutions. The problem of the Jewish mind had long vexed scholars. Many late nineteenth and early twentieth century academicians, particularly in Germany but in America as well, explained that the Jewish race manifested significantly higher rates of mental illness and maladjustment than non-Jews. As late as 1939, Johns Hopkins researchers in the Eastern Health District of Baltimore reported a rate of personality disorder among Jews twice that of Gentiles living in the same neighborhoods. This debate, of course, contributed to the loathsome proposition of Jewish racial and cultural inferiority, but to be fair, the most outspoken in modern American mental hygiene circles disagreed with this conclusion, and the methodology and data by which it became established.

\[\text{References}\]


Setting aside the posturing and concentrating on the subtleties of the textual debate, however, highlights the relevance of personal and social adjustment to the Jewish question. Hygienists postulated that a peculiarly Jewish personality might account for excessive mental instability in American life. This personality stemmed in part, these experts argued, from historic conditions, sometimes termed their "social heredity." The Jews for example, argued the Freudian psychoanalyst Abraham Brill, thought of themselves as "Jehovah's only and favored" children. Favorite or coddled children, though, being spoiled, developed as poor competitors in the "struggle for existence." Jews raised soft in a hard world became predisposed to mental and nervous diseases. Brill and others also tendered the idea of historic isolation, both self-imposed and enforced, as contributory to Jewish mental instability. They argued that Jews very early on exhibited "voluntary clannish exclusiveness." Abraham Myerson argued that this came from a conviction that the religion was "superior to those of the nations with whom he came in contact" and "because he refused in any way to acknowledge the potency or the reality of the gods of the people amongst whom he lodged." This condition, compounded by well-founded suspicion and fear of outsiders, created the entirely introverted and disconnected Jewish group found in modern American cities. This also explained why Jews made incompetent "mixers" at parties. "He who tended to become introspective became deeply so," pronounced Myerson, "and this introspection was deeply apprehensive and melancholy."415


The pressures created by Jewish social heredity surfaced in a variety of detectable ways. Neuroses, arteriosclerosis, diabetes, alcoholic insanity, and general paresis all emerged out of Jewish isolation and persecution. The “minutiae” of Mosaic dietary laws threw Jewish housewives into hysterics. The lethal combination of monotonous traditional Jewish work (pushing of carts, pressing of pants, banking and trading) and intellectual rigors of Talmudic education led inevitably to derangement. Social heredity, in sum, created a Jewish race defiantly resisting fitting to the normal statistical curve. Instead, they exhibited only the extremes of human behavior. “They have a larger percentage of deaf mutes and of musically gifted, more geniuses and more idiots,” explained New York psychologist Elisha M. Friedman.416

Jews, maladjusted as they were, did not always react to these internal and external social stresses in beneficial ways. Mental hygienists who noted that Jews evinced excessive mental malady critiqued American Jewish life along a broad front. Some objected to the Jewish proclivity for cerebral activities and their disavowal of sport and play, causing progeny to grow up “very serious, very earnest, too early devoted to mature efforts.” Some objected to an apparent inflexibility in the keeping of the Sabbath and other Jewish holidays running “counter to the imperious demands of twentieth-century life.” Others complained that nervous Jews unwholesomely dissipated excess energy by talking loudly.417

Mental hygienists did more than complain. They had some concrete suggestions about how to adjust and assimilate Jews. Many recommended the Americanization of Jewish religion, that is, the abandonment of orthodoxy in favor of reformed Judaism. Reformed Judaism de-emphasized the intricacies of ritual, obviated the need for exclusiveness, and generally created


a denominationalism familiar to non-Jews. Others recommended athletic competition and intermarriage as solutions to Jewish mental problems. At the same time, mental hygiene experts uniformly rejected conversion as a viable strategy for diffusing Jewish mental maladjustment. Conversion harmed Jews because it subverted identity and personality as essential products of nature and nurture. Jewish traditions supplied a source of strength when the individual personality failed. Jews cut off from their religion, or cast adrift on a sea of Christianity, faced the prospect of utter dissolution. "The sensitive Hebraic nature, formed through centuries, cannot be transformed into that of a well adjusted western individual without being subjected thereby to profound and even dangerous modifications," stated Brill. Better to go slow and succeed, than make "desperate efforts to move in non-Jewish circles" and fail.

Again, the Jewish mental hygiene debate illustrates just how mental hygienists juxtaposed "insiders" and "outsiders" to demonstrate the effect of community upon personality adjustment. Jews suffered mental maladjustment because they had withdrawn from society and because they had been rejected by society. Lack of integration created mental problems, and the Jewish reaction to lack of integration caused still more. The solution involved adjusting the Jewish faith to meet the realities of modern life, not spurning the only natural community they had ever had. Then mental hygienists could quit referring privately to the diagnosis, "Judaism."

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Another way to explore personality and its social adjustment involves unpacking the methods of the so-called "architects of adjustment," in this case those individuals closely associated with the developing modern mental hygiene movement. Some of the most influential of these architects included William A. White, Karl Menninger, as well as Adolf Meyer himself. Though each identified different personality types and disorders and explained the role of adjustment in different ways, all conformed to the basic tenets of modern mental hygiene illuminated above. Interestingly, mental hygiene maintained its coherence as a valid disciplinary approach even as professional language and terminology resisted conformity.¹²¹

Adolf Meyer’s writings underscore the transformation that took place in a profession he helped found along different lines. Meyer, a recognized leader of mental hygiene and long time professor of psychiatry at Johns Hopkins (1910-1941), evinced an intellectual breadth treasured in mental hygiene circles. That breadth sometimes caused confusion, but also served to welcome potential recruits to the fold. “The difficulty in understanding Meyer came from a number of sources, one of which, at least, was his tendency to assume that we had a background and frame of reference comparable to his own,” one of Adolf Meyer’s students recalled after his death. “He would often express himself by a series of oblique references to concepts imbedded not only in psychiatry, but also in psychology, in sociology, in anthropology, in philosophy, in history, and in Greek literature.” Modern mental hygienists identified him as not only the dean of American psychiatry, but as an organicist who ravenously assimilated European and American thought about the mind’s hygiene and assembled them into a usable whole. He did not choose sides easily, but rather encouraged an open cross-disciplinary approach to the mental hygiene problem. One commentator has since said that Meyer practiced “nonadherence to any theory in particular,” and yet drew together “the sum total of the cultural heritage which a current

civilization represents” to explain how “man stays healthy or becomes ill, depending upon the interaction of his total personality with the world he is called upon to meet.”

This broad methodology for understanding personality and social adjustment, however, is not readily apparent in Meyer’s early writings. Rather, Meyer initially possessed a fairly functional vision for mental hygiene. He originally supported a number of specific projects: (1) surveys of mental institutions, (2) correction of their abuses in accordance with scientific and systematic principles, (3) founding of new specialized “psychopathic” hospitals for scientific research, treatment, and training, (4) prophylaxis for certain susceptible classes of the public not yet institutionalized, (5) “aftercare” of released patients, (6) cultivation of an enlightened public attitude towards the mentally ill, and (7) legislation guaranteeing all of the above. The objective of all of these projects (all of which the National Committee for Mental Hygiene substantially undertook), as Meyer saw it, was to protect the mentally ill and society from one another by supervising and shepherding individuals in and out of institutions constructed specially for that task.

Meyer began extending mental hygiene to include all personalities, not just the chronic or recoverable insane, as legitimate subjects for study around 1915. The National Committee reflected this change by inaugurating surveys of “extra-institutional” groups (those outside mental institutions) like school children, jailhouse inmates, college freshmen, and factory employees.

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This second period came to synthesis in his “psychobiologic” approach to mental health, an approach that saw personality as inextricably intertwined with the society it inhabited. Three tasks preoccupied the normal, healthy personality in psychobiology, or what Meyer often simply called “mental health work.” The first task involved “self-organization” or satisfaction of “inner continuity.” The second task was “integration of the physiological.” The third task was the development of “sociological assets.” Further, psychobiology treated mental “disease as a variant of potentially normal functioning” which logically called for the creation of research “centers for the study of the average,” and treatment centers for “readjustment in a solid setting of the more socialized and ‘normal’ dependables of life.”

Meyer grouped personalities into three categories that reflected his new concern for the interrelatedness of individual and society. The normal personality he termed “koinotropic” (from the Greek koinos, common) or “syntropic.” This type of individual displayed “we” tendencies, that is, wholesome societal interactions. Deviant personalities formed out of “conflict,” an inability of the individual to reconcile a “complex” of incompatible emotion-colored impulses with the “total personality.” The “egotropic” personality displayed harmful “I” tendencies. “Dystropic” personalities displayed bizarre, socially unacceptable tendencies, and often an unhealthy preoccupation with “the other.” Hobos, criminals, mad scientists, and sexual deviants could be egotropic or dystropic.

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424 Meyer often referred to the practice of psychobiologic psychiatry as “ergasiatry,” that is, the study of “integrated mental activity.”


Meyer did not see the categories, termed “reaction types,” as discrete entities, but rather as relative positions between which personalities might freely pass. As his Hopkins colleague Frederick L. Patry described them, they respected “the concept of ‘more or less’ and ‘allied to,’ of multipolarity and mid- and border-zones as well as extreme deviations in type, which, however, never appear in absolute pure culture.” Egotropic individuals, in fact, could manifest what appeared to be dystropic personalities, and vice versa. Indeed, Meyer never fully accepted reaction types as possessed of objective reality, but merely as useful experimental contrivances.427

William A. White, superintendent of the U.S. Government Hospital for the Insane (renamed St. Elizabeth’s Hospital) in Washington, D.C., from 1903 to 1937 and another dominant figure in mental hygiene in the interwar period, contributed to the new social and associational view by “rather radically” (Meyer’s words) redirecting attention away from adults to the more impressionable, more dynamic, minds of children. Older physicists and astronomers, he argued, had difficulty accepting physics’ relativity theory, but “young, plastic, adjustable minds, unhampered by the prejudices of yesterday, will grasp these new concepts quickly, as they have in the past.” Moreover, where before World War I social scientists and health and medical professionals mistakenly assumed that inheritance of traits predetermined the fate of children’s minds as adults in the present, White and other child guidance experts now understood that careful inculcation of healthy mental habits and socialization might prevent deviant mental development today and tomorrow. The child, most literally, was “the father to the man.” White

and others called this redirection of traditional mental hygiene “child guidance,” differentiating it from an earlier form of “child study.”

White’s guidance plans emphasized childhood (particularly before age five) as the critical period of habit formation. If good mental habits could be instilled in infancy, White reasoned, children might grow up with powerful adjustment mechanisms for emotion and reason, a healthy respect for order, and a desire for moral and wholesome living. White often called mental hygiene clinics set up for children “habit clinics.” These habit clinics captured mental energy otherwise lost by undiscovered deviant outflows, mental maladjustments that grew to riverine proportions in adulthood. Familial relationships, ideally, supplemented and strengthened expert direction of the child’s mental growth, but in practice bore the onus of childhood mental development.

Childhood represented the critical juncture for the formation of acceptable social habits, because in this developmental period children faced the delicate task of differentiating “self” from “not self,” then having to go about reconciling the two. White considered this a laborious process for any normal child, and required an “increasingly complex series of integrations” where personality might become derailed. Other mental hygienists built on White’s idea of child guidance. New York physician Ira S. Wile, for instance, described child guidance as a way to

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understand the child “as the center and the periphery of its own circle of activities.” In other words, as a participant and an observer of the community, the child conformed to “habits of social relationships, whether bound up in mere conventions or in powers of initiation and leadership or willing submissiveness and acceptance” which determined “familial welfare and communal life.”

White also articulated an elaborate approach to the social and internal unity of the adjusting human organism. White put together the dynamic and gestalt conceptions floating around in psychology, claiming that “the organism in all its various parts, including the mind, works as an integrating mechanism, each part of which is related to every other part.” He called this understanding “das Es,” the “It,” perhaps a subtle reference to the platonic concept of “the One.” Das Es for White encapsulated “the precipitate of functional tendencies, dynamic urges, with which every living human being is endowed and which are fundamentally the same in all because they are the result of millions of years of experience and have come to be what they are because these millions of years of experience have proven them to have survival value.” Moreover, das Es suggested that “all men are alike, and if we knew the qualities of this nucleus of our personality in their totality, we would have given to us a definiteness with which we could approach the study of the human psyche with much greater certainties than we have at present.”

No room remained in his vision of mental hygiene for individual renegade “faculties” as his teachers suggested in an older meme White called “faculty psychology.” He compared the unit approach to understanding human personality with a story he remembered from his own childhood. A playmate suggested that he could master at least the rudiments of a foreign language in only one year simply by learning a new word every day. Such a scheme White now found preposterous, because it left out any consideration of the intricacies of “the grammar of

the language, the significance of prefixes and suffixes, the qualifying words and the mechanism of sentence formation, dependent and independent clauses, and the whole problem of the relationship, of synthesis."

White continued this line of reasoning by pointing out that the discovery of simple units in psychological understanding provided few clues to understanding personality, perception, or other life processes. He compared this situation to what he considered a particularly disconcerting idea in modern quantum theory. How could electrons jump from shell to shell in their orbits about the nucleus without passing through the intervening space? Wouldn't it be better, White asked, to see the process as continuous instead of raising anxieties by dividing the problem into a sort of Zeno's paradox of infinite regress? An understanding of the "organism as a whole" and its ability to actively create associations and become dissociated demanded that the mental hygienist conceive of the world in all its relations as a "syncretistic conglomerate," much as the fumbling, learning child apparently did. The mind did not grow simply by a "process of addition" as previously assumed. This syncretistic view suggested to White a new way to understand the maladjusted as well as the adjusted. Maladjusted personalities exhibited conduct suggesting that they were entirely self-absorbed, with no contacts to their surroundings. Only

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432 The theory of "emergent evolution," by contrast, held a particular appeal. White liked the idea that each stage in evolution represented a "new forward integration" with "entirely new possibilities which cannot be forecast by the understanding of the previous state." In equation form, \[ A + B = A + B + C \] because in the process of manipulating the factors a third factor of unknown quality \[ C \] crept in, making \[ A + B = A + B + C \]. See also William Alanson White, "Psychiatry and the Social Sciences," *American Journal of Psychiatry* 7 (March 1928): 729-47; and idem, "The Social Significance of Psychiatry," in *Twentieth Century Psychiatry: Its Contribution to Man's Knowledge of Himself* (New York: W.W. Norton & Company, Inc. 1936): esp. pages 90-1.
maladjusted minds saw the world as discrete units growing additively. Narcissistic minds, put another way, produced their own disintegrations by synthetic incapacity.433

Mental hygiene came closest to synthesis and popularization in the interwar period in the hands of Karl A. Menninger, cofounder with his physician-father of the influential Menninger Clinic in Topeka, Kansas, in 1919.434 Menninger identified the psychiatrist Elmer Ernest Southard and neurologist Smith Ely Jelliffe as his greatest teachers, and claimed the pioneer criminologist and child psychiatrist Herman Adler, Adolf Meyer, William A. White, and Mental Hygiene editor Frankwood E. Williams as important influences in his intellectual development. Menninger’s formal mental hygiene education began under Southard, an old-school descriptive psychiatrist who shepherded Menninger through his neuropsychiatry residency at the Boston State Psychopathic Hospital in 1918. Southard taught Menninger to look for physical abnormalities by photographing and correlating autopsied brains. This was the “descriptive method” that Southard later thought of as “superficialism.” Jelliffe was one of Freud’s few close American friends, and with Abraham Brill first introduced the theory of psychoanalysis to New York’s mental hygiene circles. Still, Jelliffe refused to be theory-driven, and has since been described as an adherent to an “American eclectic tradition” in psychiatry and mental hygiene, preferring openness to disciplinary orthodoxy. It has sometimes been said that Menninger developed his professional orientation by rejecting Southard and accepting Jelliffe. Menninger referred to it once as a “conversion” of sorts. Menninger, like Jelliffe, refused to make Freud dogma while recognizing its usefulness, and placed no constraints on who (that is, from what specialty) could practice analysis as long as they belonged to an “approved” professional

434 A descriptive narrative of the founding of the Menninger Diagnostic Clinic as the mental health equivalent of Rochester’s Mayo Clinic is found in Walker Winslow’s The Menninger Story (Garden City, N.Y.: Doubleday & Company, Inc., 1956). Menninger contributed a popular column in the pages of The Household Magazine in 1929, and Ladies Home Journal from 1931 to 1932.
organization (like the National Committee for Mental Hygiene or the American Psychoanalytic Association) and endured sufficient “training,” an unclear standard for much of the interwar period, but governed in practice by the master-apprentice system. Yet, Menninger preserved much that he had learned from Southard, especially his insistence that the mind was a medical problem, and as such involved an equally important somatic component.\footnote{Menninger himself had been an indifferent student at the Harvard Medical School, and a surgical intern in Kansas City, before becoming distracted by a burning interest in neurosyphilis, a disease with both somatic and psychic components.} This conviction became strengthened as he joined his father in private practice back in Topeka and began talking about the importance of “healthy-mindedness” and the “totality concept.”\footnote{Karl A. Menninger, \textit{The Human Mind} (New York: Alfred A. Knopf, 1930), x-xi; J.E. Carney, “The Psychoanalytic Education of the Dean of American Psychiatry: Karl Menninger and Smith Ely Jelliffe,” \textit{Psychohistory Review} 19 (Fall 1990): 71-87; John Chyroneth Burnham, Jelliffe: American Psychoanalyst and Physician & His Correspondence with Sigmund Freud and C.G. Jung (Chicago: University of Chicago Press, 1983), 117; Sydney Smith, “A Renaissance Man of Psychiatry,” in \textit{The Human Mind Revisited: Essays in Honor of Karl A. Menninger}, ed. Sydney Smith (New York: International Universities Press, Inc., 1978), 1-17; B.H. Hall, \textit{A Psychiatrist’s World: The Selected Papers of Karl Menninger}, M.D., vol. 2 (New York: 1959): 815, 850; Lawrence J. Friedman, Menninger: The Family and the Clinic (New York: Alfred A. Knopf, 1990): 28-47; Karl A. Menninger, “The Totality Concept in Medicine,” in \textit{Man Against Himself} (New York: Harcourt, Brace, and Company, 1938), 353-61. See also Frederick P. Gay, \textit{The Open Mind: Elmer Ernest Southard, 1876-1920} (Normandie House, 1938). The professional correspondence to and from Menninger is presented in \textit{The Selected Correspondence of Karl A. Menninger, 1919-1945}, eds. Howard J. Faulkner and Virginia D. Pruitt (New Haven, Conn.: Yale University Press, 1988).} Menninger defined personality as “the individual as a whole, his height and weight and loves and hates and blood-pressure and reflexes; his smiles and hopes and bowed legs and enlarged tonsils.” This personality, composed of a fusion of inherited material and environmental influences, adjusted itself to individual life acts Menninger called “situations.” Situations could be resolved in only three possible ways: success, failure, or compromise.

Menninger called personalities successfully adjusting to situations “adjusted.” The failed or frustrated, “attacked” situations and became “maladjusted.” Healthy maladjusted individuals overcame failure by creating a “constructive compromise,” and entered the ranks of the “readjusted.” The unhealthy maladjusted suffered one of two fates: (1) a “broken personality”
leading to breakdown or suicide, or (2) a "broken situation" like criminal activity, violence, or even murder.437

The unhealthy maladjusted, at least when not suffering organic mental disease, retreated from normal life by "flight." Menninger called the eccentric, withdrawn, and unsociable the "isolation type." These people suffered breaks in personality for many reasons, including provincial parenting, lacking siblings, home schooling, and by reason of extremes in poverty and wealth, or religious conflicts. The "schizoid type" collected together the queer, the odd, the silent, and the serious, all of whom suffered "a break or split in the internal harmony of the personality" such that they grew up "noticeably out of tune with the rest of the world." These personalities, though, often harbored brilliant minds. Menninger recalled that many of the world's great thinkers and leaders came out of the ranks of the readjusted schizoid. Menninger circumscribed the "cycloid type" as those personalities moody or predisposed to fits of deep melancholia. He included in this category those individuals suffering dramatic swings in temperament, that is, rapidly from "up" to "down" or vice versa. The cause of this type of reaction to a situation Menninger described as exaggerated introspection. The "neurotic type," literally those suffering from excessive nervousness, included those "whose primitive instincts have been modified to meet social demands only with painful difficulty." Neurotics could harbor troubling doubts, fears, anxieties, obsessions, compulsions, hypochondriacal complaints, and addictions. One of the particular dangers of neuroses was their communicability. Menninger himself once witnessed an epidemic of "hysterical aphonia" (speechlessness) among fourteen telephone switchboard operators. Finally, Menninger grouped a final fraction of unresolved

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mental breaks into the "antisocial type." These included the perverse, the habitually criminal, and
the itinerant. These personalities held to no anchor in society, and instead raged against it.\textsuperscript{438}

Menninger claimed that even the most hard-boiled of broken personalities could be
salvaged. They represented only the "intolerable extremes" of normal personalities. The
maladjusted types did not represent differences of kind altogether, only differentials in kind.

Menninger, for instance, prefaced his second edition of \textit{The Human Mind} (1937) with the
comment,

\textquote{Many readers have said to me: "I was afraid I would find myself in your book," or "I
almost imagined I had some of those abnormal conditions myself." To such persons
I usually reply quite gravely: "I hope so." For if one has a mind at all, his mental
processes are subject to some of the faults and failings that characterize the human
mind. If someone does not find himself at all in this book, it is either that he is not
human or that some pages have been left out (or torn out).}\textsuperscript{439}

The first step in resolving breaks in personality was to determine symptoms leading to the
classification of type. Classification determined treatment regimen. Regardless of classification
(or diagnosis), treatment could only be effective when it involved change or dynamism as its
preferred tool. The patient might be changed with drugs, by surgical procedure, physical therapy,
or using psychotherapy. The patient's environment might also be changed by hospitalization,
reorientation of living arrangements, through team play and sport, or crafts and hobbies.

Menninger disliked holidays or vacations because they reinforced "flight," the cause of mental
affliction in the first place. All of the various non-organic personality breaks could be prevented
simply by cultivating social contacts, recognizing evasions of social responsibilities, and always
assuming "that the unhappy are always wrong." The importance of the social group, the

\textsuperscript{438}Menninger, \textit{The Human Mind}, 56-151.
\textsuperscript{439}Menninger, \textit{The Human Mind}, 2nd ed., viii.
community of humanity, in prophylaxis cannot be overstated, as Menninger wrote, "Try to make everybody think I’m feeling good, and pretty soon I am." 

Mental testing of WW I draftees, conducted by a new U.S. Sanitary Corps-commissioned Psychology Committee of the National Research Council and chaired by Robert M. Yerkes, lent a sense of urgency and purpose to otherwise esoteric mental hygiene studies. The Psychology Committee’s Army Alpha tests for the literate, Beta tests for the illiterate, and the Woodworth “Personal Data Sheet” for measuring temperament revealed appalling numbers of mentally deficient Americans. Almost fifty percent of one million young men tested during enlistment drives possessed intellects no better than those of seventh graders. Mental testing immediately eliminated more than 72,000 men, all victims of neuropsychiatric disorders, epilepsy, inebriety, and mental defect. Taken as a whole, the Army rejected over fifteen percent of all draftees as, in the words of one mental hygienist, "actual hindrances to civilization." Many more were dismissed from certain types of work for various mental and personality weaknesses that threatened to outweigh any strengths.

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40 Karl A. Menninger, “Social Techniques in the Service of Reconstruction,” in Man Against Himself (New York: Harcourt, Brace, and Company, 1938), 457-71; idem, "Adjuvative Therapy Modalities," in A Manual for Psychiatric Case Study (New York: Grune & Stratton, 1952), 331-2; Menninger, The Human Mind, 149-151, 359-95, and esp. pages 150, 362. See also his brother’s contribution (who also practiced in the Menninger Clinic): William C. Menninger, “Play and Mental Health,” in The Health-Minded Child, ed. Nelson Antrim Crawford and Karl A. Menninger (New York: Coward-McCann, Inc.), 148-67, esp. page 154 where William writes, “There is a constant effort and a necessity to supplant ‘I’ with ‘we’, to coordinate ‘I’ with ‘you’. It is a struggle to become social, to learn property rights, to become aware of other opinions than one’s own, to play the game as others play it, and to play it happily and agreeably with them.”

The story of the Psychology Committee, elevated from its immediate prewar status as a special preparedness committee of the American Psychological Association is well-documented in the secondary literature.\textsuperscript{442} Much less well known is the work performed during WW I by a new Army Medical Corps Division of Psychiatry, Neurology, and Psychology, representing the militarization of the War Work Committee of the National Committee for Mental Hygiene, and the aspirations of prominent members Thomas W. Salmon, Pearce Bailey, and Stewart Paton.

The Psychology Committee screened the young men of America for mental defects. The Division of Psychiatry, Neurology, and Psychology worked to adjust the minds of those accepted into service, hoping to dramatically reduce mental afflictions and personality maladjustments among the troops.\textsuperscript{443}

The Division supervised the adjustment of new recruits to life in the barracks by organizing morale-building activities. It helped the War Camp Community Service replace harmful traditional leisure pursuits of army and navy personnel, reducing venereal disease rates by chaperoning dances and organizing sporting events and other entertainments for instance.\textsuperscript{444} In
the trenches, the Division of Psychiatry confronted a new disease, called “shell shock,” already reported as epidemic among British and French troops. Shell shock, as the Division’s mental hygiene experts came to understand it, was a mental disease peculiar to modern soldiers who came to the service poorly adjusted by their experiences in civilian life to foresee the prospect of exploding shells.

Men who had received no wounds were paralyzed. Some with apparently normal organs were deaf, dumb, and blind. . . . Then followed the experience in the camps. Men who had not been exposed to shell fire developed the same symptoms. Soldiers who had not been under fire became paralyzed, mute, lost flesh, developed fears and curious insanities,

recounted Salmon. The Division of Psychiatry treated these men by evacuating them to field neurological hospitals where mental hygienists reminded the soldier that he was intact, and that his “love of country” and “desire to retain the respect of the people at home” overrode normal feelings of fear. The Division stressed the quick return of the shell shocked to their units, where camaraderie strengthened these desires and served as examples to others. Almost eighty percent of the men brought to the hospitals with concussion-related disorders were returned to their units in less than three days. The Division alleviated the effects of “gas neuroses,” the product of a modern soldier’s worry about chemical warfare agents, in a similar manner. In case the war proved longer than expected, the Division also sponsored programs among America’s youth to replace unhealthy “personal preoccupation” with “the idea of cooperation, of working together to an end, of patriotism,” and encouraged the efforts of boys’ clubs, the Boy and Girl Scouts, and playground development groups. All of these activities apparently paid dividends. General Pershing’s AEF suffered a lower suicide rate than the army in peacetime, less crime than that of the French countryside, and fewer shell shock cases than any other army in Europe. Pershing
credited the mental testing and special neuropsychiatric units accompanying the doughboys for achieving these astounding results.445

Civilian uses for group mental testing blossomed after the war. Mental hygienists constructed a whole host of “personality tests” and “personality inventories” for use in the workplace, elementary and secondary schools, colleges, and other places where maladjustment interfered with socialization or social engineering. They designed the tests to do a great variety of things: provide vocational guidance, supplement employment interviews, capture artistic or musical aptitude, measure motor skills, etc. Some tests purported to measure single personality “capacities,” like imaginativeness, suggestibility, or association. The Bernreuter Personality Inventory, consisting of 125 “yes”-“no” questions, determined one’s relative levels of neurotic tendency, self-sufficiency, introversion or extroversion, and dominance or submissiveness. The “P.Q.” or Personality Quotient Test measured five aspects of the personality, extroversion, social aggressiveness, self-determination, economic self-determination, and adjustment to the opposite sex. The Wisconsin Scale of Personality Traits measured emotionality, introversion, persistence, and seclusiveness.446


Shell shock and gas neuroses also yielded useful therapies in civilian life. Mental hygienists agreed that the stresses felt by the soldier were not so dissimilar to the stresses faced in everyday life. The youngster who broke a window with a baseball, the gentleman who misplaced his hat, the pilot whose plane had crashed, and the bewildered tourist in a foreign land all suffered reactions varying from war neuroses only in cause and intensity. Indeed, many of the men who survived the greatest stresses in the war found themselves unsuited to or unassimilable by life back home, remaining unemployed and unemployable in large numbers. This maladjustment revealed well the synchronicity of war and civilian neuroses. They both served the same purpose, fulfilling a need to “escape from an intolerable situation.” Mental hygienists associated with the Division of Psychiatry, it should not surprise, thus recommended after the war new psychiatric treatment centers all along the front lines in urban and rural America.447

The effects of the Depression gave mental hygiene renewed relevancy in 1929. Some confronted the poor national economic picture with healthy action. Exercises of self-improvement, as shown by massive increases in library lending, showed what those providentially equipped with good mental equilibrium could achieve under great duress. Many others did not, some from sheer lack of an adequate diet, others from family pressures. Most of these depression-maladjusted, however, evinced tendencies already harboring below the surface before the markets slipped. “Individuals who now show signs of mental illness were in reality no better adjusted before the depression than now,” explained psychiatrist Miriam Dunn of the Catholic Charities of Washington, D.C. The maladjusted refused to pay even a fraction of their rents, parent (or even conceive) children, spent hard earned wages extravagantly and recklessly,

or committed suicide. Preexisting personality maladjustment, reinforced by petrified habits, caused these individuals to remain unresponsive or behave irresponsibly in a changed world.\textsuperscript{448}

The explosion of interest in the new community mental hygiene was nowhere more in evidence than in the establishment of vast numbers of mental health, neuropsychiatric, behavior, and child guidance clinics, springing up like new grass all across the country in the 1920s and 1930s. Minnesota by 1932 had child guidance clinics in Minneapolis and St. Paul, a division of mental health at the University of Minnesota Students’ Health Service, and neuropsychiatric clinics at Minneapolis General Hospital and at the University Hospital Dispensary of the University of Minnesota. Pennsylvania in the same year had three regional chapters of a state Mental Hygiene Committee operating under the auspices of the Public Charities Association based in Philadelphia. Mental health clinics opened their doors daily in Allentown, Altoona, Bedford, Bethlehem, Bloomsburg, Butler, Carlisle, Chambersburg, Chester, Coatesville, Danville, Doylestown, Easton, Erie, Franklin, Gettysburg, Greensburg, Harrisburg, Hazleton, Huntingdon, Indiana, Jenkintown, Lancaster, Lebanon, Lewistown, Lock Haven, Mansfield, Meadville, Montrose, Mount Carmel, Nanticoke, New Brighton, New Castle, Norristown, Palmerton, Philadelphia, Philipsburg, Pittsburgh, Pittston, Pottsville, Reading, Scranton, Shamokin, Sharon, Sunbury, Towanda, Uniontown, Warren, Washington, West Chester, Wilkes-Barre, Williamsport, Windber, and York. Child guidance clinics operated in Erie, Philadelphia, and Pittsburgh. Philadelphia had over a dozen neuropsychiatric clinics, and Pittsburgh almost half as many.\textsuperscript{449}


\textsuperscript{449}National Committee For Mental Hygiene, Division on Community Clinics, \textit{Directory of Psychiatric Clinics} (New York: The Commonwealth Fund, 1932), 5, 73-4, 134-50.
Clinics for mental hygiene dispensed aid with the help of mental hygienists, child hygienists, physicians, public health nurses, psychiatrists, psychiatric social workers, psychologists, and clergy. Cases came referred from children's aid societies, public health nurses, youth clubs, police courts, school principals, physicians, friends, and other private and public social and health agencies. Children and adolescents, by virtue of their mental plasticity especially tractable and responsive, usually formed the majority of clinic patients. Patients submitted to a battery of physical, psychological, and neurological tests to determine the extent of the injury or personality malformation. Diagnoses ranged from moral imbecility to subnormal mentality to paranoia. Clinic workers forwarded those suffering organic diseases, such as lesions on the brain or pituitary malfunctioning, to hospitals.⁴⁵⁰

Psychiatric social workers occupied the core of the community mental hygiene agency. The psychiatric social worker, usually female, represented the chief coordinator and cooperator, the integrator of effort, "an intermediary body who deals with transportation among the ideas" in the mental hygiene movement. By tradition, the first psychiatric social worker is said to have been Mary Potter Brooks, who after marrying Adolf Meyer, began visiting his subjects at home. Meyer appreciated his wife's help, as home visiting established a "broader social understanding of our problem" by "reaching out to the sources of sickness, the family and the community." He defined psychiatric social work as general "social work plus work on man's social organ itself," the social organ being "the integrated personality."⁴⁵¹

Interest in psychiatric social work, and social psychiatry generally, increased dramatically in the late 1910s. The National Conference of Social Work established a mental hygiene section in 1917. Psychopathologist E. E. Southard, Menninger’s mentor, and Mary C. Jarrett, chief of social service at the Boston Psychopathic Hospital, organized the first training course for psychiatric social workers in the Smith College for Social Work in 1918, partially as an expediency in meeting the mental hygiene needs of war. Southard and Jarrett agreed that psychiatric social work represented “the focusing of various recent influences leading to more attention to the mind in social practice, under pressure from psychiatry demanding more attention to social needs in medical practice.” Psychiatric social workers received about two years’ academic training in a variety of subjects, contributing to the whole of their education, including psychology, social psychiatry, sociology, and biology. The National Committee for Mental Hygiene underwrote this first effort to regularize the training of psychiatric social workers, and about fifty of the first graduates of this program signed up for service in Red Cross army hospitals. Other psychiatric social work programs popped into existence soon after the Smith College experiment began, including those started at the New York School of Social Work, the Pennsylvania School for Social Service, Simmons College School of Social Work, National Catholic School of Social Service, the School of Social Service Administration of the University of Chicago, the School of Applied Social Sciences of Western Reserve University, and Tulane University School of Social Work. The American Association of Psychiatric Social Workers followed in 1926 as a profession for any worker having “an adequate working knowledge of mental hygiene,” generally applied as at least one year’s experience (not formal academic study) in psychiatric social work.  

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The functions and responsibilities of the psychiatric social worker were manifold, but were usually restricted to work with children and immigrant families. On a practical level, they collected sociological data on patients, put together social case records (sometimes called "personality pictures") similar to the family folders of the public health nurse, and helped patients follow the prescriptions of mental hygienic diagnoses. Anything to establish "a dynamic treatment relationship" and "make Johnny socially competent." Psychiatric social workers helped physicians locate schools, camps, and hobbies appropriate to the personalities of maladjusted children. They assisted public health nurses in assessing the mental hygiene and educational needs of malnourished children under the local health center's care. "The potentialities of the collaboration of psychiatrists, psychologists, and social worker were early recognized in some centers," wrote one psychiatric social worker later. "The value that results from a smoothly working and essentially mature team work relation, in helping a child achieve a more harmonious adjustment to life still seems to many clinicians, at this stage of therapeutic advancement, a factor of the greatest importance." Smaller numbers of psychiatric social workers represented mental hygienists in the homes of chronically unemployed men and poor housekeepers. Wherever psychiatric service was necessary in the home, though, it demanded "fitting psychiatric service to the community" as a "biological unit." Psychiatric social workers were enjoined to understand their service to individuals as it related to the whole, to the community as "a growing, adjusting, evolving thing, which needs at times certain treatment."\(^{453}\)

Psychiatric social workers also held positions related to research. Some participated in “State Nursery” programs where they observed children, collected data, conferred with psychiatrists, psychologists, and child hygiene and child welfare experts, and treated problems of intellect and behavior. On a day to day basis they prevented children from manipulating one another—biting and fighting and teasing—instead inculcating collaborative habits and behaviors in the group. Hospital social service worker Grace Corwin Rademacher summarized this kind of activity as “habit training, an interpretation of the child’s behavior, and an evaluation of his personality and behavior manifestations.” The Judge Baker Foundation in Boston, the Palmer School in Detroit, the Hull House Branch of the Institute for Juvenile Research in Chicago, and the Iowa Child Welfare Station in Iowa City all employed psychiatric social workers in this capacity. Much research, as well as practice, occurred in government mental hospitals; community child guidance, psychiatric, and mental hygiene clinics; state departments of mental hygiene, public health nursing organizations, and family welfare agencies.454

The shape of the new community mental health profession reflected the ideas of its diverse constituency. Mental hygiene appealed to psychologists interested in the acquisition and formation of habits. Behaviorists used mental hygiene to further their understanding of the complex human mechanisms of adjustment to stimuli. Psychiatrists working in mental hygiene studied the evolution of personality defects (psychoneuroses) from social traumas and inherent natural factors. Educators contributed to the discourse of social interaction and student socialization. Physicians, physiologists, and neurologists puzzled over the role of endocrine and nervous functions amidst the complex sociological and psychobiological workings of human

physical, emotional, and mental adjustment. Public health workers wanted mental health to expand the horizons of child hygiene, industrial hygiene, and community health organization work.455

The National Committee for Mental Hygiene acted as clearinghouse for the interchange of information between these professions. Mental Hygiene's first editor, Frankwood Williams, called the field "too extensive to be occupied or preempted by any one professional group." Clifford Beers called it a "sanctuary" for people with contrasting ideas, a "sort of Switzerland, in the field of social welfare, health work, and related activities." No less than fifty American professional, voluntary, and government associations and agencies sent representatives to the first International Congress on Mental Hygiene in 1930. Out of this amalgam two things became exceedingly clear, that mental hygiene work demanded the tearing down of the artificial barriers constructed around specialties, and the demolition of the "sharp line" supposedly separating the mentally ill from the mentally well.456

CHAPTER VIII. SELLING HEALTH

Charles-Edward Amory Winslow noted that the new community health and the activities of all of its constituent professions could be best defined by their concentration on popular education. This modern crusade for health education of the masses, he said, created a new need for all kinds of carefully choreographed publicity campaigns. "An elaborate technique of health bulletins, health news services, health lecture bureaus and institutes, health cinemas, health exhibits, and health radiograms has been created to meet this need," he noted. Publicity helped reform individuals, families, and the community at large by providing an opportunity for the public to hear, learn, and apply the facts of healthy living, providing lifestyle choices that the professions of health did not adequately provide for before. Publicity, coupled with broad-based health education programs, helped bridge the artificial gap born of the earlier shearing off of sanitary scientific expertise from common wisdom in health matters.457

Winslow encouraged all health professionals to enthusiastically take on this general challenge of effusing the knowledge derived from scientific investigations into popular circles. Laypeople, in fact—at least according to the experts—seemed to demand that the general knowledge of proper hygiene be suitably delivered up. "What the college student wants and needs in this field of community hygiene," wrote two Cornell University assistant professors of hygiene in the preface to their textbook Community Hygiene (1929), "is perhaps not so much a specific knowledge of the exact steps which must be taken to protect adequately a community

from typhoid fever or malaria or to reduce its infant mortality as it is a knowledge of what in
general the science of public health has to offer toward the solution of common community
health problems.458

Community health authorities viewed sanitary science’s attempts to arouse the interest of
the public as generally misguided and incomplete. “When the public health movement was still
very young and the lion’s share of official activity was directed to the sanitary improvement of the
environment,” remembered Yale public health professor Ira V. Hiscock, “public health education
was not regarded as a particularly important administrative function—if, indeed, it was thought of
at all.” The health educator of earlier days, he suggested, was like a “prophet crying in the
wilderness.” Indeed, the attitudes of some community health leaders toward earlier popular
health education initiatives bordered on contempt.459

Community health professionals complained about the authoritarian, preachy, and overly
competitive manner by which the earlier brand of health education operated. Sanitarians, they
concluded, approached the public health problem like sanitary police, a relic derived from
eighteenth- and nineteenth-century notions stirred up by Johann Peter Frank, David Hosack,
John C. Griscom, and others.460 Public health legislators and enforcers destroyed the angel of
pestilence in the decades around 1900 with their regulations and punishments against the

458 Winslow, The Evolution and Significance of the Modern Public Health Campaign, 55-60; Smiley and Gould, Community
Hygiene, v, 7-8.
459 Hiscock, et al., Ways to Community Health Education, v.
460 On the medical and sanitary police function in public health see Johann Peter Frank, A System of Complete Medical
Police, 1779-1817 (reprint, Baltimore: Johns Hopkins University Press, 1976); David Hosack, Observations on Febrile
Contagion and the Means of Improving the Medical Police of the City of New York (New York: Elam Bliss, 1820); David
production of noxious wastes and germs. The public, in the estimation of community health leaders, however, had very little to do directly with public health progress. They merely complied. Compliance, though, had its limits. Sanitary laws prevented the worst abuses of the public—improper garbage disposal, obstructing the flow of drainage systems, poor plumbing, and overflowing cesspools—but shackled the public imagination against as yet unrealized possibilities for health advance.\

Police tactics found their way into the schools too. "Many schools," explained health educator Lawrence Averill, "subject their small patrons to a torturing series of mongrel lessons in physiology, anatomy, and hygiene" where "formal drill" replaced the formation of a "trustworthy" health attitude. Further, favoring of "health knowledge" over "health practice" led students astray of "healthful living."

Community health leaders deplored the scare tactics employed in past health education initiatives. "The most frequent appeal in the past has been fear," wrote one health worker. "Horrible pictures of smallpox victims, horrible statistics of deaths from preventable diseases, horrible reminders of aches and pains, horrible portraits of rickety children." Community health professionals worried that such tactics might unduly stimulate "hypochondrias," a perpetual health lifestyle characterized by deep phobia or panic. "To demonstrate the effectiveness of the appeal to fear we can point to the thousands who no longer shake the hands of those they meet, who never kiss those they love, who polish the tableware in hotels and restaurants with their napkins." Overemphasis on the negative side of public health also inevitably led the public to

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cry "wolf." Thus, public health leaders began favoring pictures of beautifully healthy people over the monsters of nature.464

Many also condemned all kinds of combative “health contests” as ill-considered and counterproductive. Contests pitting babies or whole families against one another at state fairs in order to discover the “perfect” or “fittest” ones, athletic matches where only the Olympian had a chance of success, and schoolroom weight and height charting games where children were publicly singled out for falling behind were all considered misguided health education methods. “The striving to outdo the other fellow is bound to react unfavorably on the emotional stability of each competitor,” explained the same health educator, “and may lead to feelings of superiority in those who win and of inferiority and inadequacy on the part of those who frequently or habitually bring up the rear.” Competitions held without opportunity for normal people to reach reasonable goals were also not in the best interests of health education. “As those whom we urge to attempt the impossible become aware of the futility of aspiring to the 100 per cent score they become indifferent or even hostile.”465

Specialism created its own problems communicating knowledge to experts in other fields and to laypeople. In 1916 Hibbert Winslow Hill, Professor of Public Health at Western University, stated flatly that “health departments are police bodies, not preachers or teachers.” Teachers taught, he claimed, not sanitary scientists or hygienists.466


There may have been some truth to community health's charge that sanitary scientists had failed to weigh carefully the problem of popular hygiene. One of the famous founders of sanitary science, Providence Superintendent of Health Charles V. Chapin, assigned education only 80 out of 1,000 possible points among all the "relative values" of public health departments as late as 1917. By comparison, he assigned privy sanitation 100 points and tuberculosis service 140 points. This dearth in emphasis deeply troubled health authorities after the war.\(^\text{467}\)

Despite the extravagant claims of community health professionals, though, sanitary science had done much to encourage the dissemination of knowledge to the public.\(^\text{468}\) Ernest C. Levy, health officer of Richmond, Virginia, noted that "education of the public is one of the most fundamental necessities in all public health work." Indeed, expert research and demand catapulted hygiene and physiology into the curriculum of public schools as early as 1882. Physical education became a required subject in many states around the turn of the century.\(^\text{469}\)

The importance of a sanitary meat and milk supply, the so-called "pure food" movement, had long been a staple of public hygienic education. The Consumer's League, Woman's Municipal League, and the Housewives' League, as well as the federal government and state and local health departments all played useful roles in disseminating food hygiene information. Leaflets on proper food handling, along with lists of punitive fines for lawbreaking moved from the hands of health experts to producers and consumers.\(^\text{470}\)


\(^{468}\) Indeed, one community health worker believed that "health education has suffered from over-stimulation in early infancy." See Emma A. Winslow, "Stimulating Health Education," *Journal of Home Economics* 19 (December 1927): 669.


All else aside, though, the dynamism of modern society demanded in the eyes of health experts a break from older popular health models and a concerted search for new ones. Prior hygienic campaigns, in fact, appeared most awkward and misguided because they resisted updating. Explained the Chicago Tribune’s health officer W. A. Evans, “Last year I had the opportunity of seeing a health exposition in which there were shown a number of old methods of presentation that were exceedingly valuable and effective in the Chicago Health Department some ten years before, but were just as useless in 1921 as they were useful in 1910.” Datedness alone defined unpopularity. “How is curiosity aroused?” asked Fordham university professor of health Iago Galdston. “The answer is simple—by the extraordinary, by the novel, by the new.”

Good public and personal sanitation and concerted public action, sanitary experts generally agreed, rationally flowed from discovery and dissemination of sanitary scientific knowledge. That is to say, good health was fact-driven. The more facts afloat among the public, the better their potential for health. The more inclusive goals of community health principles and practice, however, demanded more zealous and less passive efforts to mold public opinion. The well-used platitude, “public health is purchaseable,” or some variation thereof, motivated a generation of community health workers to view health education in terms of good “salesmanship,” rather than as an exercise in objectivity.

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472 Appropriated from comments first made by Hermann Michael Biggs in the October, 1911, issue of Monthly Bulletin of the Department of Health of the City of New York, but repeated elsewhere. A summary of the first conversation involving the statement (or “slogan” as Biggs reportedly called it) along with its import to community health professional culture is found in Frank Ernest Hill, Educating for Health: A Study of Programs for Adults (New York: American Association for Adult Education, 1939), 1-6.

Public health experts directly and indirectly borrowed the motif of salesmanship from private commerce and advertising. The object of this work, though, was selling health service, not commercial products. Salesmanship could “break down the walls of ignorance and prejudice” over matters of health. “Your real purpose is in persuading people to change their habits,” explained one health officer to his peers. “That can’t be done, save as it is ‘sold’ to the individual.” The overweening goal of selling health education and service, indeed, inspired Charles F. Wilinsky, a health leader in Boston, to nickname the community health center a “Department Store of Health.” The health center, he explained, like the department store sold the public everything needed to live a healthy life all under one roof. Health service, noted another expert, represented the “saleable commodity” of the health worker. Advertising studies seemed to confirm the value of this commodity. In terms of sheer “pulling power”—the influence certain ideas had on product selection—“healthfulness” and “cleanliness” ranked first and second, far stronger than appeals to “scientific,” “efficient,” or “modern” goods.474

The commodification of health, the selling of “ideas” and “attitudes” tested the professions of health in ways that demanded a reconfiguration of their own professional aims and objectives. Health salesmanship illuminated in novel ways supply and demand relationships as well as aggregate costs. Product quality was also thrown into starker relief. Public health became interpenetrated by and embroiled in the wider community concerns for business and the politics of business. Commercial advertising, and hence health salesmanship, stressed the “sensational” use of “subject matter . . . presented in predigested, easily swallowed capsules.” This shattered

allegiance to disinterestedness and rationality in mundane human affairs stressed by the older
public health model of sanitary science and state medicine.475

The impulse to sell health service to the public occupied much of the discourse in
modern health education and publicity. Health salesmanship involved persuasion rather than the
presentation of cold, hard facts to a passive audience. "Motivation of the individual into
improved health behavior depends majorly upon the choice of ideas, images and emotional
appeals which, utilizing his innate drives, will influence his mental attitudes and behavior,"
explained one health educator. Thoughtful professionals noted that the public could not be
motivated to acquire a healthy attitude solely by carrot or stick or by an appeal to reason.
"Appeal to some want," explained Hiscock. "Enlistments for the fight for better health will not
come through argument." Some historians have labeled this tendency in modern America "social
engineering," an obviously provocative concept today. Such functions at the time, though,
merely highlighted more inclusive acts common in the human (as well as scientific) art of
persuasion. Informing, instructing, and advising the public, community health professionals felt,
did not always win the day. Active appeals to emotion possessed a singular potential for
permanently modifying individual human behavior.476

The efficient, capable health salesman understood human potentialities as well as he (or
she) understood his scientific evidence. The centrality of human emotion in health education

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475Ray H. Everett, "Publicity and the Campaign Against Venereal Disease," American Journal of Public Health 9
(November 1919): 854; Rogers, "Commercial Salesmanship Applied to Public Health Work," 893; Oscar Dowling,
476As Walter H. Brown, the Stanford University professor of Hygiene and Physical Education put it, "You [the
health worker] must fight a terrific battle against indifference and stupidity among people who have demonstrated
over and over again that they can be roused and controlled by catchwords and appealed to through simple
Health 24 (July 1934): 745; Hiscock, et al., Ways to Community Health Education, v, 2; Peter, "The Psychology of Public
Health Education," 487; Galdston, “Health Education,” 271-2, 338; Rogers, "Commercial Salesmanship Applied to
campaigns meant that community health leaders had to understand human instincts, behaviors, and personalities in all their rich and myriad forms. "Educational endeavors, of whatever sort," explained Galdston, "can be successful only as they are adapted to the native and individual capacities of the person." Public health, to paraphrase another oft-quoted cliche of the community health movement, represented both science and art. Manipulation of human emotion placed great demands on the "art" half of the equation. The health salesman, whether nurse, physician, administrator, or specialist, will inform his prospect that the service of which he stands in need is in existence. He will also point out the value of that service to him, indicating both the benefits to be derived through his acceptance of the service and the ill results which are liable to accrue if he does not take advantage of it. In the doing of all this he will address himself to the individual's mind. However, there comes a time in every sales process when the salesman ceases addressing his remarks to the mind of the prospect and goes past the mind and into the heart, not for the purpose of getting more ideas into the mind, but with the direct intent of getting "old feelings" to move out of the heart. It is at this point that salesmanship actually enters. It is the creation of desires which lead to action that completes the sales process.

Health salesmen lived by example, putting their own sound minds and bodies and even their hale children on display. Their work demanded "an attractive personal appearance," abundant energy, and an alert mind. The personality of the health worker played an increasingly important role in the daily life of community health practice. Necessary endowments included "courtesy," "cheerfulness," "confidence," and "patience." Personable health salesmen became efficient and practical health managers, further strengthening health education campaigns.480 "He

477By Charles-Edward Amory Winslow. The full definition, repeated in many of his writings, reads: "Public health is the science and the art of preventing disease, prolonging life, and promoting physical and mental health and efficiency through organized community efforts toward a sanitary environment; the control of community infections; the education of the individual in principles of personal hygiene; the organization of medical and nursing service for the early diagnosis and treatment of disease; and the development of the social machinery which will ensure to every individual in the community a standard of living adequate for the maintenance of health."


[or she] must be scientific, specific, optimistic," explained Chicago Daily News health editor Herman N. Bundesen. More than that, his (or her) associates had to be pillars of the community. Health salesmen (and women) could not be seen frequenting taverns, appear disheveled, or neglect the health of their own families.481

Male health officers, voluntary association secretaries, family physicians, and medical journal editors acted as the quintessential salesmen of health. Community health nurses, in complementary manner, described themselves as health saleswomen. Each became, explained National Health Council secretary Dorothy Deming, a “public health sales-nurse.” Community health nursing bent itself easily to the selling of health. “The nurse has become a dean of women in business,” admitted one public health officer. Public health nurses became intensely interested in “selling” services produced in the laboratories, clinics, welfare agencies, and health departments. Nurses saw themselves as linking producer to consumer, much as the butcher filled a demand for meat. Public health behaved as a commodity to be consumed in the home. The nurse as saleswoman became simply another way of coordinating and cooperating in the community. Selling public health priorities to laypeople involved “transferring the enthusiasm and convictions of the professional group,” creating in the process “greater community consciousness and financial support of the service.” Selling also extended to the professions who might otherwise underutilize community health nursing services. Bringing together all the key health groups into a unified whole was sometimes even referred to as “closing the sale.”482

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Deming recommended that community health nurses study sales in other areas of the economy. She herself recommended the "thrilling" washing machine business. Nurses could even use fundamental business principles in the evaluation of their own profession. "Character, capacity, and capital," wrote nurses Grace L. Anderson and Mabelle S. Welsh, "will determine the success of the public health nurse: the will to give of her ability, the capacity to learn from experience, and a capital constantly increased to meet the exigencies of changing situations and new and varied experiences."[483]

Community health nurses demanded, though, that their service rise above petty advertising campaigns and the degrading effects of the simple assembly line. Community health nurses, in general, did not identify the "poverty of abundance" plaguing commerce and trade with their own professional problems. "The economic world has cramps because it cannot sell all the things it can make," explained one nurse. Public health did not. Public health resources had never been that abundant. Rather, nurses found rationing and tempering over-enthusiasm a central occupation. Nurses advertised themselves to distribute their talents more evenly, not necessarily to sell more service. They chafed at those who called them "peddlers."[484]

The application of social science strategies to the business of health education helped health authorities construct useful ways to sell health to the public. The social sciences, a branch of inquiry dedicated to discovery of human laws, informed and helped articulate those psychological, sociological, and pedagogical tools useful in popular health appeals. Health experts hoped that knowledge gleaned from the social sciences, when applied, might unmask root causes of human indifference in health matters. The professions of health along with their

adjunct cadres of social scientists, worked to discern the behavioral and material influences at work inside human society, in order to reorient and motivate humankind to take advantage of the wisdom of accumulating knowledge about health.485

Social scientists, particularly psychologists, helped unearth the startling fact that rational, stepwise forms of instruction lacked sufficient integrative educative power. Excessively factual and logical presentation of public health knowledge, after all, was responsible in part for the failure of sanitary science education. “Progressive” health teachers relied instead, then, on dynamic, illustrative, experiential, and “psychological” factors to drive their lessons home.486

As we have already seen in the case of mental hygiene, health professionals also exploited the concept of “personality” as a particularly useful epistemological construct emerging from social science study. Sociologists trained workers “to consider human beings as persons having personalities which are products largely of their group relations.” The subtle art of health salesmanship required that health professionals recognize the complex interplay of human relationships and capitalize upon them. “The art of persuasion,” remarked one nurse, “depends on one’s knowledge of people.” The study of individual and group personalities provided valuable grist for that mill.487

Health workers came to see each member of the public as a distinct bundle of personality attributes, genetic traits, mental capacities, and organic potentialities. “An individual’s features, the lines of his figure, his skin coloring, his expression (whether happy or discontented, gay or

sad, winning or unresponsive, alert or dull)" all contributed to person-ness. Decoding these appearances helped reveal the complex whole upon which health salesmanship worked.488

Groups of people also had distinguishable personalities with which to contend. Knowing the "normal types" occurring in the sea of humanity helped health workers quickly form their strategies. These types coalesced around racial and environmental considerations, intelligence quotients, general physique, age, and gender. "Tears appeal to emotional Italians," suggested one manipulative visiting nurse.489

The utility of personality theory extended beyond stereotyping individuals and groups. Personality and health acted in concert as self-reinforcing or self-attenuating entities. Personality affected human maintenance of health habits as surely as health habits affected human personality. There existed, for example, a linkage between health and happiness, and between sickness and fatalism. The normal personality was attuned to the message of health, and health education diminished communicable disease and promoted safety, thereby nourishing the normal personality. The "healthy personality" by most definitions expressed self-confidence, activity, happiness, wholesomeness, responsibility, and engagement.490

The personalities of professionals also helped determined the success or failure of health salesmanship. Personality blocked the efforts of egotistic experts, as surely as unselfishness generated positive community health relationships. The companionability of expert and public personalities in communities played a defining role in determining health outcomes.491

488 Hussey, Teaching for Health, 142-76.
491 Hiscock, et al., Ways to Community Health Education, 16.
The marketing of health transformed the health education curricula of public and private elementary and secondary schools, and these schools reached one-fifth of the population. The statement by one health teacher that "boys and girls are just as much interested in health as we strive to make them" demonstrates just how far the modern popular health campaign had come. Schools moved beyond the esoteric study of human anatomy and physiology, instead stressing practical community and personal hygiene so as to "close the wide gap between scientific knowledge and the application of this knowledge to daily life." Practical and personal hygiene, moreover, improved the general community standard of living and strengthened moral fiber, and therefore represented "the cornerstone of good citizenship."

Schools also sought the participation of all members, teachers, administrators, and staff, in investigating the problem of health promotion. The 1924 Joint Report of the American Medical Association and the National Education Association, which elevated student health to the number one priority of public schools, reflected in part this enlarging sphere of practice and responsibility. Home economics instructors, the principal, science teachers, and even janitors played essential roles in purchasing healthy schools and teaching by "correlation" the various aspects of health in different classrooms. History could be taught as the story of "man's striving for and achieving a better life." English classes could read of the health horrors of nineteenth-century London in Dickens' novels. Music and art could contribute to good mental health by selecting appropriate instruments and media.

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Again, the health and personality of the educator played an important part in establishing effective public health lessons. "When the teacher practices good health behavior regularly," wrote one nurse, "many pupils will follow her example." Teachers blessed with qualities like emotional maturity, humor, poise, and sincerity formed a bond with students hastening the adoption of hygienic practices. Likewise, irritable, sarcastic, and nagging teachers generated negative health consequences.494

Health educators conscientiously and consistently packaged their messages for mass consumption. They wanted health education to reach all students, converting outmoded attitudes toward health and establishing proper habits. At the same time, educators remained cognizant of the inherent diversity of human capacities, attitudes, and desires. The human equation complexified seemingly simple recommendations for rest, work, nutrition, and exercise. "What is meat to one is poison to another," noted Columbia professor of public health administration Haven Emerson. Many paths led to normal health.495

It should come as no surprise, then, that the changing tastes of young, plastic minds, coupled with progressive hygienic discovery and invention, bred fluidity and malleability into health pedagogy. Educational media, noted one social hygienist, "is experimental material which we are ready to scrap" when warranted. It needed to be, explained an editor of American Medicine.

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“dynamic” and have “vitalizing qualities.” Fluidity in health education technique blossomed as public health became enmeshed in the routine of a wider community that it serviced.496

One of the most repeated necessities of school health education involved the stimulation of proper “health habits.” Hand washing drills, individual drinking cups, toilet and handkerchief lessons, and table manners all stimulated positive habits. Students were encouraged to give up candy between meals, tea and coffee, and nail biting. Daily classroom charting of progress reinforced these tendencies. Habits formed the core matter from which sprang “realizations,” “motives,” and “attitudes” serving community needs. Pupils realized “the sacrifices of others made necessary by the illness of one of the family group,” and understood the “motive of desiring to avoid causing inconvenience and disturbance in the life of others.”497

Class projects reinforced the lessons of health. Students created health posters, pasted together health scrapbooks of drawings and pamphlet material, wrote papers on health subjects, sang catchy tunes, and dressed up bulletin boards. Model habitations were constructed on sand tables. Children’s posters were sometimes collected and distributed in wider publicity campaigns outside the schools.498

Teachers sometimes resorted to “bribery” when school programs selling health failed to deliver the desired effect on students. Moderate use of souvenirs and trinkets made these


diminutive health customers pliant. Buttons, ribbons, baubles, balloons, and lollipops all proved useful in "getting things done."^499

Awards and certificates for weight gain or proper habits formalized a "technic of buying and selling" that troubled (but also rescued) many health workers. They also artificially linked health habits to extrinsic goals. Limited use of material rewards seemed acceptable to most, but carried with them the potential for "snobbery" on the part of the "star-bearers" against the "untouchables" in the classroom.501

Long term acquisition of proper health habits did not come without their general insinuation into daily life. "Health education of the school child is the joint responsibility of school, home, and community," explained one nurse. "If health is to function consistently throughout the twenty-four hours, there needs to be an integration of purposes and actions among these groups." Health education, agreed one school health director, "must be studied not from the viewpoint of a school alone, but as a community problem, when attempting to alter the practices of a group."^501

The connectedness of existence also meant that parents would be drawn in and exposed to health education and publicity. Children became, in other words, health messengers and propaganda ministers to their parents and friends as much as they themselves were brought to task by parents and teachers.502


^502 Wile, "Public Health Publicity and Education Through Public Schools," 338.
Community health salesmanship outside the schools relied in large measure on publicity. Some city health departments hired full-time publicity directors with experience in advertising or newspaper column writing to carry out this work. Charles F. Rogers, field agent with the Anti-Tuberculosis League of Cleveland, called advertising that which “sows the seed,” and health education that which “cultivates the soil.” Publicity was designed ideally not to impose the will of the professions upon the public, but to guide them along a path satisfactory in light of expert knowledge.503

Amusements and advertising bombarded Americans, and professionals attuned their publicity work to this reality. Laypeople, wrote one college health educator, suffered from “fashions, fads, and crazes, . . . and the blandishments, allurements, and catchwords of commercial interests” in their everyday lives. Health programs in this competitive environment needed to operate along similar lines to be effective.504

Publicity drives consciously encouraged the development of a monolithic front behind which a diversity of public health ideas might be entertained. “All truth is relative,” C.-E. A. Winslow intimated, but “our facts should be facts.” Professional dissonance, in other words, did nothing to create an atmosphere of trust among laypeople.505

Public health publicists also avoided alienating technical jargon. They favored simple language over complex forms of speech and writing. Indeed, the “right person” for a publicity position should possess, besides a penchant for “diplomatic salesmanship,” the “ability to translate technical material into popular terms.” Health publication editors trimmed or


eliminated tedious tables of vital statistics and the complicated calculations accompanying them. Figures were rounded off where possible. Layout designers “bullet ed” main ideas and issues otherwise buried in columns of text. “You will find in various parts of the country how weary people are with the tremendous amount of work they already have on their shoulders,” explained one child health worker, “and if we can get our point across quickly and very simply so that the mind and the eye, in the presentation of actual material, is not wearied or bored, it seems to me we have made great progress.”

Experts used “publicity calendars” to choreograph their sales campaigns. Publicity calendars were designed by health departments and official and voluntary associations as road maps to effective public health service. Health workers divided their duties into days, weeks, and months devoted to particular aspects of health work. When reassembled into a coherent whole these health “drives” gave the year a natural flow and purpose.

Traditional holidays and seasonal activity carried many health publicity programs along. Community health workers all over the country used May Day to focus attention on child health. Mother’s Day signaled a focus on maternal mortality. Heart disease could be tied to Valentine’s Day. New Year’s resolutions promoted healthy habits. Seasonal winter topics included pneumonia, colds, and heating. Workers associated spring cleaning and sanitation; summer and sunstroke; fall and allergies. Not all drives were tied to observed holidays. Public proclamations launched some health campaigns. The Wayne County (Detroit) Medical Society in 1924 launched a “Cancer Week” to highlight the utility of roentgen rays against malignant tumors.

The Society enlisted newspapers to publish more than fifty articles about cancer risk and


treatment. Eleven hundred subsequently presented themselves at the hospital for examination.

In May, 1928, the National Tuberculosis Association kicked off the “Let Your Doctor Decide” campaign for early detection of tuberculosis. The National Health Council put together a “Rotary Health Week” to “sell” health to businessmen. Schools, too, established publicity calendars to focus attention on important issues, including health. Schools launched “sunshine” and “child labor” days, and “baby” and “safety first” weeks.508

The newspaper provided the most immediate and cost-effective mouthpiece for selling health. Almost every community of any note possessed this “important social agency” read religiously by many people. Health professionals enlisted editors as sympathetic allies in their health campaigns, relying on them for advice as to the “news-worthiness” of health activities and as active proponents of their work. The health departments of Boston, Bridgeport, Chicago, Columbus, Fall River, Flint, New Orleans, and Providence all tried to get out health stories to the papers on a daily basis, and many more published on weekly schedules.509

Editors and health workers came to favor human interest stories over less subtle forms of health propaganda in community news reporting. Stories of personal or community triumph over sickness created lay interest by their sheer immediacy. People, explained one journalism professor, “are interested primarily in themselves.” Local events could be used to build stories redoubling the health resolve of the community.510


509Bauer and Hull, Health Education of the Public; 110; Hiscock, et al., Ways to Community Health Education, 45-6; Beachley, “Selling Public Health,” 617; Amundsen, “Public Health Education,” 819; Bache, “Health Education Program in a City of 100,000,” 583.

510Burrows, “Newspaper Publicity,” 317; Bauer and Hull, Health Education of the Public; 110; Hiscock, et al., Ways to Community Health Education, 45-6, 85.
The physicians and public health statesmen James Barton, Logan Clendening, Irving Cutter, Morris Fishbein, and Iago Galdston all produced regular health columns for newspapers in the 1930s. They became masters of a difficult media for health workers who argued for free professional thought and expression. "Categorical affirmation is the style of the newspaper story," commanded Ira V. Hiscock. "Qualifying phrases and hypothetical questions should be reserved for the professional journal." Health educators discouraged dissent even in the editorial columns. Letters to the editor, furthermore, needed to be succinct, genial, and constructive. 511

Other types of print media helped health professionals sell health. Health magazines, reports, bulletins, leaflets, and pamphlets all disseminated the emotional appeals of the professions to other professionals and to the public. The American Medical Association published Hygeia, the Health Magazine, for a national audience of interested professionals and laypeople. Thirty state departments of health issued popular bulletins, as did thirty more city health departments. Their circulation varied from as few as eighty-five copies in Washington, D.C., to as many as fifty thousand in New York City. One of the most widely circulated of these bulletins, with a circulation of nineteen thousand, was the Health News of the New York State Department of Health. Some publications made the rounds almost entirely in industrial establishments or school systems. The United States Public Health Service distributed almost eighteen million such pamphlets in 1920 alone. State tuberculosis and mental hygiene associations also issued their own promotional health literature. "Dodgers," slips included in pay envelopes, also contributed to the paper blizzard of health serials. 512

Professionals made palatable the popular consumption of health-oriented literature by careful design. Health workers learned new techniques from clinics with art school directors, printers and publishers, and direct mail advertisers. The public, health workers learned, preferred clean, slick publications over haphazardly organized ones. The public hated oppressive gray and blue circulars replete with capitalized words and phrases. Health professionals paid scrupulous attention to presenting legible type fonts, unobstructed margins and gutters, kerning, and simple charts and graphs much in the same way Lalique and other contemporary industrial designers “streamlined” and “cleanlined” automobiles and household appliances.513

Charts and graphs also became staples of health exhibits and health museums. Visual elements, attractive to public viewing, brought together in these exhibits and museums became another way professionals sold community health. Photographs, maps, models, dioramas, suitcase theaters, window displays, and posters, usually arranged into “an impressive, instructive, attractive whole,” lent instant clarity to the important work of health professionals and to community responsibility for public health.514

Traveling exhibits, of varying ephemerality, went to schools, state fairs, expositions, conventions, and anniversaries. Workers assembled health exhibits at the Century of Progress Exposition and Texas Centennial Exposition, the California-Pacific Exposition and the Great Lakes Centennial, and on college campuses. Science museums in Buffalo, Chicago, Philadelphia,

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and New York all gave over space to exhibits. Chicago's health department constructed a birth registration exhibit, and Washington, D.C., one on the venereal diseases. A small town in Ohio put on the exposition "Let Health Rule in Bethel," complete with demonstrations of Schick tests, poster contests, mechanized exhibits, and sermons and speeches on matters of health. These exhibits displayed all manner of health articles, including toothbrushes, fly traps, nutritious foods, first aid kits, sterile instruments, pharmaceuticals, sputum cups, microscopes, and x-ray machines. "Healthmobiles" and converted railroad cars also toured the countryside carrying the message of health to the public.515

Educational exhibits also infiltrated professional health meetings. "Scientific exhibits" began showing up at the Semicentennial American Public Health Association meeting in 1921. In 1933, the APHA seated a permanent Committee on Scientific Exhibits, which promptly put together the "large and remarkable" exhibit "Public Health and Eugenics in New Germany." Judging began in 1936, following four general rules: (1) the "effectiveness of the exhibit in attracting attention," (2) its "effectiveness in holding attention," (3) its "clarity in expressing its message, and (4) whether "the message is . . . pertinent for presentation to a group of public health workers." A Motion Picture Program, initiated separately in 1936, became part of the Scientific Exhibit in 1941.516

Interest in the permanent housing of exhibits generated two attempts to create health museums. Members of the American Public Health Association organized a Committee on American Museum Hygiene in 1931 to construct a "House of Health." By 1939, the Museum

Committee had collected together exhibits, many from the German Hygiene Museum,\textsuperscript{517} at the New York World's Fair. Over 11 million visitors later, the museum by 1941 still had not found a permanent abode, and began loaning out its exhibits for traveling shows. Independently, a Cleveland Museum of Health and Hygiene, incorporated in 1936, opened its doors to visitors in 1940 as a "center of community health education."\textsuperscript{518}

Health professionals studied the effect of their exhibit and museum sales pitches in detail. They found that seventy-five percent of visitors walked around mazes of displays always tending to the right and rearranged them to fit this ambulatory pattern. Professionals found crowding of the exhibits an important cause of "museum fatigue." New labels for displays, developed from lengthy research, increased patron engagement by up to one-third. Moving parts (as in mechanical dioramas) built energy and interest into otherwise immobile sales messages.\textsuperscript{519}

Health shows, plays, pageants, and parades further shattered the static aura of health exhibits and museum displays. Children played most of the key roles in these dramatic and dynamic presentations as players and as a core audience. Puppet shows, singalongs, poetry and

\textsuperscript{517} An inspirational museum described in one place as proceeding "on the assumption that an entire subject could be demonstrated visually and that various messages could not only be made clear in themselves, but could be related to each other." See Hill, \\textit{Educating for Health: A Study of Programs for Adults,} 188.


story readings, dramas and comedies, all served as health distribution mechanisms to children and their parents. Cho-Cho the Health Clown (sponsored by the American Child Health Association), and dramatizations derived from the text *Cho Cho and the Health Fairy*, delighted school pupils with humorous sketches involving proper and improper health habits.520

Professionals used parades to bring together a whole community in one place to engage in a shared expression of faith in the health crusade. Children, dressed as fruits, vegetables, and toothbrushes, some carrying signs and banners, marched down Main Street or rode atop floats with tombstones carrying inscriptions like “1,054 Children Killed in Accidents in New York City, 1921,” as their parents looked on. Pageants also served this community building function. “A Visit from Mars,” first put on in Mansfield, Ohio, in 1923, introduced visiting health officers from the red planet to the robust children of “Healthy Town.”521

Radio represented a relatively new and growing medium for public health salesmanship. Six hundred stations blanketed the United States by 1939 and 23 million families possessed radio receivers. Advertisers paid over $72,000,000 for radio spots nationwide. Critics called radio “the doorknob which gives entrance to the intimate privacy of the home.”522

The American Society for the Control of Cancer used a Denver station to broadcast the first known radio health show in 1921. Regular, continuing health broadcasts began the same year by the United States Public Health Service over naval radio. The Connecticut State Board of Health initiated a health drama involving the “Smithson Family” in 1931. The New York

520 Bauer and Hull, *Health Education of the Public*, 182; Grace Taber Hallock, *Dramatizing Child Health: A New Book of Health Plays, with Chapters on the Writing, the Producing, and the Educational Value of Dramatics* (New York: American Child Health Association, 1925), 3-4, 6, 79.
Academy of Medicine aired the fifteen-minute program “Highways to Health” each week beginning in 1932. The New York State Department of Health jumped aboard in 1934 with its regular show about “The Health Hunters.” The National Life and Accident Insurance Company broadcast two serials in 1934 and 1935 entitled “Man’s Fight to Live,” and “The Strong Family.” In 1935 and 1936 the National Broadcasting Company and the American Medical Association cooperated in the production of “Your Health.”

Selling health on the radio was not without its dangers. Radio advertised pharmaceuticals and beauty aids of marginal value, including “J.R. Brinkley’s Goat Gland Treatment,” the “Neurometer,” and Norman Baker’s cancer cures. The New York Academy of Medicine and Department of Health began broadcasting health shows in 1922 in response to a radio address on the prevention and treatment of cancer by a “food faddist.” Reputable commercial establishments also blanketed the airwaves with commercial health messages. The drug company Sharpe and Dohme sponsored programs on health and disease. The Cream of Wheat Corporation put on chats about mental hygiene and child training. The Metropolitan Life Insurance Company, Horlick’s Malted Milk, and Stanco, Inc., all put their own health messages on the radio. Health professionals worried that in this environment unsophisticated radio listeners might lose (or worse, confuse) their health message amid the cacophony.

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523 Bauer and Hull, Health Education of the Public; 40-1. The content of radio health talks is documented in Henry Copley Greene, Listen In: Radio Health Talks (Boston: American Red Cross, Department of Health Service, Boston Metropolitan Chapter, 1923); J.D. Dowling, Health by Radio: A Series of Radio Lectures on Personal and Public Health Presented over Station WAPI (Birmingham, Ala.: Jefferson County Board of Health, 1931); Baltimore City Health Department, Bureau of Public Health Education, Keeping Well: The First Hundred Radio Talks (Baltimore: Baltimore City Health Department, 1937); Baltimore City Health Department, Bureau of Health Information, Keeping Well: The Second Series of Radio Talks (Baltimore: Baltimore City Health Department, 1937); Monroe County Medical Society, Radio Health Broadcasts (Rochester, N.Y.: Jefferson County Board of Health, 1940).

Certain subjects otherwise palatable to laypeople also became taboo on the radio, at least at certain times of the day. Americans listened to the radio copiously, and sometimes all day. Health professionals learned to avoid scheduling talks on venereal disease, sewerage systems, and horrific epidemics at meal times, or when children might be listening. Moreover, all of the national radio networks classified as off limits certain words commonly used within the professions. The “objectionable” words bowels, breast, discharge, pregnancy, pus, rectum, syphilis, urine, uterus, womb, and even abdomen could never be used. Topics entirely avoided included birth control and social (venereal) hygiene.\textsuperscript{525}

As with other media, health professionals discovered that style contributed to the selling of substance in otherwise “dull and uninteresting” radio health talks. Most health broadcasters, often health officers, educators, and physicians, found themselves in unfamiliar territory on the radio, unable to squeeze their “cluttered” addresses into short spots designed for a popular audience. They lacked what was called the necessary but unquantifiable “psychology of address.” Radio speakers strove to compensate in several ways. Simplicity helped, as did appeals to common sense. A variety of approaches to educational material, lectures, dramas, and stories for example, kept shows fresh. Colloquial, conversational speech created unique feelings of security over the airwaves, as did the soothing male baritone voice. Musical introductions signaled regular listeners to begin paying attention and bred familiarity.\textsuperscript{526}

Motion picture projectors represented another modern mechanical technology applied to health salesmanship. Motion pictures breathed life into otherwise esoteric health subjects,


bundling them (when done properly) for mass consumption. Motion picture producers compressed the essence of action, the dynamism of modern America, into their 16 and 35 mm film stock. Experts showed these films in schools, factories, theater houses, at Chautauquas and churches, wherever audiences could be naturally collected together. Health workers incorporated film into their traveling exhibits by utilizing continuous-automatic mechanisms for repetitive performances.

Health experts, especially the Society for Visual Education’s Committee on Health and Sanitation, formulated rules for producing and showing health pictures. Good health films had several virtues. Simplicity was one. Too many rules or messages placed in motion pictures confused audiences. One or two major themes was enough for any film. Another virtue was the condition of the film. A scratched film distracted and diminished interest in the message. Films that evoked powerful emotions also worked magic in publicity campaigns. One particular picture about hookworm, for instance, “makes the Southern cotton planters get the willies when they see it.”

Popular health films roughly fell into three groups: films demonstrating the work and commitment of health agents and agencies, films explicating the mechanics of biology and health, and films advocating particular health habits. Films in the first category included those showing the work of the United States Public Health Service or of the visiting nursing association, immunization drives, or health campaigns and parades. The twenty minute film “The Juice Bowl:

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Is it a Menace to Public Health?” recorded the experiences of two health experts testing samples taken from unsanitary drink booths at the 1933 Minnesota State Fair. Films in the second category included the “Science of Life Series” on reproduction, personal hygiene, disease prevention, and such matters. “Getting Acquainted with Bacteria,” produced by the Society for Visual Education, used shots made through the microscope to illustrate its points.531

Films in the last category, those involving health habits, sold health to the public by direct appeals to the heart and head. A motion picture funded by the Kern County (California) Health Department entitled “Sells Healtho Circus” showed the live action of a health circus put on by pupils of Wasco Grammar School. Children dressed as Mother Nature, Miss Cleanliness, Miss Rest, Mr. Exercise, Miss Sunshine, and Mr. Whole Wheat. Others wore costumes approximating fruits and vegetables. Dancing, marching, and vigorous tooth brushing are all depicted. The message of the picture is that good health brings happiness. The eleven minute film “The Road to Health and Happiness” advised viewers to live a healthy life by sleeping well, exercising in fresh air and sunlight, brushing the teeth, and getting immunized. Good mental hygiene is stressed through reading, listening to the radio, swimming and roller skating, and going to church.

Cho Cho the health clown got his own motion picture debut in “Cho Cho the Clown School Teacher: A New Method of Teaching Children” (1919).532

Competition from commercial film productions also diminished the novelty and hence usefulness of motion pictures selling health. Commercial films raised the bar substantially between 1920 and 1940, creating a sophisticated audience that no longer tolerated amateurish


productions shot on shoestring budgets. Commercial productions moved into the territory of health professionals too. Audiences willingly paid to see *Arrowsmith, The Country Doctor, Life of Louis Pasteur, The White Angel*, and *Yellow Jack*. Professional filmmakers, despite their tendency to "burlesque" serious subjects, increasingly took the place of health experts in the production of films. Experts continued to monitor their content. Animated shorts represented another response to the inadequacy of novelty as a drawing card. "How Life Begins," an animated film by the American Social Hygiene Association, brought the unfilmable to the screen. Producers also used animation for the army and navy training film "Venereal Diseases." Despite the effectiveness of these flickering images, motion pictures by the 1920s had not replaced other projection devices used in producing popular health messages. Stereopticons or lantern slides, in fact, made a comeback in the 1930s and 1940s as a useful adjunct to lectures and shows.

All of these publicity devices for selling health meant little without the active participation of a willing public. Ordinary citizens formed the clay from which the professions of health formed their programs. Health professionals targeted the fundamental social units of society, families, in their health advertising and publicity campaigns. Experts encouraged parents and their children to provide "unlimited support" to the modern community health movement. Health workers charged parents with the responsibility for their children's normal development by immunizing them and carefully monitoring their diet, sleep, play, and mental habits.

Laypeople could also be trained by health professionals as able and efficient salesmen for health themselves. Perhaps the largest share of the brute front-line work of the modern

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community health campaign fell to ordinary citizens and civic leaders. "If further progress in health is made," noted Iago Galdston, "the people must be taught to do things for themselves."

Health experts entertained representatives of social, religious, educational, business, and recreational associations as potential agents in health commerce. In successful health campaigns, explained one health authority, "there was always some public spirited citizen in every community who was looked upon to take the lead." Tight budgets in the 1930s redoubled efforts to enlist the aid of laypeople. While prohibited from engaging in the development of new immune sera or disinfectants, laypeople could keep track of the budgets of voluntary health agencies or negotiate solutions to identified problems.536

Individual laypeople often worked through preexisting community associations, chambers of commerce, or community chests. All brought to the table a considerable natural network of community resources. Potent community associations enlisted to sell health included fraternal orders like the Elks Club or Knights of Pythias; social and educational groups like the Grange and the PTA; and voluntary health alliances like the many local Red Cross chapters and Federated Mothers' Clubs.537

Health salesmanship, education, and publicity all depended on teamwork in the accomplishment of community health goals. Selling always benefited by reinforcement. As one social welfare worker put it, "United we stand, divided we fall." Experts coordinated official and voluntary health and welfare associations, and folded members of disparate social, religious, and educational groups into coherent wholes. Throughout, however, professionals preferred "careful

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blending” over domination. Health salesmanship remained an interdependent function of community health principles and practice.538

The most dramatic difference between the earlier sanitary scientific model of popular education and later community health efforts involved the charismatic, emotive attempts to sell health to the masses. Experts drew business people, publicists, editors, writers, ministers, broadcasters, directors, actors, and even laypeople into this new web of community health relationships. Professionals and the public in the age of community health sold health much the same way other goods and services were sold.539

Still, the professions did acknowledge limits to the commodification of sanitary and community health knowledge. The manipulative quality of public health work enhanced by health salesmanship generated what seemed to be some distinctly negative consequences. Self-promotion deflated expert objectivity established by a long history of neutral observation and disinterestedness. It inflated the egos of some. Selling health also blurred the boundary between quackery and authenticity. One city commissioner of health worried that “technics in public health education and in salesmanship and advertising are developing, if anything, a little more rapidly that they may be safely assimilated.”540


540Hiscock, et al., Ways to Community Health Education, 51; Bauer and Hull, Health Education of the Public, 27-8; Galdston, “Debunking Health Education,” 1055; Williams, “Selling Health Department Members First on Health Education,” 718.
Some authorities bemoaned the continued disease of "hypochondriasis" fostered among overly willing customers succumbing to health propaganda. Iago Galdston noted that the health giving qualities of fruits and vegetables had become "oversold" to some people, resulting in "hypermotile colons" irritated by too much cellulose. Others worried simply about making people too "self-conscious" of their health defects and personal inadequacies.541

Sinclair Lewis' novel Arrowmith (1925), written with the expert assistance of Paul de Kruif, details the foibles of health professionals pushing health salesmanship too far. The character Roscoe Geake, budding bacteriologist Martin Arrowsmith's hated professor of otolaryngology at the University of Winnemac, delivered the following diatribe annually to his classes:

Knowledge is the greatest thing in the medical world, but it's no good whatever unless you can sell it, and to do this you must first impress your personality on the people who have the dollars. Whether a patient is a new or an old friend, you must always use salesmanship on him... The graduates of the University of Hard Knocks judge a physician as they judge a business man, not merely by his alleged "high ideals," but by the horsepower he puts into carrying them out and making them pay!

Tucked within the speech, Prof. Geake recommends the fictional book How to Put Pep in Salesmanship.542

Sinclair's character Dr. Almus Pickerbaugh, director of the Zenith (Iowa) Department of Public Health, also evoked revulsion in the chief protagonist Arrowsmith. "I assume,"

Pickerbaugh tells Arrowsmith,

you agree with me, or you will when you have had an opportunity to see the effect our work has had on the city, and the success we have in selling the idea of Better Health, that what the world needs is a really inspired, courageous, overtopping leader—say a Billy Sunday of the movement—a man who would know how to use

sensationalism properly and wake the people out of their sloth.

Pickerbaugh considered himself such a man, favoring "good health, good roads, good business, and the single standard of morality" by founding the local Rotary Club, superintending over a Sunday school, presiding over the Moccasin Ski and Hiking Club and the West Side Bowling Club, and cheerleading for a half dozen other community organizations. A selection of his speeches included "Health Maxims for Trolly Folks," "More Health—More Bank Clearings," and "Health First, Safety Second, and Booze Nowhere A-tall."543

The young Martin Arrowsmith rebelled against both Geake and Pickerbaugh. He preferred practical research, "working in a laboratory at night, alone, absorbed, contemptuous of academic success," over commercial health salesmanship. Of Pickerbaugh, Martin thought "that to a civilized man the fact that Pickerbaugh advocated any reform would be sufficient reason for ignoring it."544

Part of the appeal of Sinclair's novel, though, is Arrowsmith's revelation of the necessity for the Geake's and Pickerbaugh's in modern health work. Though he himself is not intrigued by such activity, at one point Arrowsmith remarks that "this pep and heartiness stuff of Pickerbaugh's is exactly the thing to get across to the majority of people the scientific discoveries." Arrowsmith's long suffering and somewhat naive wife Leora corrals the business of health salesmanship best. "I get it," she exclaims to Arrowsmith one day. "Your job will only take about twenty-eight hours a day, and the rest of the time you're perfectly welcome to spend in research, unless somebody interrupts you."545

543Ibid., 203-6.
544Ibid., 12, 207.
CHAPTER IX. COMMUNITY HEALTH DEMONSTRATIONS

The professions of health used educational publicity campaigns to carve out their own ideal markets in which to “sell” health service. They called them “health demonstrations.” Health demonstrations became an important way experts and laypeople solved community health problems together. The National Tuberculosis Association, Milbank Memorial Fund, Commonwealth Fund, Rockefeller Foundation, and the United States Public Health Service sponsored some of the most influential professional health demonstrations in modern, interwar America. These agencies secured experts in private and public employ to direct and carry out health work in natural communities. Defenders considered demonstrations cooperative ventures, shared experiences between public and private funding sources and administrative agencies, and between professionals, local health authorities, and citizens. Each constituency contributed its talents to the whole, but all bore together the tribulations and exuberancies of the demonstrations.546

Professionals did not intend that the demonstration be a “laboratory of experiment” as delineated by the ethos of sanitary science. The application of already known facts eclipsed (but never replaced) discovery of new progressive and scientific hygienic laws. Experts designed

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demonstrations, rather, to bring together authentic knowledge derived in laboratories and field surveys and opportunities for application. "About the most difficult thing with which the world has to contend is the lack of application of knowledge which is already in possession of the experts," explained Livingston Farrand. "Most of our victories over disease are traceable to some careful, painstaking pieces of scientific research in the laboratory or with limited and carefully controlled groups and conditions outside it," explained Courtenay Dinwiddie, director of the Commonwealth Fund demonstrations. "The number of variables is greatly increased when the knowledge that has been gained in laboratories or in strictly controlled experiments is carried into the field. There has been a wide gap between the accumulation of scientific knowledge of how to control disease and to build up health, and the application of this knowledge to the daily health problems of the public."\(^547\)

Administration, salesmanship, methodology, and finance occupied the minds of many professionals in health demonstrations. "The demonstration is something between research and education," noted C.-E. A. Winslow, a program designed to take expert ideas and strategies out into the real world for further refinement. "The demonstrations," wrote Walter H. Brown of the Commonwealth Fund, "are acting as research stations for the discovery of improved methods of community organization for health." George C. Ruhland, Health Commissioner of one Milbank Fund demonstration agreed, "There is nothing experimental about health demonstrations except in the technic of establishing modern health procedure in a given community, and in so far as the relationship of humans to one another is always experimental."\(^548\)


The central goals of demonstrations involved coordinating health resources, publicizing the fruits of public health research, and educating the public. Health experts and their sponsors agreed that energetic public "demonstrations" of effective public health tools cultivated curiosity, immediacy, and the formation of healthy habits. Professionals, in other words, saw demonstrations as lessons given on a mass scale to raise community consciousness.

At the same time demonstrators worked hard to create a harmonious environment for local officials, experts, and volunteers. Public health professionals entered demonstration communities with discretion. "They must," explained Walter Brown, "have the rare ability to become temporarily a real part of the community." Personalities and relationships were crucial aspects of demonstration work. Professionals listened carefully to the voices of laypeople, just as they shepherded them to good health. Further, these professionals found solutions to the problems of community health generally.549

Great variation existed in the choosing of appropriate territories for individual demonstrations, but professionals searched mainly for "typical" or "ideal" American communities. Health education and activities involving the population of one community needed to be applicable, at least in part, to other similar communities. "A health demonstration is not intended, primarily, so far as those giving outside aid is concerned, as a benefit to the people of that one locality," explained Homer Folks, secretary of the New York State Charities Aid Association. "It is intended to benefit the people of many localities through what that particular locality may learn, or, in current phraseology, may demonstrate." The plan of organization and execution of demonstrations needed to be elastic enough for use elsewhere.550

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Health experts and their sponsors selected appropriate communities by a process of application and elimination. They encouraged local leaders in communities to submit requests for participation in the programs, then sent out representatives to survey these candidate communities, peruse public records, and assess the receptivity of the public to a health demonstration. Still, local circumstance always demanded adaptation in demonstration motives. An inflexible program,” noted Brown, “no matter how perfect or desirable, is impossible.”

Lessons drawn out of one demonstration, experts understood, could never be applied in their entirety everywhere, since each community possessed its own distinctivenesses along with its commonalities. Explained Cornell University President Livingston Farrand, active in the demonstration movement, “It is nowhere more apparent than in the field of public health that you cannot with confidence draw lessons from one place and apply them to all of the sections of the country.” Demonstration sponsors encouraged the production, then, of generalized knowledge and generalizable practices in demonstration organization.

The general purpose nature of health demonstrations clashed with collective, progressive memory of health experts who tried to track down the origins of demonstrations programs. Many of them agreed in the 1920s and 1930s that the Framingham (Massachusetts) Demonstration, begun in 1916, launched the movement that followed. Most, however, missed the prominent discontinuity lodged in the Framingham program, dividing it into two parts: origin and progress as a sanitary scientific program, and resolution into community health principles and practice. From its specialized root as a disease-prevention mechanism, the Framingham demonstration broadened out into a “social” movement complete with collaborative participation between experts and laypeople. The Framingham demonstration

ended as an experiment in selling general health service to communities, but it surely did not begin as one.

The National Association for the Study and Prevention of Tuberculosis (conventionally, the National Tuberculosis Association) launched the Framingham demonstration. The source of the demonstration idea might be traced to Lee K. Frankel, chair of the Welfare Division of the Metropolitan Life Insurance Company. Frankel, worried about the declining but still excessive expense of tuberculosis mortality among company policyholders, penned a letter to Edward Baldwin, then president of the National Tuberculosis Association. Insurance claims on 14,325 dead policyholders, he calculated in the letter, cost four million dollars each year. Tuberculosis deaths generated sixteen percent of all claims in the company's Industrial Department. Frankel proposed that the National Tuberculosis Association conduct a field study demonstrating the most effective of the new methods for tuberculosis control. He promised generous funding, about one hundred thousand dollars, from his company. "It is our hope," he wrote, "that this experiment will be a practical contribution towards the study of the etiology of tuberculosis and that the results obtained may indicate a method for the prevention and elimination of the disease."\(^5\)

The Framingham Demonstration more than fulfilled Frankel's vision. Originally conceived as a three year program, but lasting seven, Framingham organizers focused almost exclusively upon the conquest of tubercular disease. "Is it possible to discover and to place under adequate medical, nursing, and relief supervision all of the cases of tuberculosis, incipient and advanced," chief executive and supervisor of the demonstration Donald B. Armstrong

\(^5\)Quoted in Louis Israel Dublin, *A 40 Year Campaign Against Tuberculosis* (New York: Metropolitan Life Insurance Company, 1952), 81-2; Donald Budd Armstrong, et al., *Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: The Program*, Framingham Monographs, no. 1 (Framingham, Mass.: Community Health Station, 1918), 9.
wanted to know, “in a normal industrial community?” Organizers designed the Framingham Demonstration to answer this question conclusively. They also wanted to know how much it would cost. “To know the unit costs of production and distribution is one of the fundamentals in any enterprise,” noted the Commonwealth Fund’s Walter H. Brown reflecting on the experience of Framingham, “whether this be the manufacture and distribution of Fords or the ‘selling’ of a health program to a community.” Framingham generated numbers from which organizers extrapolated the necessary minimum health expenditure levels for such a purpose.\footnote{Ruhland, “Health Demonstrations,” 291; Donald Budd Armstrong, “The Framingham Health and Tuberculosis Demonstration,” American Journal of Public Health 7 (March 1917): 318; Brown, “Organization of Health Demonstrations,” 14.}

The National Tuberculosis Association selected Framingham, a city of about 17,000 residents twenty miles southwest of Boston, not out of concern for any special characteristics, because of its typicality. It was an “average community.” Experts surveyed two hundred communities in Massachusetts and New York as possible Demonstration hosts. Armstrong explained why Framingham beat out the competition. The city, he wrote, “recommended itself to the committee because it possessed certain average qualities, being an industrial community, with mixed industries, varied racial groups, a good local health organization backed up by an excellent State Department of Health, a normal amount of disease, well trained physicians and good hospitals, and sufficient promise of cooperation from medical, industrial, commercial, and social organizations.” The general mortality rate had also fluctuated little since 1907, with no evidence of great improvement.\footnote{Armstrong, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: The Program, 12-3; Ruhland, “Health Demonstrations,” 291; Armstrong, “The Framingham Health and Tuberculosis Demonstration,” American Journal of Public Health 7 (March 1917): 318; Brown, “Organization of Health Demonstrations,” 14; Donald Budd Armstrong, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: Vital Statistics, Framingham Monographs, no. 3 (Framingham, Mass.: Community Health Station, 1918), 12-4, 22.}
The National Tuberculosis Association's National Committee organized the Framingham Demonstration, but other contributors of time, money, and expertise secured for the work included the Massachusetts State Department of Health, Massachusetts Board of Labor and Industry, Massachusetts Bureau of the Census, Massachusetts Trustees of Hospitals for Consumptives, United States Public Health Service, United States Bureau of Labor Statistics, United States Bureau of the Census, United States Children's Bureau, John Hancock Life Insurance Company, Prudential Life Insurance Company, Russell Sage Foundation, American Museum of Safety, International Health Board of the Rockefeller Foundation, Massachusetts Institute of Technology, Harvard Medical School, Simmons College, Mt. Holyoke College, Cincinnati Social Unit Organization, New York State Commission on Ventilation, Connecticut Tuberculosis Commission, Health Department of the Delineator magazine, other private anti-tuberculosis organizations, and of course the Metropolitan Life Insurance Company.  

Health experts dictated the course of action followed in Framingham, not laypeople. The National Tuberculosis Association secured the expertise of many sanitary authorities, including Livingston Farrand, Homer Folks, Lee K. Frankel, Victor C. Vaughan, and C.-E. A. Winslow. These experts and the National Committee selected Armstrong as the demonstration's chief executive officer because of his demonstrated talents for public organizing as director of the Department of Social Welfare of the New York Association for Improving the Condition of the Poor. They also selected P. Challis Bartlett as chief medical examiner and Mary A. Abel as educational assistant to round out the executive staff. Other staff members, most paid for out of local funds, included full-time tuberculosis, school, industrial, and district (public health) nurses;

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infant welfare clinic and tuberculosis sanatorium workers; a public health dentist; and numerous physicians hired on a part-time, full-time, or voluntary basis.\(^{557}\)

Real work on site in Framingham began in December, 1916. Armstrong spent a couple of weeks meeting local authorities, chatting with local physicians, assessing personalities, setting up committees, and plotting strategy. Once settled, Armstrong and his staff launched a campaign of health publicity and education, presenting factual evidence in English and Italian on proper personal hygiene, disease prevention regimen, and the restriction of tuberculosis. Staffers trumpeted the Demonstration as “Framingham’s Opportunity,” and demanded “united community action” against tuberculosis. The National Tuberculosis Association distributed leaflets with titles like “Advice to Consumptives,” “Framingham Keep Fit,” and “Healthy Homes Make Happiness.” Demonstration organizers also linked tuberculosis control to war preparedness. The Massachusetts State Normal School, located in Framingham, assisted in educating the public with lectures on domestic science, economical food preparation, home economics, and of course tuberculosis prevention and control. “Community houses,” placed in poorer districts, provided similar instruction. The National Tuberculosis Association also organized a “medical club,” mostly tuberculosis lectures and clinics, to gather support among local physicians.\(^{558}\)


\(^{558}\) Armstrong, “The Framingham Health and Tuberculosis Demonstration,” American Journal of Public Health 7 (March 1917): 319-21; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: The Program, 7, 12-13, 17, 22; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: Vital Statistics, 4; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: Medical Examination Campaigns, Framingham Monographs, no. 4 (Framingham, Mass.: Community Health Station, 1918), 45; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: The Sickness Census, Framingham Monographs, no. 2 (Framingham, Mass.: Community Health Station, 1918), 9.
The next step involved organizing local advisory committees composed of both experts and laypeople. Demonstration staff recruited community leaders and “sympathetic” citizens, selected from every block in Framingham, for these committees. The National Tuberculosis Association placed local government officials and members of private associations on its National Committee. Demonstration organizers brought together these citizens with experts into committees for education, sickness reporting, recreation, hygienic swimming pools, and infant welfare. The National Tuberculosis Association also organized a special “exclusion committee” to root out the “migratory consumptive” invading from without.559

Armstrong inaugurated a “sickness census” in the spring of 1917 to survey local levels of sickness and disability and to establish a base line from which to measure the Demonstration’s effectiveness against tuberculosis morbidity and mortality. Nurses and trained agents of the Metropolitan Life Insurance Company collected and tabulated information on 6,582 individuals in 1,455 families. Together they found more than four hundred defects in health, including sixteen cases of tuberculosis. This culminated in medical examinations of as many people as possible at the Wilsonia Building (later dubbed the “Community Health Station”). Citizens registered for the exams by sign-up sheets kept by canvassing nurses and life insurance agents, or by mailing in a newspaper or leaflet “cut-out slip.” Physicians offered the first five hundred applying families exams for free in their homes. The rest paid a small fee. Medical examiners collected sputum samples and took chest x-rays for laboratory analysis. Physicians also administered von Pirquet tuberculin skin tests to five hundred children, one-third of whom tested positive, including fully fifty percent of all the children of Italian descent.560


560Armstrong, “The Framingham Health and Tuberculosis Demonstration,” American Journal of Public Health 7 (March 1917): 319-21; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: The Sickness Census, 9-12, 19; idem, et al., Framingham Community Health and...
Five thousand examinations later, the Demonstration had checked one-third of the total population for signs of tuberculosis and found ninety-six cases. When added to the number of cases already previously known, about one percent of the population suffered active or “open” tuberculosis. One in a hundred, in other words, were contagious. Armstrong found this result “approximately representative of similar urban and semi-urban communities elsewhere,” calling it the “Framingham yardstick.” He worried that tubercular residents might flee Framingham during the canvass for cases, spreading disease more widely, but found little evidence. Only eleven cases moved on to unknown places. The sickness census and medical inspection drives had instead formed a “non-penetrable sieve.” The Irish and Irish American districts of Framingham evinced the highest rates for tuberculosis (almost five percent), while the Italian showed the lowest (less than half a percent). Demonstrators explained the puzzling figures for Italian children and adults in terms of the hardiness of this race.561

Demonstrators institutionalized most of the active (contagious) cases of tuberculosis discovered by survey and inspection. They quarantined adult cases in several local and state institutions. The tuberculous found treatment at the Cambridge Tuberculosis Hospital, Lakeville State Sanatorium, Rutland State Sanatorium, Westfield State Sanatorium, Westboro Insane Asylum, and a few other places. The demonstrators sent “pretuberculous” minors to the

Children’s Health Camp where workers exposed them to large quantities of fresh air and

561 Armstrong, “The Framingham Health and Tuberculosis Demonstration,” American Journal of Public Health 7 (March 1917): 319-21; idem, “Four Years of the Framingham Demonstration,” American Review of Tuberculosis 4 (February 1921): 913; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: Medical Examination Campaign, 7, 22-4, 45; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: The Program, 7, 12-13, 17, 22; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: The Sickness Census, 9-12, 19; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: Tuberculosis Findings, Framingham Monographs, no. 5 (Framingham, Mass.: Community Health Station, 1919), 29-52.
sunshine. Staff at these institutions witnessed an arrest in the disease in over half of the inmates by the end of 1919. Ten percent had died.\textsuperscript{562}

National Tuberculosis Association organizers almost immediately began teaching and training local authorities to take up the reins of the demonstration’s executive committee. Armstrong and his staff weaned these local experts away from temporary outside control and taught them to become adept at routinizing newly introduced health measures.\textsuperscript{563}

Finally, Framingham organizers kept careful records of their work and other statistical diagnostic evidence throughout the demonstration in order to prove or disprove their own management of the tuberculosis situation. So that the statistical evidence gathered in the demonstration might be corroborated, researchers also collected evidence from seven “control” cities in Massachusetts of similar size and social and economic composition. Compared against the mortality figures of American communities generally, health experts considered the Framingham Demonstration a success. Tuberculosis mortality declined by two-thirds in the first five years of the Demonstration, against declines of anywhere from ten to fifty percent recorded elsewhere. The general mortality rate fell sixteen percent.\textsuperscript{564}

The National Tuberculosis Association put together a traveling exhibit to bring the results of Framingham to other communities. Demonstration staffers found the “expert advisory consultation service” one of the most useful fruits of Framingham. The expert consultation service developed after the start of the first medical inspection drive. Many physicians rooting

\textsuperscript{562}Armstrong, et al., \textit{Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: Tuberculosis Findings}, 8-9, 15, 18, 29-31; Armstrong, “Four Years of the Framingham Demonstration,” 911, 916.


out infections, particularly respiratory infections, found themselves unsure of giving proof-positive diagnoses. Armstrong hired a tuberculosis expert to field inquiries about respiratory diseases at the Community Health Station. He called the service a “triple link, connecting up the patient with early diagnosis, the tuberculous individual with prompt and adequate treatment, and the physician with expert facilities and scientific knowledge.” The service averaged three hundred calls from area physicians each year. It also boosted the number of tubercular cases found in the general population.

The National Tuberculosis Association and its allies designed the Framingham Demonstration as a novel social experiment against the white plague. Frankel’s original statement of purpose revealed the program as “a practical contribution towards the study of the etiology of tuberculosis” from which experts might derive a “method for the prevention and elimination of the disease.” They looked for no help outside what a normal community anywhere might be able to provide if given “average equipment” and adequate funding.

Nonetheless, by April, 1918, Armstrong hinted that he hoped Framingham would “broaden out into a general health demonstration.” Midway through the Framingham Demonstration the National Tuberculosis Association began promoting health activities outside the limits of tuberculosis surveillance and control. Infant welfare, school health, industrial health, and education began occupying an increasing share of the Demonstration’s burden. Armstrong persuaded Franz Schneider, Jr., of the Russell Sage Foundation to conduct an investigation of

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567 Armstrong, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: The Program, 12.
Framingham's "general sanitary conditions." Schneider looked at health in schools and factories, the sanitary state of the food and milk supply, and the condition of sewers and water supply. Schneider and a graduate student from MIT studied heating, ventilation, and lighting systems in the schools of Framingham, as well as the state of school equipment, particularly student seats, drinking fountains, and bathroom facilities. They also inspected 29 of 37 local factories. With the help of the New York State Commission on Ventilation they sampled and analyzed dust samples and air flow. The New York Museum of Safety conducted a special safety study in the factories, making recommendations on machine hazards, lighting, fire emergency procedures, and first aid stations. The Massachusetts State Board of Labor and Industry also provided material assistance.\(^5\)

Armstrong became convinced by this widening circle of investigation of the "necessity for recognizing the comprehensive nature of an effective antituberculosis program."

Tuberculosis control, to be effective, necessitated general improvements in the health of the whole community. Armstrong elaborated on this aspect of the demonstration in a 1920 lecture at Johns Hopkins. "Tuberculosis is not merely a medical problem; it is not merely a health problem," he lectured. "It is a social problem, in the broadest sense, requiring a comprehensive community engineering plan, if the possibilities for disease control are to be realized to the full."\(^6\)

Armstrong and his staff began collecting together outside "correlative agencies" to accomplish this broader mission in Framingham. The Civic League, the Park Commission, and the Framingham Women's Club all became active participants by 1922. The Civic League built a

\(^5\) Armstrong, "Four Years of the Framingham Demonstration," 911-2; idem, et al., Framingham Community Health and Tuberculosis Demonstration of the National Association for the Study and Prevention of Tuberculosis: Schools and Factories, Framingham Monographs, no. 6 (Framingham, Mass.: Community Health Station, 1919), 4-40.

\(^6\) Armstrong, "Four Years of the Framingham Demonstration," 919.
swimming pool and gymnasium facilities open to the public. The Park Commission built and maintained five new playgrounds. The Women’s Club organized “Mother Craft” programs in the schools. By the end of the demonstration, the expert consultant on tuberculosis questions had widened his trade to addressing all manner of general health questions.57n

Still, for most of the demonstration advances in the general health of the population operated mainly as a byproduct of a more specialized aim: tuberculosis control. Health experts who pointed to Framingham for their own inspiration merely ascribed community health dimensionality to the entire demonstration. The Milbank and Commonwealth Fund demonstrations, however, bore the stamp of community health principles and practices start to finish.

The Milbank Memorial Fund, created to “improve the physical, mental, and moral condition of humanity,” began sponsoring demonstrations in 1922. The fund’s founder, Elizabeth Milbank Anderson, already had a long history as a contributor to New York social and health initiatives. Milbank gave money so that Edward Livingstone Trudeau could construct the first ever tuberculosis research laboratory in 1891 alongside his famous Adirondack Cottage Sanitarium at Saranac Lake. In 1894, she started giving millions of dollars to cash-strapped Barnard College for women. She paid for the construction of model public baths in the lower East Side tenement district of New York in 1904. In 1909, she gave to the Children’s Aid Society a Home for Convalescent Children at Chappaqua, New York. She also funded the establishment in 1912 of a Department of Social Welfare in the New York Association for Improving the Condition of the Poor, the very same department out of which Donald B. Armstrong emerged.

Starting from a small personal donation in 1905 and several larger ones thereafter, the Fund grew to $10,000,000 by the time Elizabeth Milbank died in 1921. By that year, explained C.-E. A. Winslow, "it had become clear that sound progress in the field of public health must depend on a balanced community program under competent permanent expert leadership." The Milbank Fund's officers seized upon this opportunity to advance general health in American communities. Milbank Fund officers described the New York Health and Tuberculosis Demonstrations as "an attempt to demonstrate, by cooperation with three typical communities embracing a population of half a million people, whether by intensive application of known health measures the extent of sickness in the United States can be materially diminished and mortality rates further reduced, and whether or not these practical results can be achieved in a relatively short period of time and at a per capita cost which communities will willingly bear."

John A. Kingsbury, chief executive of the New York State Charities Aid Association, made the announcement pledging Milbank sponsorship for three comprehensive health demonstrations in May, 1922, at a meeting of the Association's Committee on Tuberculosis and Public Health. The Milbank Fund earmarked $325,000 a year for the demonstrations, but gave over administrative and supervisory powers to the State Charities Aid Association. Kingsbury and Milbank executives lured Donald B. Armstrong away from the National Tuberculosis Association and made him secretary of the Milbank Fund Technical Board based on his experience at Framingham. His Advisory Council, a large body of experts called together at

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irregular intervals, and Technical Board, for handling day to day activities, included such public
health luminaries as Hermann M. Biggs, Louis I. Dublin, Haven Emerson, Livingston Farrand,
Homer Folks, Lee K. Frankel, L. Emmett Holt, Veranus Moore, M. Adelaide Nutting, William
H. Park, T. Mitchell Prudden, Theobald Smith, Philip Van Ingen, William H. Welch, and C.-E. A.
Winslow. Together, they worked out a plan to use an unprecedented pool of $2,000,000 in
available Milbank funds for three five-year demonstration efforts inside New York State, placed
in “typical” communities of widely varying populations. The Fund settled on Cattaraugus
County as representative of a normal rural community, Syracuse as an ordinary urban city, and
the Bellevue-Yorkville District of New York City as a typical metropolitan neighborhood.
Typicality and variety were particularly important, as Milbank officials hoped that demonstrations
“planned on a sufficiently extensive scale” and covering “a wide enough variety of
circumstances” might serve as “evidence of the practicability of the development of community
health work and of sickness control, not only in the areas where the demonstrations are being
conducted, but in similar environments everywhere.” A Milbank Committee for the Selection of
Control Towns chose Rochester, Utica, and Yonkers as “controls” for the Syracuse
demonstration, and Steuben, Jefferson, and Chatauqua as “control counties” for the Cattaraugus
demonstration.575

574 None were completed on schedule. The Cattaraugus County and Syracuse demonstrations began in 1923 and
were not finished until the winter of 1930-1. The Bellevue-Yorkville demonstration was started in 1923 and finished
in 1934. Sir Arthur Newsholme, who visited the Cattaraugus County demonstration twice during lecture tours of
eastern universities, remarked that such work with expectation of significant results could not possibly be finished in
only five years. Milbank Memorial Fund, Milbank Memorial Fund: Thirty-Five Years in Review (New York: Milbank
Memorial Fund, 1940), 15; Milbank Memorial Fund Quarterly Bulletin 1 (January 1924): 1; Milbank Memorial Fund
575 Armstrong, “The Tuberculosis Demonstration Plans of the Milbank Memorial Fund,” 15; “Organization of the
Milbank Memorial Fund,” Milbank Memorial Fund Quarterly Bulletin 1 (March 1923): 2; “Activities of Boards and
Committees of Counsel,” Milbank Memorial Fund Quarterly Bulletin 1 (July 1923): 6; “The Scope of the
The Milbank demonstrations followed the course of the earlier Framingham demonstration in seeking to closely tie themselves to the chosen communities and create as nearly as practicable a harmonious relationship. Demonstration activities, explained Homer Folks, "should be thoroughly grounded in the institutions and the life and public affairs of the community . . . and should not be regarded as a strange something imported into the community." Cooperation for community health meant, wrote John A. Kingsbury, that "there is general participation, every organization, both public and private, and every individual in the demonstrations [is] included." Moreover, the Milbank Fund did not want demonstrations to operate solely by extra-local agency. Instead, the Fund hoped that money could be distributed to public and private agencies already in existence and working in the selected communities.576

One of the goals of the Milbank program was to eliminate tuberculosis. It was after all still the "captain of the men of death," but it was not the single overriding objective as it had been in early Framingham. "Effective tuberculosis work in a community usually stimulates the development of measures to advance the public health in general," a report issued by the Cattaraugus County Bureau of Tuberculosis put it. "The inauguration of services for the promotion of general community health, however, does not necessarily lead to special activities for the prevention and control of tuberculosis." Instead of a specialized focus, "general health" was the most important consideration. The Milbank Fund encouraged in this way public health education, medical examination, occupational therapy, infant health, school health, and industrial health, among other initiatives. It was also hoped that local experts, local funding sources, and local lay efforts might gradually take over the work sponsored by the Milbank Fund.577


The Cattaraugus County Health Demonstration lasted seven years, from 1923 to 1929, several years longer than initially proposed. Cattaraugus County at the time had a population of about 74,000, engaged primarily in farming and dairying, with some light industry. The two largest cities were Olean, with 21,752 residents, and Salamanca, with 9,570. Forty-six village and towns dotted the landscape, as did approximately 54 other unincorporated agglomerations of houses. C.-E. A. Winslow described the area as "highly typical" compared against other counties in the region. Milbank officers commended it for its "normal economic and social conditions" as well as its "representative" morbidity and mortality history.\(^578\)

Typicality was not the only requirement for a Milbank Memorial Fund demonstration. Milbank officers also identified "local desire for the demonstration and local assurance of cooperation, harmony, and coordination of effort; local responsibility for participation in, and leadership of, the demonstration . . . ; and local assumption, in the beginning or as early thereafter as possible, of financial and operating responsibilities." Leaders in Cattaraugus County had already tried to secure demonstration funds for themselves, failing in 1921 to secure a demonstration that was eventually awarded to Mansfield and Richland counties in Ohio. Now four counties—Cattaraugus, Dutchess, Jefferson, and Saratoga—became Milbank rural demonstration finalists. Each county was subjected to special surveys to ferret out unusual mortality rates and, abnormal population distributions, and other deficiencies. This time, thanks in part to "unusual cooperation between public and private social and health agencies," and to the persistent lobbying efforts of Lilla C. Wheeler, a Red Cross nurse in Portville, Cattaraugus County won its demonstration.\(^579\)


\(^{579}\)Winslow, *Health on the Farm and in the Village*, 1, 36, 43-4.
The Milbank Fund left the administration of the Cattaraugus County Health Demonstration to the New York State Charities Aid Association, then under the secretaryship of Homer Folks, in keeping with its policy of working only through preexisting organizations. Cattaraugus County at the time of the demonstration’s inauguration had no county health department at all. The cities and larger towns had part time health officers and school medical inspectors, but their responsibility was mainly the rooting out of communicable diseases. The county did have a recently constructed tuberculosis sanatorium. The city of Olean had the most extensive health organization. There the school medical inspector had fashioned out of school, local board of health, and Red Cross funds a loose organization of four public health nurses and a dental hygienist.

The Milbank Fund goal of securing general health for the populace provided the road map for putting together the demonstration. The Cattaraugus County Board of Supervisors first organized a county “general health district” bringing together all of the health and medical professionals in the county into a single web of health. To this end, the State Charities Aid Association organized a new Cattaraugus County Department of Health headquartered at Olean, within which they created six bureaus and two auxiliary programs, each designed to attack the public health problems of the community from a different angle. The six bureaus were for communicable diseases; tuberculosis; laboratory diagnosis; statistics collection; maternity, infancy, and child hygiene; and health education and publicity. The two auxiliary programs involved social hygiene and sanitation. The county board of supervisors hired Leverett D. Bristol, former Maine state commissioner of health and current professor of public health at the University of Minnesota as its full-time county health commissioner and demonstration director. Bristol

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580 Ibid., 39, 236.
581 Ibid., 35.
582 Later succeeded by Stephen A. Douglass and Reginald M. Atwater.
hoped the Cattaraugus demonstration would show "that the county is the logical unit for carrying on rural health work." Indeed, the creation of a general health district in Cattaraugus County represented the first use of William H. Park's 1921 state law allowing for county health units.  

The State Charities Aid Association further subdivided Cattaraugus County to ensure, as C.-E. A. Winslow put it, "decentralization of service." So-called "district centers" for "general health activities" were placed in Cattaraugus, Ellicottville, Franklinville, Randolph, Salamanca, and Olean to this end. The local community paid for their physical accouterments. Each district center building contained three rooms: one room an office for the one to four public health nurses assigned to each center, another serving as a waiting/meeting room, and the third for examinations and clinics. The State Charities Aid Association placed two more "substations" in South Dayton and Delevan, and scattered mobile clinics and consultation centers (with the help of P. C. Bartlett, the "expert consultant" in Framingham) around to achieve proper coverage of the entire county so that no county resident might have to travel more than a township or two for advice or assistance.

The main activities of the Cattaraugus County Department of Health were the provisioning of generalized nursing service; tuberculosis case-finding, both human and bovine; school health inspection, and popular health education campaigns. An experiment in generalized

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583 Indeed, the Cattaraugus County demonstration prompted New York Governor Alfred G. Smith to remark in his annual address to legislators that "the unit for local public health work should be the county, with a full-time qualified county health officer who should be made responsible for the conduct of local health matters within his jurisdiction, with only such supervision as the State may be required to give in an advisory capacity. Such an organization has been possible under the law for several years; yet only one county, namely Cattaraugus, has seen fit to take advantage of it, and with the very best results in promoting the physical welfare of the inhabitants." Quoted in the *Milbank Memorial Fund Quarterly Bulletin* 4 (April 1926): 13. Winslow, *Health on the Farm and in the Village*, 2, 44-5, 82; "Progress of the Demonstration Units," *Milbank Memorial Fund Quarterly Bulletin* 1 (March 1923): 3; "Recent Progress in the Demonstrations," *Milbank Memorial Fund Quarterly Bulletin* 1 (July 1923): 2-4; Leverett D. Bristol, "Annual Meeting Minutes," *Milbank Memorial Fund Quarterly Bulletin* 1 (January 1924): 17; "Recent Progress in the Demonstrations," *Milbank Memorial Fund Quarterly Bulletin* 1 (October 1923): 6-10.

countywide nursing was launched coincident with the beginning of the demonstration. The size of the nursing staff of the Bureau of Public Health Nursing in the Cattaraugus County Department of Health was doubled over the course of the demonstration to sixteen. Field training of new public health nurses was conducted in Cattaraugus County after 1926 under a program inaugurated by Teachers’ College, Columbia University.  

The campaign against tuberculosis, choreographed by the local voluntary Tuberculosis and Public Health Association and the county health commissioner, turned up an alarming number of previously unidentified tuberculosis cases. Newly purchased equipment and scholarships for local physicians to study at the Trudeau School of Tuberculosis at Saranac Lake paved the way for this case finding. Portable x-ray machines and tuberculin testing revealed many more active and arrested cases of the disease than had previously been found. Thousands of x-rays and sputum samples were processed over the course of the demonstration. Case finding efforts among the resident Indian population of 1,400 were also beefed up with Milbank funds. Where before the institution of the demonstration physicians discovered about 70-80 new cases each year, now they found over 300. Demonstrators consigned active cases of tuberculosis to Rocky Crest Sanatorium, just across the river from Olean. They also sent children at risk for tuberculosis, identified by physical examination or as household associates of active cases, to the Health Camp in Allegany State Park for 42 days of salubrious environmental exposure and exercise. Here “the boys and girls find themselves members of a large family, where the acquisition of ‘good health habits’ is made a matter of serious moment.”

585 Winslow, *Health on the Farm and in the Village*, 171, 186.
The State Charities Aid Association considered bovine tuberculosis in otherwise bucolic Cattaraugus County an important source of human tuberculosis infection (about five percent of all human cases according to contemporaneous studies). A special advisory committee led by Veranus A. Moore, dean of Cornell's New York State Veterinary College, reduced herd infection rates (as determined by tuberculin testing) from thirteen percent in 1920 to 7.7 percent in 1923, and 2.55 percent in 1924. By 1926, less than half a percent of cattle in the county reacted positively to the tuberculin test. Experts pegged the net gain in cattle value to local farmers at one million dollars.587

The District Committee on School Hygiene coordinated primary and secondary physical examination and sanitation efforts. The Committee was composed of the Olean and Salamanca school superintendents, five rural school district supervisors, and the county health commissioner. Cattaraugus County had 293 public schools in demonstration days, 228 of them one-room rural schoolhouses. The fourteen thousand school children in the county were subjected to annual exams by local physicians. Each child was observed about six to ten minutes each. School medical inspection uncovered large numbers of "defects" in children, 15,372 in all among 7,944 school children by the end of 1924. Heating and ventilation of schools was also an important issue taken up by the demonstration. County health officers, aware of the results of the New York Commission on Ventilation, strove to keep the temperature of rooms in the healthy range between 70 and 73 degrees.588 Health officers also encouraged Cattaraugus County children, though of good preexistent nutritional habits, to put more butter in their diets.589

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589 A strange conclusion given the importance of the local dairy industry. See Winslow, Health on the Farm and in the Village, 162.
Selling health service to the public was of prime importance to Milbank demonstrators in Cattaraugus County. Health education and publicity efforts ran the gamut. The county health commissioner published weekly “health letters” in the local newspapers, and other tidbits wherever unused column space could be found. The County Board of Health used Milbank money to establish a health library open to all. It showed the health filmstrip “Working for Dear Life.” The Milbank Fund purchased a Trans-Lux opaque projecting machine “with a special daylight screen” for use by any county health organization. The County Tuberculosis and Public Health Association constructed a health float for the Farmer’s Picnic at Little Valley. An enterprising public health nurse put together a child welfare exhibit for the County Fair. Even Lee K. Frankel, who stimulated the specialized origin of the Framingham Demonstration, now came to see the wider implications of community health education. “One of the primary objects of these demonstrations,” he explained, “will be to bring the subject of health right down to the people, to show them in their own terms what scientific medicine means, what the health movements are, and, in other words, to cultivate a health habit among them.”

Demonstrators enlisted both local experts and laypeople in the health education and publicity drives. Town and village chambers of commerce, local medical societies, farm and home demonstration bureaus, and granges all donated their time to spreading the gospel of health. The local community chest supported prenatal and child health clinics. May Day became an in-service day for the promotion of child health and the reinvigoration of local voluntary “vigilance committees.”


A rural demonstration demanded particular attention to the necessity for cooperative interaction between “outside” experts, local experts, and interested laypeople. The aim of cooperation and coordination sought in all of the Milbank demonstrations became compromised in 1926. The Cattaraugus County Medical Society, apparently, had tired of its role in the demonstration. Some society members complained of the arbitrary manner by which the New York State Charities Aid Association ran the demonstration. Some complained about a loss of fees from private practice, an attempt at medical “pauperism” on the part of the public health authorities. Others complained that they misapprehended the original intent of the demonstration as tuberculosis case-finding only. The County Medical Society passed resolutions “condemning” the demonstration, especially the “ineptitude of lay bodies,” and distributed booklets to the public advising against cooperation with demonstrators.  

Physician opposition is intriguing considering the level of integration already achieved by 1926. Two physicians had positions on the County Board of Health. J. P. Garen, the president of the county board of health in 1925, was both a local physician and director of the county laboratory and bureau of communicable diseases. He launched an offensive against the demonstration even as he drew a salary from his demonstration offices. C.-E. A. Winslow blamed the breach on a “lack of tact” on the part of Milbank experts and administrators and inherent “psychological difficulties” found in an imperfect attempt to reorganize and reorient local physicians to the cause of health.  

The year 1928 brought more trouble to Cattaraugus demonstrators. That year witnessed “disastrous” epidemics of enteritis, dysentery, typhoid fever, and diarrhea in the city of Olean. The source was traced to the auxiliary water supply, a series of wells located too near the

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592 Winslow, Health on the Farm and in the Village, 3-4, 240-51.
593 Ibid., 3-4, 240-51.
Allegheny River, into which only a little way upstream the city dumped its untreated sewage. In all, 2,500 cases of gastroenteritis, six cases of dysentery, and 238 cases of typhoid amounting to $350,000 in unanticipated medical bills were recorded in Olean. In the follow-up investigation, Matthias Nicoll, Jr., the New York State Commissioner of Health, unearthed evidence that the health officer of Olean had improperly recorded chlorine levels daily when they had in fact been performed much less often. Chlorine levels in the town’s water supply, as a result, were insufficient to ward off a breach into the filtration system. Further, the local water superintendent, acting on a report from a man fishing on the Allegheny who had heard a strange sucking sound as he floated near the wells, had shut off the suction pump to one of the wells without informing local authorities of the problem. The pipe turned out to be broken, polluting the drinking water system with untreated creek water and sewage from an Olean outlet located upstream. No one noticed the resulting fluctuations in the volume and pressure of water flowing through the system because no one took daily observations of chlorine used to treat the water. The mayor fired both the offending health officer and his board of water commissioners. The disaster, all told, stretched the credibility of the local health organization and reflected poorly on the demonstration itself. The reaction involved the hiring of a full-time county sanitary engineer.  

Opposition and controversy lengthened the Cattaraugus demonstration from three to five years. Arguing that the health programs established by the Milbank Fund and State Charities Aid Association would not be supported solely by county funding after 1927, the last “planned” year of the demonstration, members of the County Board of Health appealed to the Milbank Fund to continue at least partial funding for an indeterminate number of years. This the Milbank Fund

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did, providing a limited amount of money for 1928 and 1929 before ending formal funding entirely. Some money continued to be spent for Milbank-sponsored health research projects into the 1930s.595

Despite these problems health experts considered the rural demonstration operated in Cattaraugus County a success. The community’s score as measured by the Appraisal Form developed by the American Public Health Association skyrocketed from forty-one percent in 1923 to eighty-one percent in 1929. The county had saved approximately three hundred thousand dollars in “life capital” by a general reduction in communicable disease rates. Active cases of tuberculosis identified in the county dropped by half. “The percentage of incipient cases reported, and the increase in the numbers under sanatorium or home care, compares favorably with the results achieved in the Framingham project, which specialized in this disease,” wrote John A. Kingsbury.596

Still, all three control counties showed tuberculosis deaths dropping at even higher rates than Cattaraugus, even though they had not been part of the demonstration. The “psychological” effects of the demonstration also proved unremarkable when health questionnaires measuring the success in changing county public opinion by “selling” or “not selling” health were compared. Yet, the experts remained exuberant. “It probably excels all other purely rural counties in tuberculosis control and laboratory service, and in public health service,” claimed C.-E. A. Winslow in 1931.597

In the final analysis, the failures and successes of the demonstration meant less to the significance of the demonstration than its generalizability, that is, that the plans and principles

595 Winslow, Health on the Farm and in the Village, 243.
worked out in Cattaraugus County be both fitted and flexible enough to meet the needs of other rural counties. As William H. Welch put it, "A demonstration such as this, which has as one of its main objects to show how public and private health endeavors can with effective results be coordinated to a common end, is well worth while even if nothing more comes of it." Suffolk, Cortland, and Westchester counties soon emulated Cattaraugus County in establishing similar health programs in their own communities. Cattaraugus County demonstrated that this "standard" general health program might be aggressively undertaken in any "average" county of New York, or in the country generally for that matter.598

Syracuse stretched the definition of typicality in Milbank demonstrations, having an already advanced city health establishment, as well as positive collaborative links with local physicians in private and institutional practice. Twelve preexisting bureaus in a city health department organized in 1920 already served this community of 182,000, those for administration, child hygiene, communicable diseases, health education, health supervision, laboratories, milk and meat inspection, plumbing, psychiatry, school inspection, tuberculosis, venereal diseases. A thirteenth, for industrial hygiene, was in the planning stages. Other preexisting health and welfare amenities included ten modern hospitals, an Academy of Medicine, and a superior medical school.599

The State Charities Aid Association, beginning in March 1923, used Milbank money to establish in conjunction with city health commissioner Thomas P. Farmer and the New York Association for Improving the Condition of the Poor, projects for the control of communicable diseases, tuberculosis case finding, industrial hygiene, social hygiene and venereal disease control,

The Syracuse demonstrators inaugurated special surveys of the city in the closing months of 1923. Walter H. Brown, director of an American Child Health Association "demonstration" in Mansfield, Ohio, looked at child health in Syracuse. Walter M. Brunet of the American Social Hygiene Association studied the venereal disease situation in the city. Wade Wright of Harvard's Department of Industrial Hygiene surveyed health conditions in local factories.

The Department of Public Instruction and the Mental Hygiene Committee of the Onondaga Health Association sponsored a mental hygiene micro-"demonstration" in Syracuse's Seymour School during the 1925-6 school year. These experts agreed the eight hundred Seymour students represented a typical Syracuse student body closely, having proper proportions "of the various nationalities and classes making up the population" generally. Demonstrators consigned ninety students found to be "abnormal mentally" to special classes.

School health workers examined the children of Syracuse for health defects, administered Schick tests and diphtheria immunizations, and inaugurated a health education program with a regular lecture program for children and their parents. Demonstrators superintended over fifteen thousand physical examinations in 1924 alone, identifying over five thousand children with health defects. School health inspectors also discovered hundreds of cases of goiter. Fifteen percent of elementary school students, twenty percent of high school students, and thirty-eight percent of all pupils in the Girl's Continuation School had persistent goiter problems. Demonstrators issued 124,000 chocolate-covered iodine tablets to Syracuse students to treat and prevent the disease.

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Syracuse demonstrators in their health education efforts placed advertisements in city newspapers and placards in street cars. The city health department’s Bureau of Health Education issued a bimonthly (later, monthly) sixteen page magazine with a circulation of three thousand and entitled Better Health, positioning it as an organ for coordinating the like-minded; put on a children’s health parade complete with a “Health Queen” and six attendants, “Fresh Air,” “Sunshine,” “Exercise,” “Wholesome Food,” “Cleanliness,” and “Happiness;” and adopted the slogan “Syracuse Wishes You Well.” The Onondaga County Tuberculosis and Public Health Association scheduled up to two dozen public health lectures each month, and collected and distributed health films and slide shows. An Advisory Committee on Nutrition observed and improved family “food habits.” Syracuse schools organized forty health clubs for students to join.  

Syracuse demonstrators experimented with generalized versus specialized nursing schemes. They found generalized nursing much more efficient and useful. “Formerly, the time of a given nurse or group of nurses [in Syracuse] was devoted exclusively to one special field such as child welfare, school hygiene, or tuberculosis,” explained George C. Ruhland, deputy commissioner of health and director of the Syracuse demonstration. “This meant that in following up cases the nurse would have to travel long distances back and forth across the City. Not only did this involve a loss of time, but often two or more nurses would be visiting the same home.” The new plan adopted by Syracuse health experts involved assigning one nurse to a smaller area, and assigning to her all home visits regardless of type.  

Syracuse also became a testing ground for administrative methods in community health. One of the minor, though important, administrative experiments conducted at Syracuse involved the testing of forty-six different types of city health record forms. Demonstrators assessed and judged the forms as to shape, size, color of ink, and even the weight of the paper stock they were printed upon. One sample purple card with blue ink was denounced as "illegible."

Demonstrators also attacked the problem of arrangement of form pages in files and loose-leaf folders. They settled upon three "general purpose" standard record form sizes: 3" x 5", 5" x 8", and 8½" x 11". Lighter paper colors were advised as superior to darker colors, and 16 to 20 lb. stock appeared strong enough for most purposes. Syracuse experts also settled on Caslon, Bold Face, 8 pt., as an admirable font for printing on ideal record forms.696

Laypeople and other experts in and outside the professions of health also engaged extensively in Syracuse's health campaign. The American Red Cross, Americanization League, Boy Scouts, Campfire Girls, Catholic Youth's Camp, Child Health Committee, Community Chest, Girl Scouts, Home Bureau, Jewish Communal Home, Junior League, Onondaga Orphan's Home, Syracuse Department of Public Instruction, Visiting Nurse Association, Young Men's Christian Organization, Young Women's Christian Organization, Young Men's Hebrew Association, Young Women's Hebrew Association as well as several black organizations all contributed their talents to the Syracuse health campaign.

Health efforts coordinated with Milbank dollars paid dividends. Syracuse won top honors among Class II cities in the 1929 Inter-Chamber Health Conservation Contest sponsored by the American Public Health Association and the United States Chamber of Commerce for superior water supply, sewage disposal, food sanitation, disease prevention programs, vital

statistics, medical conferences, and voluntary and public support. The city went on to receive a perfect score (1,000 out of 1,000 points possible) on the APHA’s Appraisal Form. Syracuse, atypically typical at best of urban health problems in modern America, served as a “city set on a hill,” an ideal to which other communities might strive.

Milbank demonstrators carved a metropolitan demonstration, spanning the decade from 1924 to 1934, serving a population of about 214,000 residents out of two preexisting tuberculosis surveillance districts, Bellevue and Yorkville. Bellevue-Yorkville, composed of “quite an interesting distribution of income ranges,” stretched from 14th to 63rd Street and from the East River to Fourth Avenue. Demonstrators found the age distribution, birth rate, and immigrant population percentage (then about thirty-five percent) “practically identical” to other parts of Manhattan.

A great challenge to demonstration work in New York City was the prior existence of so many preexisting health and welfare organizations. The metropolis supported over one hundred hospitals and five county medical societies, and almost one thousand other health and health-related agencies. Fifty-six health and welfare organizations worked directly inside the bounds of the Bellevue-Yorkville District alone. They included seventeen hospitals, twenty-three dispensaries, twelve day nurseries, nineteen social service centers, eight milk stations, and nine maternity centers. Cornell University Medical College and the Henry Street Settlement called Bellevue-Yorkville home. “Here,” stated C.-E. A. Winslow, “the work was so to blend the activities of the demonstration with those of these agencies that they would fuse into one intricate and complex pattern for the benefit of the district as a whole.”

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Putting together these extant specialized pieces into a generalized whole was no easy matter. Physical proximity led off efforts to coordinate all the health and welfare agencies in the demonstration area. Demonstrators moved into the old public bath building erected using funds provided in 1904 by Elizabeth Milbank Anderson, where the Technical Board reassigned Leverett D. Bristol, then director of the Cattaraugus Demonstration, to the post of executive officer. Extensively remodeled, this demonstration headquarters distributed space to official and voluntary agencies working in Bellevue-Yorkville. The rechristened “Bellevue-Yorkville Health Building” also housed an auditorium and assembly room, a museum of hygiene, nurse training facilities, and rooms for health clubs. The Health Building also contained clinics for child health, preventive cardiac care, syphilis, well-babies and office space for a safety campaign.610 The Bellevue-Yorkville officials also experimented with generalized and specialized nursing schemes in hopes of encouraging an associational “neighborhood growth of feeling.”611

Local health centers dotting Bellevue-Yorkville acted as a countervailing force, distributing and decentralizing the fruits of intensive coordination and cooperation. The organizational plan for the Bellevue-Yorkville Demonstration highlighted the importance of district health organization organized around health centers (called, more inclusively, “neighborhood centers” in New York City) in the community health work of large urban cities. Each center provided all manner of health and welfare services, including public health nursing, venereal disease control, x-rays and laboratory analyses, infant and child clinics, school hygiene,
family welfare, dental hygiene, orthopedic clinics for crippled children, nutrition classes, mental hygiene, tuberculosis control, and popular health education.  

Two peculiarly metropolitan problems distinguished the work of Bellevue-Yorkville demonstrators from that performed elsewhere. First, deaths from "street accidents" in the "traffic-congested" neighborhoods comprising the demonstration topped 230 in 1922 alone, giving a rate seventy-four percent higher than found in the rest of New York City. A second characteristically metropolitan problem involved the "dual population" of Bellevue-Yorkville residents and the daily deluge of nonresident workers into the "financial heart New York City," located within the boundaries of the demonstration.

Milbank funding of community health continued long after the end of the three New York demonstrations in Cattaraugus County, Syracuse, and Bellevue-Yorkville. Much of the impulse behind this work became regularized and institutionalized in the Milbank Memorial Fund Division of Research founded in 1928. According to trustees, the Division of Research "arose naturally out of the desire to ascertain as precisely as possible the effects of public health measures applied in the demonstration areas." Milbank researchers, additionally, hoped to construct useful strategies for future "social experimentation" from the data obtained in the demonstrations. By 1940, the Division of Research had published over 140 articles in many different journals, including its own mouthpiece the Milbank Memorial Fund Quarterly. Researchers considered among their major initiatives in this corpus general public health methodology, epidemiology, adult health, public health economics, nutrition,


population studies, birth control, and the building of cooperative relationships with other professions.\textsuperscript{615}

The Commonwealth Fund began organizing for demonstrations through its Child Health Program in 1922. The Fund, incorporated in 1919 in New York City, had considerable latitude. Mrs. Stephen V. Harkness pledged over $16 million in securities to the Fund with the sole stipulation that it "to do something for the welfare of mankind." Its first general director was Max Farrand of Yale University. Requests for funding poured in, a total of 155 appeals in the first year alone. The Commonwealth Fund gave its first donations to the United War Work Campaign, Inc., American Committee on Armenian and Syrian Relief, the Hampton Normal and Agricultural Institute, the National Committee on Mental Hygiene, the New York Committee on After-Care of Infantile Paralysis Cases, the Charity Organization Society, the medical school at Johns Hopkins, the National Research Council, the Babies' Welfare Association, the National Information Bureau, and the Junior Employment Service. By 1922, the Commonwealth Fund was disbursing $1.2 million a year for work in foreign relief, educational and legal research, social service, and child health and welfare.\textsuperscript{616}

President Herbert Hoover announced the entry of the Commonwealth Fund into demonstration work in an address delivered at the 1922 meeting of the American Child Hygiene Association. "Through the munificence of the Commonwealth Fund, this great association will now be able to undertake in three cities to be selected in the United States, a complete demonstration in every avenue of protection of child health," he asserted. "The funds assured

\textsuperscript{615}Milbank Memorial Fund, Program of the Division of Research, 1928-1940 (New York: Milbank Memorial Fund, 1941), 3, 8, 47-55.

through this source amount to approximately $230,000 per annum for a term of years and it is
proposed to choose a city in the Far West, one in the Middle West, and one [later, two] in the
South.  

Framingham and Milbank acted as only two sources of inspiration to Commonwealth
Fund demonstrators. The recently launched Mansfield and Richland (Ohio) County Child Health
Demonstration sponsored by a two hundred thousand dollar American Red Cross donation and
administered by the National Child Health Council, composed of several professional
organizations under the secretaryship of Courtenay Dinwiddie, acted as the other.
Mansfield-Richland demonstrators selected two Ohio counties as “fairly typical” industrial and
agricultural communities. The Demonstration lasted from 1922 to 1925, and entertained the
services of many public health experts, including Richard A. Bolt, Livingston Farrand (national
chair for the Red Cross), James L. Fieser, Homer Folks, Elizabeth Fox, L. Emmett Holt, Sally
Lucas Jean, Owen R. Lovejoy, Anna A. Stevens, Philip Van Ingen, and Linsly R. Williams.
Mansfield-Richland became a greenhouse nurturing and “coordinating the activities of its
member organizations” toward a goal of generalized health service through the direct agency of
child health work. Worried that a “wide gap” had formed between “available knowledge of how
to keep a child well and the actual application of this knowledge,” Mansfield-Richland
demonstrators conducted extensive medical examinations of children in the community, engaged
in the modern program of generalized public health nursing, encouraged the pursuit of health
and physical education in schools, stimulated good nutritional habits, opened “fresh air” summer
camps, and corrected dental defects. Experts designing the Mansfield-Richland Demonstration

hoped that through children, modern health protection might be extended to everybody in the community: parents, teachers, and neighbors.\textsuperscript{618}

Commonwealth Fund demonstrators also advanced general health education and prophylaxis while emphasizing a central role for child health progress. Barry C. Smith, chairman of the Child Health Program and general director of the Commonwealth Fund, explained the purpose of the demonstrations as opportunities to “translate into effective local action the available knowledge of measures which spell freedom and inspiration for the normal, healthful growth of children of all ages, as an integral part of a well-developed general health plan.” Child hygiene acted only as the central spoke from which radiated concerns for a clean water supply, fresh milk, immunizations, proper sewage treatment, and good nursing. After all, Commonwealth organizers agreed, “The health of children in any community is so inextricably bound up with the whole problem of health in that community that it cannot be treated as a separate entity.”\textsuperscript{619}

The Fund’s emphasis on child hygiene stemmed from expert pediatric and hygienic advice that children occupied the first and most malleable developmental rung of the ladder of life. Health in developing children generated healthy adults. This represented a progressive idea well-known to experts for several generations. The Fund’s advisors coupled this idea, though, to a new aesthetic of the “plastic” child. “Especially in childhood,” wrote Smith, “it is possible to influence profoundly the child’s whole conception of relative values.” If those values could be

\textsuperscript{618}Livingston Farrand, et al., \textit{Child Health Demonstration: Mansfield and Richland County, Ohio, 1922 to 1925} (New York: American Child Health Association, 1926), v-xviii, 1; Brown, “Organization of Health Demonstrations,” 14; Winslow, \textit{Health on the Farm and in the Village}, 38.

turned to healthy habits, a whole new generation of healthy adults would inevitably follow. Child health in this way could for practical purposes be equated with general health."

A Child Health Demonstration Committee governed and advised Commonwealth demonstrators. Commonwealth Fund administrators and public health experts drafted from the American Child Hygiene Association, the Child Health Organization of America, the American Public Health Association, and the National Organization of Public Health Nursing composed the committee. The American Child Hygiene Association claimed particular expertise in the field of preschool health, the Child Health Organization of America for school children. These two organizations melded into the American Child Health Association during the first year of on-site demonstration, and initially bore part of the administrative burden in the demonstrations, but the Commonwealth Fund discontinued the relationship in 1926 as unnecessary.

The Commonwealth Fund packed its Child Health Demonstration Committee with expertise. Richard A. Bolt, Robert E. Chaddock, Lotus D. Coffman, Ella Phillips Crandall, W. F. Draper, Samuel McClintock Hamill, L. Emmett Holt, Sally Lucas Jean, Theresa Kraker, Cornelia Lyne, Barbara S. Quin, Mildred C. Scoville, Philip Van Ingen, and Emma A. Winslow all sat on the committee at one time or another. Two familiar Framingham names could also be found among them: Donald B. Armstrong and Livingston Farrand. Courtenay Dinwiddie, former first executive secretary of the National Child Health Council in Mansfield-Richland demonstration days and present general executive of the American Child Health Association, oversaw this group as director of the Child Health Demonstration Committee until 1929.

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Still, the Commonwealth Fund, like the Milbank Memorial Fund, demanded local participation and control in its demonstrations. “The Committee,” the Commonwealth Fund’s public releases read, “is willing to finance the beginning of any type of work which is sound and is definitely for the health of mothers and of children of any age, provided this is considered as a first step toward the community taking over a supervisory and financial responsibility for such work within a reasonable period.” The Child Health Committee, ideally only advisory and administrative in character, stressed the importance of building community-wide support for health service. “Integration” and “inter-dependence” and “correlation” and “amalgamation” were crucial features of good community health work. The Child Health Committee appealed to expert knowledge as a basis for authority, but did not impose its will with impunity. Local lay and professional associations acted as intermediaries between the Fund and demonstration units. Communities, ideally, blazed a path toward health with the assistance of the experts. Citizens and professionals created an interdependent “partnership,” not a vassalage. Local interest, indeed, was a basic test of public health progress in Commonwealth demonstration communities.623

Commonwealth Fund demonstrations, also like those sponsored by the Milbank Memorial Fund, bore the hallmark of flexibility. The Fund, “has been unwilling to go even so far as to attempt to suggest in advance the various activities which should be taken up in the order of their priority or the exact procedures which should be followed in carrying them out,” the Annual Report outlined. Smith, director of the Commonwealth Fund, eschewed the value of

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demonstrations for the “standardization” of health practice in favor of what he called “proportion.” Commonwealth Fund demonstrations served as rough guides to public health practice, but had to be evaluated, rearranged, modified, and reevaluated for each new community. Standardization, Smith continued, proved too rigid in a single community when applied over time. Each community had different problems and those problems changed with time. Demonstrations helped generally to “bridge the gap between knowledge and practice,” but this dynamic relationship required adaptation.624

The pediatrician, the nurse, the teacher, and the private physician each played a crucial role in the child health demonstrations of the Commonwealth Fund. Often as a first step, the Fund brought to each demonstration community one or more pediatricians steeped in the wider field of child health. Those familiar with the history of child psychiatry might find a counterpart to that specialty’s involvement in child guidance demonstrations in the contemporaneous activities of the Child Health Committee. The Fund also relied on the services of public health nurses organized on a generalized basis. These nurses visited schools and homes looking for health defects, giving lectures, and offering advice. Teachers served as auxiliaries to their educational work. Cooperation from private physicians was essential, as they were to learn from new experience with community health practice and take over the work of the Commonwealth Fund when it left. All of these constituencies, along with the health administrators and the public, coordinated the multidimensional health services—child health, maternity, disease control, sanitation among them—needed in modern, progressive communities.625

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625Barry C. Smith, “Foreword,” in Child Health and the Community, 1-3; Dinwiddie, Child Health and the Community, 36-7, 47, 65-75.
The Commonwealth Fund's first demonstration, in Fargo, North Dakota, began in early 1923 and ended five years later in 1928. Fargo at the time was a rural community of about 27,000, the largest in the state, and a crossroads marketplace for agricultural products and farm equipment. Thirty one cities in the Upper Midwest competed for this first demonstration. Several factors recommended Fargo over other cities. The city, for one, was certainly not hostile. Its citizens showed "intelligent public sentiment." Local physicians appeared "cooperative." Fargo was also a city with little or no recent growth by births, deaths, or migration, variables that might obscure results. It displayed "average American virtues," only occasionally spoiled by "clannish" behavior among those of Scandinavian descent and lack of "group thinking" on the part of community leaders. The city originally scored 320 out of 1,000 possible points on the Appraisal Form developed by the American Public Health Association Committee on Administrative Practice.\(^{626}\)

A part-time health officer, a sanitary inspector, a university laboratory assistant, a school nurse, a Red Cross nurse, the Glad Tidings Mission, and the Salvation Army took responsibility for all of Fargo's health work before the Commonwealth Fund arrived. That changed immediately. The Child Health Demonstration Committee divided the health work applied to Fargo into four departments. The Committee appointed William J. French, who had recently worked for the Red Cross in Paris on child health programs, to direct the Executive Department and keep records of the daily activities of the Fargo Demonstration. The Medical Department, directed by Lester J. Evans, a pediatrician, superintended a well-baby clinic, preschool clinic,
school health examination program, and child health consultation service. Health education activities were coordinated by Maud A. Brown. Edith B. Pierson led the Nursing Department. The Commonwealth Fund also hired a dental hygienist for its work in Fargo. As the demonstration proceeded, Fargo organized its own department of health under B. K. Kilbourne. His hiring represented the first full-time health officer anywhere in the state.627

Fargo demonstrators brought together all kinds of constituencies. Experts trucked in by the Commonwealth Fund could not stage an effective demonstration alone. Hospital staff, clubs, parent-teacher associations, and businessmen all needed to participate. "If the program for the child is to attain its maximum success," the Commonwealth Fund reported, "the demonstration itself and the public health authorities must cooperate to an extent which will render their work a de facto unit in the community's interest." Lay leaders organized a local public health association to act as a pool of available volunteers for health projects initiated by the official board of health. Part of the expense of the demonstration was paid out of the funds of the Fargo Board of Education, a local Red Cross chapter, and the local branch of the National Tuberculosis Association, as well as Fargo's new department of health.628

Children suffered examinations and inspections by the pediatrician, dentist, nurse, teacher, and sometimes the principal. They stood in line for Schick tests and immunizations, recited from popular health textbooks, and religiously kept health "bank-books." Every child with a case of the sniffles was immediately sent home. Lectures on nutritious meals drove a local candy store into bankruptcy, even after it passed out free school blotters. Health experts and


volunteers caught unwary children from outside Fargo attending an Achievement Club Institute, a Boy Scout round-up, and the State Fair, scrutinizing them all for health defects.\textsuperscript{629}

The local health department and board of education paid for public health nursing evenly. It was organized on a generalized basis, each nurse receiving her own territory including one or more schools as a base from which to operate. In Fargo, eighteen nurses made 15,136 field nursing visits between 1923 and 1927. They enlisted teachers to assist them in the health education of Fargo’s children, freeing them to deal with the worst cases. Teachers usually interacted with children more hours of the day than even parents. They also bore responsibility for educating and adjusting the minds of youngsters. “The direction of the child’s mental life depends on the course of development and growth of the brain cells and their processes,” explained Maud Brown. “This growth requires the same fundamental essentials of food, rest, and activity as does the growth of other cells—muscle, bone, gland, which form altogether an intricate interacting whole, each influenced by the life of every other.”\textsuperscript{631}

Collaborative activity by health experts and local citizens brought material gain. The Demonstration inspired Rotarians to erect playground equipment in two city parks and organize a junior baseball league. The Fargo Board of Education introduced healthy “open air” classrooms. Markets stocked ten times as much spinach and other green vegetables than before. (The Norwegians, in particular, considered them “cow feed,” and preferred pickles). The Commercial Club offered elementary schools trophies for best health habits, attendance, and school sanitation.\textsuperscript{631}


The healthy home was also a central objective of the demonstration. Parents checked the health progress of their children with forms provided by the schools. Public health nurses conducted home visits to check on the children and the sanitary state of their living arrangements. Advancement in this department can be found in one student’s composition.

“How I am now mamma says is from oatmeal and milk,” wrote one ten year old. “Ever since the Health Records came out I have tried to keep them up. . . . Mamma didn’t care for it at first, but now she likes it. Our home is much cleaner. We had it clean before, but Oh! there is so much difference now.”

Parents learned the lessons of health from their own children. The publications director for the Child Health Committee related the following, perhaps apocryphal, story:

“Say, Miss Jones, we’re educating Ma.” It was a tow-headed boy in a Fargo schoolroom who burst out to this effect after wiggling his hand violently in the air. “Yes, Olaf?” How are you educating your mother?” “We’re educating her to let us have our windows open at night. She always leaves ‘em shut tight, but after she’s put us to bed we get up and open one of them, ‘n’ then in the morning before she comes in we put it down.” “That’s a good way to sleep. But I don’t see how your mother is going to be ‘educated’ if she doesn’t know anything about it.” Miss Jones was interested in new methods. “Oh, after we’ve slept through it a few nights and don’t have any colds or anything we’ll tell her and then she’ll know it’s all right.”

Another child taught the virtues of adequate sleep reportedly prayed after a late party, “Oh, God, please make it possible for me to get to bed at eight o’clock hereafter.” Others complained about home ventilation and lack of fresh vegetables to their parents.

By July, 1927, shortly before the end of the demonstration, Fargo began picking up the entire tab for its demonstration work. Permanent health service in Fargo included a full-time health officer and his part-time medical assistant, a full-time public health dentist, a full-time public health nurse, and a full-time nurse-midwife. The demonstration ended on August 1, 1927, after which time only the part-time medical assistant continued in that capacity.

Commonwealth Fund Child Health Demonstration in Fargo, North Dakota, 28, 33, 44.


sanitary inspector, six full-time public health nurses, a full-time supervisor of school health education, a public health laboratory, and two statistical clerks.\textsuperscript{634}

The Commonwealth Fund launched the second and third demonstrations in Clarke County, Georgia, and Rutherford County, Tennessee, one year after Fargo in 1924.\textsuperscript{635} It chose Clarke and Rutherford from more than forty applicants. The Commonwealth Fund designed the Clarke and Rutherford demonstrations as companion pieces, as programs for urban and rural community health respectively.\textsuperscript{636} Clarke County, in northeastern Georgia, held about twenty thousand residents at the time of the demonstration. Organizers liked it because it seemed "progressive," had "an unusual interest in health and social activities," and formed a microcosm of southern society in its many distinctive groups: middle- and upper-class educated whites, poor white mill hands, and rural and urban blacks. Athens, the largest city with sixteen thousand people, at the time was a center for the manufacture of textiles, cotton oil, and agricultural implements. Women made up half of its industrial work force of sixteen hundred, many of whom had children. The city also boasted numerous institutions of higher education. The University of Georgia, the Georgia State College of Agriculture, the State Normal School, Lucy Cobb Junior College, and the Knox and Gerald Institutes for black education all found a home there. The Fund thought these schools might help spread the word and help institutionalize the demonstration after they were gone.\textsuperscript{637}

The Commonwealth Fund found Athens' record in health matters, however, less impressive. Few people there had ever been immunized against diphtheria and typhoid, adversely


\textsuperscript{636}Ibid.

\textsuperscript{637}Ibid.
affecting the infant mortality rate. Athens had a board of health, as did the county generally, but few maternal and child health programs. Not many of the local midwives were "competent" or "efficient" in the eyes of demonstrators. Eighty-five percent of inspected school children had identifiable health problems. Schools served lunches without milk. Tuberculosis ravaged the community.638

Contributions to the work of the Clarke County Demonstration came from many sources. The United States Public Health Service, the Clarke County Anti-Tuberculosis Society, Athens Board of Education, Clarke County Medical Society, the Eighth District Dental Society, and personnel from the local tuberculosis sanatorium all contributed their talents. The chancellor of the University of Georgia, the president of the State College of Agriculture and Mechanic Arts, the president of the State Normal School, and secretaries of the local Parent-Teacher Association, Tuberculosis Association, as well as 23 physicians pledged their support. Between 1923 and 1926 the demonstrators increased the number of community health experts and trained adjuncts from seven to twenty-three. "Before the demonstration the health department was like a motor-car with one cylinder," explained a Child Health Demonstration Committee report. "The health officer was at the wheel and he knew where he wanted to go, but he had to jerk along from job to job because he lacked the staff to apply a steady flow of power." A county health commissioner, three sanitary inspectors, six public health nurses, three clerks, two vital statistics clerks, and one bacteriologist, statistician, demonstration director, director of school health education, physical educator, oral hygienist, served the county by the late 1920s.639


Athens experts and citizens worked together to develop many new projects relating to health. A free clinic opened at the General Hospital for the poor, later supplemented with ten free beds each for white and black children. Milk, food, and water supplies underwent inspection. “Block mothers” rounded up neighborhood children about to enter school for medical exams. Schools established separate playgrounds for white and black children. The nutritious value of school lunches improved, commercial clubs and Sunday schools paid for the distribution of milk at morning recess, the physical educator took silhouettesographs of posture and recorded height and weight gains on grade reports.

Dental hygiene efforts paid particularly splendid dividends. The teachers in one elementary school created a “revolving fund” out of receipts from a special Brunswick stew and barbecue dinner, from which loans for dental costs might be drawn. All of the white school children in Athens eventually saw an oral hygienist who referred candidates to local dentists. When a noted Oxford professor visited one school classroom during the demonstration, he asked what made Athens special. Two students responded with astonishing synchronicity: “One hundred percent dental corrections.”

Efforts to introduce dancing as a regular playground activity achieved more mixed results. Physical educator Willie Dean Andrews, paid by the Commonwealth Fund to organize structured games for white and black children, noted that folk dancing taught “real social values” as an “activity for all” (while simultaneously exercising large muscle groups) when compared against other “solo” activities. Black children loved these dances, he found, and few needed to learn the

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basic rhymes and rhythms of “Steal Miss Liza,” “Walking on the Green Grass,” and “Sissy in the Barn.” Folk dancing among white children, however, produced “dismal results.” They could learn the dances and the melodies, but participated woodenly, without the “jollity” evinced by the black children. White children quit dancing when not led by the teacher or the educator, while black children broke into dance at recess spontaneously, creatively varying the choreography and word order.  

Hard times undid many of the advances of the Clarke County Demonstration. Low cotton prices and subsequent bank failures led to a round of cost-cutting measures. All of the “special teaching” programs, including those for health education were removed from the curriculum in 1929. Schools canceled further dental hygienic work, and the local health officer resigned in disgust.

The Commonwealth Fund started the Rutherford County, Tennessee, Demonstration in 1924. Rutherford County was at the time overwhelmingly rural in character. Only six hundred residents worked in the seven factories of its largest city, Murfreesboro, among an overall county population of 33,000. Fully eighty-five percent of them farmed, the chief crops being cotton and corn. A few worked in red cedar lumbering, turning these sweet-smelling trees into pencils, buckets, and chests. The county had no preexisting local health boards, and most health matters of urgency fell on the shoulders of a single local Red Cross nurse. Typhoid, tuberculosis, diphtheria, and scarlet fever appeared endemic, and almost every rural well was contaminated. One-third of the population suffered illiteracy. The adage of some locals was that “children

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outgrow their ills if left alone,” and some treated goiter by using a popular home remedy: tying live toads around the neck.644

Given the underwhelming state of health service in Rutherford County and the unfamiliarity of its people to modern hygienic methods, the Child Health Demonstration Committee exercised its authority over demonstration work here more than elsewhere. “This is the only demonstration in which there has been complete centralization of the work of the health department and of the demonstration activities under one director,” it was explained in the Annual Report of the Commonwealth Fund. The list of needed improvements was long. The committee hired a pediatrician to organize an expert consultant service for local physicians. It immunized and inoculated with impunity. It corrected defects in children. It built safer privies (replacing jaunts into the woods) and sanitary drinking fountains for schools. It introduced parents and children to the benefits of green vegetables. The Fund also created a fellowship program to lure local physicians into the program.645

One of the most popular health programs put in place in Rutherford County involved the “blue ribbon” campaign, an idea borrowed (though “adjusted to local needs”) from the Mansfield Child Health Demonstration. The awarding of blue ribbons required that white children measure up to several requirements. Children had to take immunization shots against smallpox, diphtheria, and typhoid fever. They had to maintain good health habits and behavior at school. Children also had to be free from any medical “defects.” One thousand children in the county

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eventually met these requirements. Schools for black children staged a similar, though “simpler,” health contest.646

Many agencies assisted in the Rutherford County Demonstration. The local American Red Cross chapter, Rutherford Hospital, the Tennessee Department of Education, and Tennessee State Medical Association, and the Middle Tennessee State Normal School in Murfreesboro all volunteered their time and effort to various phases of the work. The Tennessee State Department of Health gave its valuable resources to the demonstration, receiving in return useful information on the creation of county health units and ideas for reforming its own administration and activities by integrating state educational resources. Harry S. Mustard coordinated these bodies as director of the demonstration. Mustard had on his staff during the demonstration a pediatrician, a nursing supervisor, six staff nurses (one black), a school health educator, and a vital statistics clerk.647

The Commonwealth Fund supported the majority of health work undertaken early in the demonstration. The Fund paid for the first hospital in the county, Rutherford Hospital, entirely out of its own coffers. It also paid for five annual scholarships for physician education. The hospital housed venereal disease and pediatric clinics. The Commonwealth Fund also established a modern tuberculosis clinic, complete with x-ray machine and diagnostic laboratory equipment. A three (later ten) cent county tax levy earmarked specifically for the development of county health administration paid for a slowly increasing share of the demonstration work. The Murfreesboro Charity Circle, founded late in the demonstration, and the County Department of

Health took up and correlated health and social activities as Commonwealth organizers withdrew. Black schools received financial assistance for health projects from the Jeannes Fund, a private charity for black education in the South.648

Public health nursing was key to bringing health expertise to rural residents of the sprawling, six hundred square mile county. The demonstration hired six nurses to cover this ground. Their work did not always go smoothly despite the generally optimistic portraits painted by trustees of the Commonwealth Fund. The record of one recalcitrant father in the backwater hamlet of Burk’s Hollow is illustrative:

The nurse visited that home one day about dinner time. At the table she talked with the head of the family about immunization. He wasn’t sure that it worked. But, she pointed out, it certainly worked with hogs! [By] coincidence, her host was the functionary authorized to perform this service for his neighbors’ swine. Not long afterward the children presented themselves for immunization and the school score was perfect.649

To supplement them and bear part of the enormous burden of health work, George Peabody College in Nashville began using Rutherford County to train its nursing students.650

Still, these nurses could not hope to cover all ground in the county. Local lay support proved crucial. Demonstrators organized fifteen local health committees of laypeople in the county, and they provided many kinds of support. Murfreesboro’s Business and Professional Women’s Club sold “tuberculosis seals” to buy tents for a temporary sanatorium. Sixteen women planned and cooked hot lunches for school children twice weekly, weighed and measured the children regularly, filled a “loan closet” with first aid and maternity supplies, kept neighbors apprised of upcoming clinics, and informed demonstrators of cases needing special attention.

Parent-teacher associations worked to improve the sanitary arrangements of schoolhouses and homes. Schools acted as natural “distributing centers” for this volunteer assistance.\(^{651}\)

Marion County, Oregon, got its demonstration in early 1925. The site of the last of the five-year regional demonstrations conducted by the Commonwealth Fund, Marion County circumscribed a rich chunk of farmland and forests in and around the Willamette Valley. Not surprisingly, the economy depended on fruit farms and lumber mills. The county contained about 55,000 residents clustered in two cities, seven towns, and more than a dozen smaller villages. The Fund’s supervisor of health education described the county as a place “where the great open spaces of the movies are still found in abundance.” The largest city in the county, Salem with a population of 26,260, doubled as demonstration headquarters and state capital.\(^{652}\)

Marion County originally had twenty-two other competitors for its demonstration. Commonwealth Fund organizers liked Marion County as the location of this last demonstration because of its dissimilarity to the other sites. Marion County for them represented a growing community with inadequate, though extant, health facilities. The county also, unlike the other demonstration sites, produced healthier babies than almost anywhere else in the country. The infant mortality rate for Marion County at the beginning of demonstration work stood at about fifty deaths per thousand live births, compared with over seventy per thousand in the United States Registration Area generally.\(^{653}\)


\(^{652}\)Warner and Smith, Children of the Covered Wagon, 3-5, 12.
The Commonwealth Fund tapped Walter H. Brown, former director of the Mansfield National Child Health Council-Red Cross demonstration, as on-site director of the Marion County Demonstration. Funding came primarily from the Commonwealth Fund and the Oregon State Board of Health, but partial and growing funding for the demonstration came from county taxes, Salem County's schools, the Oregon State Board of Health, and the Marion County Public Health Association.\textsuperscript{654}

The Salem Health Department at the outset had a part-time city health officer, a part-time county health officer, a part-time school physician, and a part-time school nurse. Participating agencies in the Marion County Demonstration, extending from this original state, coordinated several health operations into a manageable whole under the guidance of a county health service administered by a full-time county health officer. The job of the county health officer was to maintain and improve health by judiciously administering the regular affairs of the office, politely ensuring the cooperation of private organizations in the area, and directly sponsoring temporary or intermittent health programs where gaps or deficits existed. The regular affairs of county health officer enumerated and inaugurated by demonstration organizers included a medical service for the regular examination of infants and young children, a preventive dental service, a health education service, and a statistical service.\textsuperscript{655}

The relative newness of the county led Commonwealth demonstrators to concentrate much effort on the simple, though essential, task of creating a sanitary infrastructure. Experts tested milk for tuberculosis and typhoid bacilli. They sampled local drinking water supplies, whether rivers, lakes, or wells. They directed the construction of adequate privies, lining their pits with concrete and hanging flypaper. Experts also organized the construction and renovation

\textsuperscript{655}Brown, "Organization of Health Demonstrations," 18-9.
of public buildings, especially schools, to create healthy levels of heating, lighting, and ventilation. The demonstrators also stressed the health effects of “sun baths,” or artificial treatment with the Alpine lamp, for children. Overcast conditions in the region both summer and winter made this last task especially important in the minds of the demonstrators. Portland, Oregon, they agreed, received fewer of the sun’s beneficial ultraviolet rays that built strong bones than anywhere else in the nation. One in six children in Marion County suffered mild rickets.656

Enrolling the children of this Oregon county in demonstration programs proved at least as difficult as in Tennessee. Where Rutherford County sprawled, Marion County positively tumbled across a wild Pacific landscape. Snowstorms cut off communication with some parts of the county for most of the winter. The county’s area stood at almost 1,200 square miles, comparable in size if not population to Rhode Island. The task was complicated by the transient character of settlements furthest from the administrative center in Salem. The shifting communities of temporary lumberjacks and their families, and recreational “tourist camps” complicated the job of adequate health supervision and education.657

Marion County demonstrators met this geographic challenge by creating twelve permanent health centers. Many of these centers, located in Silverton, Aurora, Mt. Angel, Hubbard, Mill City, Salem, Stayton, Woodburn, Jefferson, Scotts Mills, Gervais, and Turner, started as makeshift loan closets, calling trees, and motor pools for county public health nurses and local physicians. Some health centers occupied school rooms, but others found what space they could in warehouse store rooms, office buildings, and churches. Luckily, however, Marion

County residents proved exceptionally "committee-minded" in assisting the work of the health centers.\textsuperscript{658}

The prolific comings and goings of migrants in this "community on the move" exacerbated the communicable disease situation in Marion County. Smallpox was rife in the population, averaging sixty cases a year, and 181 in the first year of the demonstration. Compulsory vaccination before entry into school was not yet law in the county. Diphtheria immunization was also rare, as were skin and sputum tests for tuberculosis. Demonstrators and the county health department remedied the situation by vaccinating two thousand youngsters a year, administering toxin-antitoxin shots to preschoolers, and rooting out the tuberculous for quarantine and treatment.\textsuperscript{659}

Demonstrators used the public schools as natural sites for staging health programs. Teachers incorporated health education into every practicable aspect of their lessons. They brought in fathers and mothers to trim nails, brush teeth, comb hair, and wash hands with their children. Teachers taught the evils of coffee and virtues of carrots. One ambitious teacher, perhaps at the inspiration of popular Red Cross "Healthtown" literature, divided her classroom into railroad "stations" with names like East Toothbrush, Bathtubville, Hankie Junction, and Little Cleanface. Wrote one teacher,

I have had no difficulty in carrying out the health program. My little band of "chickens" drink milk, eat hot mush every morning, eat vegetables and fruit, take their baths, and clean their teeth at least every morning. They seem to get plenty of exercise, have home chores morning and night, walk three-fourths of a mile to and from school, play games and swing up and down at the ends of the branches.\textsuperscript{660}

\textsuperscript{658}Smith, et al., "Child Health in Marion County, Oregon," 16-8; Dinwiddie, "Contributions of Demonstrations to Rural Programs," 12.

\textsuperscript{659}Dinwiddie, \textit{Child Health and the Community}, 24-5; Warner and Smith, \textit{Children of the Covered Wagon}, 39-47.

\textsuperscript{660}Quoted in Simpson, "'Do-Do-Do-Then Do Some More': Ways of Teaching Health in One Room Rural Schools in Oregon," 44-8.
The demonstration thought up other projects for special effect in impressing the public. At one point during the demonstration, 2,200 children on a health, behavior, and academic “honor roll” marched in a parade down the main street of Salem.661

Other members of the local community were enlisted to participate directly in the activities of the demonstration. The local Parent-Teacher Association, American Legion, Loyal Legion of Loggers and Lumbermen, the Woman's Club, Chamber of Commerce, and Mizpah Club all contributed their time and talents. A school teacher became the head county health instructor. School superintendents became school health administrators. Fourteen local health councils, a county health advisory council, and a medical advisory committee sprouted up to encourage and coordinate the health efforts of community leaders. Four local women planned and carried out an “expedition” to an isolated lumbering settlement where they outlined to squatters the utility of health centers with missionary zeal.662

The end of the Marion County Demonstration in 1930 marked the end of nearly a decade of Commonwealth Fund-sponsored child health demonstrations. Each of the demonstrations made significant progress based on yearly scoring by Watson Frank Walker, field director of the American Public Health Association. By the end of the demonstration, Fargo’s Appraisal Form score had risen to 827 on a 1,000 point scale. Athens’ score shot up from 331 to 814. Rutherford’s health improved from 97 to 689 points. Marion County saw its score rise from 202 points to 703.663

661 Warner and Smith, Children of the Covered Wagon, 86.


The Commonwealth Fund also claimed that to a certain extent the records of maternal and infant mortality, the schedules of communicable disease rates, the regular examinations of school children showed the efficacy of demonstration work. The statistical details of the demonstrations, however, are omitted here for several related reasons, all recognized to some degree by demonstrators themselves.

Commonwealth Fund researchers and administrators found quantification of the accomplishments of the demonstrations more difficult and more prone to erroneous interpretation than initially thought. The Fund at first assigned an autonomous Research Unit under George T. Palmer the task of collecting, comparing, analyzing, and synthesizing information generated by all of the demonstrations. This proved both impractical and less useful than statistics collection by a number of individual demonstrators looking at the demonstration problem from a variety of angles. The character of the statistical evidence produced at the site of each demonstration proved unique, warranting local collection and study of data, and the collection of "somewhat different" kinds of data. Demonstrators also found approved professional measurements devices and taxonomic categories "in flux." Moreover, the demonstrations lasted for a very short time on the human scale, only five years, and it was usually difficult to establish a reliable baseline regardless of the effort expended in researching community medical histories.664

These facts should not by any means diminish the claims for positive results lodged by the Commonwealth Fund's demonstrators. Few would argue that the large numbers of dental, optometric, and immunological corrections worked against health advancement in the demonstration communities, regardless of some overambitious, though mostly innocuous,

activities like the indiscriminate ripping out of thousands of "diseased" tonsils. The point of the
demonstrations lay not in the details, but in their overall effect in creating a positive climate for
change. The proof was in the pudding, as it were, and not in the individual raisins.

One of the major accomplishments claimed by the Commonwealth Fund in all the
demonstrations, and perhaps the greatest, involved improving "public opinion" regarding
comprehensive health programs. "The public mind has been opened to a new range of ideas,"
the Annual Report noted. "The service of doctors, nurses, and teachers has given the new ideas
practical form, and the skillful promotion of community organization has made the resulting
health progress a matter for local pride and the object of local effort."

Physicians approved of this new community outlook, especially when it reaped more
fee-paying patients. "The attempt in any demonstration should be to give to the community
confidence in its medical profession," the editors of the Journal of the American Medical
Association explained, "and to show to the medical profession the technique and the importance
of the practice of preventive medicine by the general practitioner." Mothers brought in
apparently "well infants" for checkups, looked more closely at their children for any signs of
regress in health, and reported themselves more freely for pre- and postnatal exams. Fewer
citizens sought out irregular practitioners too. Some doctors in private practice supplemented
their clinic income with fees for preventive services.

The Commonwealth Fund handled the issue of potential health center competition
against private clinics with some delicacy. The Commonwealth Fund Child Health
Demonstration Committee needed the expertise of physicians as an indispensable part of holistic
community health work. Fargo established a fairly restrictive trend, loosened somewhat in the

other three locations. The health center in Fargo weighed, measured, conducted physical
examinations, and took medical histories, but referred all corrective work to private physicians.
The center was “educational and not charitable” according to an abstract of the agreement made
between local Fargo physicians on a special advisory committee hand-picked from members of
the local medical society and the demonstrators.\textsuperscript{667}

Athens, Rutherford, and Marion demonstrators and local physicians made the same
pledge, restricting advice to matters of personal hygiene, nutrition, and physical exercise. Athens
closed its health center in the most prosperous district of the city a year before the end of
Commonwealth Fund sponsorship, hoping to move these families entirely to fee service.
Rutherford County’s health center refused to diagnose potential illnesses, instead restricting their
written comments to marks for “normal” or “defect” in the proper spaces during physical exams.
Murfreesboro demonstrators saw individual children in their health center a maximum of three
times without special permission from a family physician. Marion County demonstrators
required that most children get physician referrals for free health service throughout the
demonstration. Still, problems in determining ability to pay in families and recalcitrance among
those who could remained a source of tension nearly everywhere.\textsuperscript{668}

Health experts, if the number of articles published in the professional literature are an
adequate indicator, also watched the activities of the Commonwealth demonstrations closely.
The American Public Health Association published at least twelve thousand copies of

idem, et al., \textit{Five Years in Fargo: Report of the Commonwealth Fund Child Health Demonstration in Fargo, North Dakota}, 185;
\textsuperscript{668} Smith, et al., \textit{A Chapter of Child Health: Report of the Commonwealth Fund Child Health Demonstration in Clarke County
and Athens, Georgia, 1924-1928}, 75-6; Mustard, \textit{Cross-Sections of Rural Health Progress}, 35; Dinwiddie, \textit{Child Health and the
Community}, 39.
demonstration progress reports for interested parties. Some of the communities found themselves overwhelmed by the press of interested visitors wanting to see demonstration work firsthand.\textsuperscript{669}

CHAPTER X. FAMILY HEALTH AND FAMILIAL EPIDEMIOLOGY

Below the community, but no less important, stood the American family. The family, in its biological and social relations, was considered a "natural" group for study. Indeed, health professionals often referred to the family as the most "fundamental unit" in their work. It was not that individuals did not exist, but that their needs reflected the needs of groups in collective association. Health and disease were social processes, processes that could be understood in their full complexity only when considered in terms of association or relation, not as independent entities themselves. "The community is only a network or mass of families," explained two syphilis experts, "all interrelated by mutual work or play, by necessity, or by desire." As Henry B. Richardson, associate professor of clinical medicine at the Cornell University Medical College put it, the professions were in modern America "now ready for the concept of the individual as a member of a family in its community setting."

Ira S. Wile, pediatrician at Mt. Sinai Hospital in New York, also described the family not in terms of its individual parts, or members, but rather as equal parts "biologic" and "sociologic." As a biologic unit, the family resulted from the union of instinct and urge. Biology left a footprint upon the status of all that issued forth from that union, but not necessarily an indelible one. The footprint, as it were, could be smudged or preserved by the action of the "sociologic," social changes in the family. The introduction of the automobile and electricity by human agency left in its wake a legacy of carnage in the form of increased accident rates and what previously

would have been considered an unnatural cause of mortality. Familial and social values could of
t heir own volition alter even the fertility of specific individuals and the human species generally.
Noted Wile, "The family has been impressed by a dynamic machine mold, and it has not taken a
fixed static form, as it has changed mechanically, socially, even physically."  

The healthful home stood as the centerpiece, the great accomplishment, of the healthy
family. An examination of the social, economic, educational, political, and environmental
surroundings of the family revealed much of interest to hygienic experts. The household stood at
the apex of American civilization and determined the relative health of that civilization. The
supreme importance of the healthful home as a most fundamental unit of society was not so
apparent to many laypeople. Wile lamented the fact that so many citizens considered healthy
homes dependent solely on "individual desire and effort." Maintaining healthy homes, he noted,
required the cooperation of outside agency in the form of community forces that stood "beyond
the control of individuals."  

Wile, who wrote extensively on the urban housing problem, also professed his
disappointment that Americans erected housing solely on economic grounds in accordance with
the law of supply and demand, with little thought of public or family health. Finances, he stated,
should not be allowed to "jeopardize communal welfare." Homes built without regard to basic
sociological principles, without an understanding of common interactions of the family,
contributed heavily to the construction of unhealthy surroundings. Wile himself blamed
"machinery" which "has been devastating the home because it has taken away most of its
creative values and also many of its cohesive values." Congestion, lack of privacy, noise,

671 Ira Solomon Wile, "What is Happening to the Family?" Hospital Social Service 19 (1929): 525-33; idem,
darkness, scarcity of toilet facilities, and overall unattractiveness—all apparently unimportant considerations to the unblinking artificial, mechanical eye—all contributed to the physical and mental disorientation, disintegration, and deterioration of families and communities.673

The new conception of family as the fundamental unit of American health progress demanded fundamental changes in the professions of health. Reverberations were felt all the way down to what seemed only the continuing and mundane task of collecting vital statistics. The sea change was enormous and heretofore largely overlooked in historical accounts. Registrars, said Edwin W. Kopf, assistant statistician at the Metropolitan Life Insurance Company, had heretofore neglected their duty to produce information useful beyond the narrow confines of registration. Vital statistics collected in the past were useless to those interested in “social forces in equilibrium” or of the “social kinetics” produced in families. Registrars needed to collect “not only the aggregations of mere individuals as shown on the books of the demographer, but also the data on the most elementary forms of human association.” Only by collecting such material on family relationships in the community could the health effects of mass social events like wars, natural disasters, and economic catastrophes be truly understood.674

Taking family histories rather than individual health histories revealed a more comprehensive health picture, directing the efforts of public health professionals more surely than fragmentary individual records. Nurses thus now recorded their work in “Family Folders.” These folders, usually measuring 5” x 8” and made of durable manila, contained all the necessary

674Edwin W. Kopf, “Family Statistics from Registration Sources,” American Journal of Public Health 8 (1918): 910-2. Compare this with the relatively modest goals of registration in J. Taylor Madison, “Personal Registration of Family Memoranda: A Plea for the Making and Preserving of Homely Annals,” Science 36 (October 11, 1912): 480: “Methods for laying the foundation of practical certitude are being applied to most lines of endeavor and economic progress. The one conspicuous exception is the study of human efficiency. Here methods are so lacking in system, so disproportionate, as to disappoint reasonable expectations. Especially defective are the means employed for preserving significant facts bearing on the life history, physical, psychologic, domestic, and other factors of personal advancement in human beings. Wholly inadequate are the registrations of birth, marriage, death, and especially the accompanying circumstances.”
forms for tracking the social and health progress of a single family. Family folders assembled
by public health nurses often contained intimate details of family life because, as several
commentators put it, interrogations in the home loosened the tongues of otherwise reserved
individuals. But this was exactly the point. The public health of the individual was completely
tied together with the thoughts, feelings, racial or ethnic customs, and emotional context of the
family in toto. Nurses, having collected all the pertinent information about households, then
turned over particular tasks to particular groups in the community best attuned to carry out her
wishes or, in the case of the other professions of health, engineer their own solutions.

Family record keeping was of particular advantage to the overworked public health nurse.
The family folder seems to have been created first to meet her needs, though it was quickly
adapted and accepted in the professions of health generally. One of the earliest family recording
systems was created in the Middle Western Office of the National Organization for Public Health
Nursing under the auspices of Katherine M. Olmsted. For the nurse “the family predominates
over the individual,” she wrote in 1920. “It is the Jones family by the river that is drinking
polluted water, or it is the old Brown farm where the children are all underfed.” Now, she
continued, cases should be, “referred to [by] the nurse not by individual names and addresses, but
by family names and locations.”

Thus, the inauguration of a whole new set of recording forms, which Olmsted named the
“Family Unit Record System” made sense. “The aim of the . . . record system,” she explained,

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676 Marguerite A. Wales, *The Public Health Nurse in Action* (New York: The Macmillan Company, 1941), 423; Theda L.
Waterman, *Nursing for Community Health* (Philadelphia: F.A. Davis Company, 1944), 49; Amelia Howe Grant, *Nursing:
A Community Health Service* (Philadelphia: W.B. Sanders Company, 1942), 47-8; Marian G. Randall, “Family
Composition Used in the Analysis of Home Visits by Public Health Nurses,” *Milbank Memorial Fund Quarterly* 15
(June 1937): 275-91.
677 George H. Ramsey and Marjorie T. Bellows, “Family Records in the Health Department,” *American Journal of
Public Health* 32 (June 1942): 586; Katherine M. Olmsted, “Record Forms for Rural and Small Town Nurses,” *Public
“is to have as much information about family environment and disease as is necessary, without gathering a great deal of material of little value either statistically or practically.” The family folder contained or had stamped upon it the generalities of each particular family. The names of husband, wife, children, and any others occupying the household were listed. Social and religious contacts were inscribed on a cover sheet. Also included was special information as to particular handicaps. Half a sheet was given over to a description of the environment of the family, including the conditions of the house, any outbuildings, the privy, water supply, garbage disposal, sewerage disposal, and local dairy supplier. A record was also made of the economic state of the family including insurance provisions, home ownership, and occupations of family members.

This family folder contained the cards of individual members of the family, and was designed as a continuous record of illnesses, afflictions, and general health. The individual records within each family folder could vary substantially, but generally contained patient histories for use by the public health officer or physicians on house calls or at clinic visits, and records of nursing visits to family members. Moreover, the monthly report form combined all of the activities of the nurse—general nursing service, school service, clinic and health station service, social service, and expenses—into one useful and generalized document.

Family-oriented record keeping dovetailed nicely with the larger aim of keeping coherent community health records. Family records transformed what before seemed a “heterogeneous mass” of records guiding “inefficient service” into an integrated system for collecting and compiling health department records at all levels. Still better, the switch to family record-keeping reduced the sheer number of primary records needed in the first place. Chief Statistician Marjorie T. Bellows and her commissioner George H. Ramsey, for instance, found that under a

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new plan for family reorganization of the more than half a million medical and nursing record forms collected by their Westchester (New York) County Department of Health all but 175,000 were unnecessary "duplicates" or "special summary forms." Field records no longer needed to be copied from individual folder to folder, and were now usefully at hand whenever needed.680

The concept of family as community in microcosm reached deeper than public health administration and record keeping. Public health professionals used family relationships to more fully comprehend the nature of specific diseases and thereby to refashion epidemiological principles. Professional epidemiologists and infectious disease experts stressed the totality of communicable and chronic disease control over the identification of stricken individuals. Many, if not all, diseases moved in families and could not be prevented or isolated simply by treating infections as they became known. "Resort to medical control alone is like bailing out the kitchen when the water pipe has burst," exclaimed one nurse, "instead of shutting off the water and fixing the pipe." Besides, infected individuals often deliberately eluded discovery. Prevention depended instead upon educating the whole family, treating the whole family, and eliminating the immoral social and personal influences that encouraged the disease.681

Wade Hampton Frost, an epidemiologist with the United States Public Health Service and professor of epidemiology at the Johns Hopkins University School of Hygiene and Public Health, with his students and colleagues found "familial association and aggregation" in many diseases, including pulmonary tuberculosis, rheumatic fever, cancer, common colds, as well as in a wide range of other illnesses. "One of the most characteristic features in the epidemiology of the common acute communicable diseases is the grouping of cases in time and space," he noted,

680 Bellows and Ramsey, "Integration of Health Department Records," 636, 638, 640; idem, "Family Records in the Health Department," 585-8.
“and this is especially apt to be noted in the group which constitutes a household, people in close
contact with each other, sharing a common environment, mostly of close kinship, and usually
under the eye of at least one medical or lay observer whose observation encompasses the whole
group.”

Frost considered his familial epidemiological principles of great value in the control and
prevention of tuberculosis, a particularly stubborn infectious disease. “Fifty years ago,” he
remarked, “in the light of Koch’s discovery and of the whole germ theory of disease as it then
stood, one of the great students of public health could say, quite reasonably: ‘There is no
theoretical reason why a purely contagious disease like tuberculosis may not be exterminated. If
contagion can be prevented at all it can be prevented completely.’” The record since then,
however, had clouded much and doubt began to creep into the minds of many public health
professionals. Understanding of the household or familial aggregation of tuberculosis, however,
could be used to keep transmission of the bacteria below the threshold level necessary for its
continued propagation and succession in the community. “If, in successive periods,” Frost wrote,
“the number of infectious hosts is continuously reduced, and this declining ratio is continued
long enough, extermination must be the result.”

Frost collaborated with many researchers in several field studies of familial tuberculosis.
All of the studies bore an essential commonality. They were designed, explained Frost, to
“ascertain the mortality and specific morbidity in familial contacts of persons suffering from
pulmonary tuberculosis, for comparison with the experience of suitable control populations.”
Calculations of morbidity and mortality correlated with family contacts revealed the “excess risk”

Method (New York: The Commonwealth Fund, 1941): 495; idem, “The Familial Aggregation of Infectious Diseases,”
683Wade Hampton Frost, “The Outlook for the Eradication of Tuberculosis,” American Review of Tuberculosis 32
(December 1935): 644-5.
found in certain tuberculous households, and their excess "secondary attack rate," the average number of family members stricken (other than the primary or "index" case) in some specified period of time. Frost took no credit for these ideas, explaining that Providence sanitarian Charles Value Chapin had first outlined the idea of a secondary attack rate as early as 1903, but had overlooked some of the obvious implications for epidemiological understanding of infectious diseases stemming from it.

Frost contrasted his science against clinical diagnosis, where the fundamental unit is the individual patient and individual lesions. "For epidemiological description," he wrote, "the unit is an aggregation of individuals making up a population, and description of the mass-phenomena of a disease consists of a statement of its types and frequency of occurrence in the population as a whole and in its different component groups." Diseases, in other words, were "mass-phenomena."

Frost and his cadre of investigators considered the traditional definition of epidemiology obsolete. Epidemiology as the "science or doctrine of epidemics," Frost asserted, had artificially circumscribed the field. "It is now recognized that an epidemic is only a temporary phase in the occurrence of any disease, and that its phenomena cannot be considered scientifically except in relation to the antecedent and subsequent history of the disease." The epidemic manifestation of disease, in other words, could be viewed as an extreme example of its otherwise endemic

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684 Frost, "The Familial Aggregation of Infectious Diseases," 8, 12. Ross L. Gauld of the Department of Epidemiology and Biostatistics in the School of Hygiene and Public Health of Johns Hopkins University perpetuated this belief as late as 1942, writing that "the systematic study of the acute communicable diseases, using the family or household as a unit, has been due largely to the work of the late Charles V. Chapin and his development of the so-called "secondary attack rate" to measure the risk of persons exposed to a disease in another member of the same household." See Ross Laurier Gauld, et al., "Index Person: Relation to Incidence Rates in Family Studies," American Journal of Public Health 32 (June 1942): 577.

685 Frost, "Epidemiology," 495; idem, "Risk of Persons in Familial Contact with Pulmonary Tuberculosis," American Journal of Public Health 23 (May 1933): 426-7. Epidemiologists defined the index case as either the first case of communicable disease in a family, or as the first documented by a public health worker.

686 Frost, "Epidemiology," 494, 496.
character. This was especially apparent in comparisons of epidemics one to another. Each differed substantially in their course due to many factors, including transmission rate, pathogenicity, host susceptibility, distribution, and antigenic properties. Epidemiology became a dynamic natural science, where disease in the population fluctuated on a scale balanced by infection and immunity.687

Diseases, Frost argued, could also be misunderstood by traditional epidemiologists who conflated the definition of “disease” and “infection.” Diseases need not manifest themselves to the professional by his carefully cultivated arts of discrimination. Rather, microbes and parasites might be “subclinical” (hidden) or lie dormant within an apparently healthy body. “Carriers” of disease spread disease without appearing infected themselves. They belied the ever-present “concealed reservoir” for disease, but every human could be scratched for one dangerous invader or another. Every individual, in other words, incubated the potential for disease in another. The multiple faces of disease, then, would be studied together.688

Moreover, the older science of epidemiology neglected its roots and its associations as it carved out a professional niche. Epidemiologists, noted Frost, needed to consider broader fields of inquiry like natural philosophy, natural science, and biology. They should borrow heavily from bacteriology, protozoology, and immunology. “In fact,” wrote Frost, “epidemiology must either be considered broadly as including these sciences or, if more narrowly defined as distinct from them, it may be conceived as an extension from the opposite side into a field where most of the ground is in common.” Even where extreme specialization might be necessary, all sciences, including epidemiology, ultimately represented “converging lines of research.”689

687 Ibid., 493, 519-29.
688 Ibid., 512, 520.
689 Ibid., 497-9.
The *modus operandi* of diseases recognized by this recast “collective science” of epidemiology affected various community groups differentially. Susceptibility and resistance depended, in large measure, on the “characteristics and customs” of human populations. Measles afflicted children because they lacked immunity; adults had already had the disease or been exposed. Yellow fever epidemics often spared their worst effect in children and blacks. Typhoid fever ravaged those who ate fecal-contaminated food and drink. Race, sex, age, geographic locale, and economic status were all considered legitimate, natural groupings for epidemiological consideration.690

The new epidemiology also emphasized the limitations of the laboratory. While extraordinarily useful as a tool for research, wrote Frost, “the transmission of an infectious disease under controlled experimental conditions suffices to prove that all the factors essential to natural transmission are comprised within the more or less narrowly limited conditions of the experiment, but it does not prove the converse proposition, that these are the only conditions under which infection may occur.” Descriptive observation in the field represented a check on the experimentalist. Only there could epidemiological associations be made directly.691

In practice, Frost’s field workers, usually but not exclusively medical social workers and public health nurses, prepared “family schedules” to keep track of relevant information during clinical investigations and interviews. Family schedules included, most crucially, information on membership in family groups, relationships between members, and linkages with deceased or former members. Genealogical records were only one of many ways to define a natural family unit for public health research. A family or household “is used in a rather loose sense to denote persons associated more or less permanently in the same home, taking their meals together, and

690 Ibid., 495-6, 510-17, 531.
691 Ibid., 498, 505, 540-2.
sleeping under the same roof," remarked Miriam Brailey of the Harriet Lane Tuberculosis Clinic of the Johns Hopkins Hospital. "Relationship by blood is usual but not essential for inclusion in the family roster." Ross L. Gauld of the Department of Epidemiology and Biostatistics in the School of Hygiene and Public Health of Johns Hopkins University agreed. "The term 'family' is used to refer to the group of individuals who dwell together under one roof," he explained.

"That is to say, a family is composed of a group of people, usually of close kinship, who are living in intimate contact with each other and who share a common environment. It is, as a rule, a readily delineated group, and is a unit which can without great difficulty be kept under observation."

Without relating or comparing data derived from physical exams, roentgenograms, and tuberculin tests with information derived from family histories, excess risk and attack rates among tuberculous families might have been suspected, but not conclusively demonstrated. Explained Tennessee Department of Public Health statistician Ruth Rice Puffer, "although the causative agent of tuberculosis has been known since 1882, the reason for the selection of certain individuals for attack has not been determined. . . . We now know the great risk for those in the household exposed to open cases."

By far the most wide-ranging application of Wade Hampton Frost's conception of the familial association and aggregation of infectious diseases was made in surveys and regional demonstration projects in what came to be commonly referred to as the "Tuberculosis Studies in Tennessee." The Tuberculosis Studies in Tennessee, begun in 1927 in cooperation with the International Health Division of the Rockefeller Foundation, were designed to discover and

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693 Ruth Rice Puffer, Familial Susceptibility to Tuberculosis: Its Importance as a Public Health Problem (Cambridge: Harvard University Press, 1944), v-vi, 1, 7-21, 81.
control this particularly rampant disease in the population. The tuberculosis death rate in Tennessee at that time was astonishingly high, about 144 per hundred thousand people, constituting a “definite challenge” to the health resources of the state. The studies themselves were divided among three counties in the “three grand divisions” (east, central, and west) of the state, chosen so as to “obtain representative agricultural and industrial, urban and rural groups characteristic of each area.” The agricultural Gibson County was chosen in western Tennessee; industrial Kingsport (Sullivan County) was selected in eastern Tennessee; middle Tennessee was represented by Williamson County.694

Field surveyors accomplished their “tuberculosis finding” by reckoning with the familial basis of its nature and spread. “In whatever way the entry into the family has been obtained, the attitude has been that tuberculosis is a familial disease and one case should lead to a search for others by a complete examination, including roentgenologic study of every member of the family,” explained E. L. Bishop, the State Commissioner of Public Health of the Tennessee Department of Public Health, and H. C. Stewart, Director of Field Studies of Tuberculosis, Tennessee Department of Public Health. “This has led to the finding of the type of case in which the best results can be expected, namely, the early or minimal case.” Indeed, household exposure to tuberculosis was found throughout the state to be the main route for the disease, and the most “logical means of approach in the control of tuberculosis in Tennessee in the light of information now at hand,” concluded Bishop and Stewart, “would seem to center around the breaking of the chain of long-continued contact between patients with fibroid and other types of tuberculosis with their household associates.”695

Experts designed and equipped mobile diagnostic units to find afflicted cases in communities and families and place each case under appropriate medical and nursing care. Family folders of information were established and maintained. Clinic and roentgenologic examinations were carefully made for symptoms of tuberculosis, and data on the economic, environmental, and occupational circumstances of families were obtained. During the first four years of the Tennessee tuberculosis surveys, 1,794 clinics were held, 28,131 individual examinations made, and 5,243 positive cases found.

In the 1930-1931 Kingsport (Sullivan County) Tuberculosis Survey sponsored by the Tennessee State Department of Health, James Anderson Crabtree, director of the Division of Preventable Diseases, discovered disturbing excess morbidity and mortality in the black population. One hundred thirty-two black families were scrutinized in the survey, revealing households suffering tuberculosis morbidity and mortality rates double the statewide rate. Crabtree blamed the excessive rates on the household environments created by certain black families in that community. "Households that have contained cases of tuberculosis, and more especially fatal or existing active cases," he noted, "are more crowded, families are larger, and the rental value of residences is lower than those with no tuberculosis; milk consumption per capita is considerably lower, and evidence of filth and untidiness in the home is three times more frequent in the former class of households than in the latter."

Experts launched the Williamson County Study in the waning months of 1931. Ruth Rice Puffer studied the household associates, "the most important of the classes at risk," of tuberculous patients in the Williamson County Tuberculosis Study. Here, one hundred and fifty

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606 ibid., 357, 359.
households were placed under scrutiny for signs of familial tuberculosis. The efforts of the researchers did not go unrewarded. Under continuous observation, Puffer found that 55.7 percent of all household associates of white primary cases had latent primary tuberculosis, 7.9 percent latent apical tuberculosis, and 7.4 percent manifest tuberculosis. In black families with an identified tuberculosis sufferer, 45.7 percent household associates had latent primary tuberculosis, 4.7 percent latent apical tuberculosis, and 5.6 percent manifest tuberculosis. Again, as in Kingsport, a tuberculosis rate was found double that of the state considered whole.698

Howard C. Stewart, epidemiologist with the Tennessee State Department of Health, hoped that the study of tuberculosis in Williamson County might serve as an appropriate example of what other communities throughout the United States might accomplish. Mobile diagnostic clinics needed for successful emulation of the Williamson County demonstration included x-ray machines, tuberculin tests, microscopic sputum examination, and a highly trained field staff. Stewart kept detailed records, and realized that repeated examinations of the families were necessary to discover latent and incipient cases of tuberculosis for treatment.699

Frost's new epidemiology was also applied in investigations conducted by the Johns Hopkins University in the Harriet Lane Home, a clinic for children, and in the Eastern Health District, an area comprising several city blocks of Baltimore and home to sixty thousand people. Miriam Brailey, member of the Department of Epidemiology of Johns Hopkins, director of the Baltimore Bureau of Tuberculosis, and epidemiologist in the Harriet Lane Home's Tuberculosis


Clinic, revealed the familial aggregation of tuberculosis disease among Baltimore residents. She discovered a seventy-seven percent positive tuberculin reaction rate in children aged one to fourteen where a sputum-positive adult was present, and a corresponding increase in the rate of tuberculosis mortality.  

Epidemiologists in the Cardiac Clinic of the Harriet Lane Home also found evidence of Frost's familial aggregation of disease. Rheumatic fever had for almost a half century been popularly referred to as a "house disease," that is, seeming to have a high rate of infection within the home. But in the Harriet Lane Home a triumvirate of related rheumatic diseases—chorea, rheumatic fever, and rheumatic carditis—were all found to exhibit familial tendencies closely approximating those for tuberculosis. Ross L. Gauld and Frances E. M. Read studied the familial face of rheumatic disease at the Harriet Lane Home. "The children of 95 families, in each of which one child entered the clinic because of some rheumatic manifestation, were studied with respect to the relationship of the occurrence of the disease among them to familial association with an acute episode of the disease in another member of the family," they reported. "The analysis showed that the risk of contracting the disease among the siblings of the index cases was increased, following association with an acute episode in another member of the family, to more than twice that which prevailed prior to this association." 

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The factors of heredity and environment were both found significant to this result, but the researchers found it remained unclear to what extent each variable contributed to the mix. Still, the possibility of household exposure became key to epidemiological investigations. “Prior to the realization of the infectious origin of this disease, the strong familial concentration was regarded as a consequence of an hereditary diathesis,” wrote Read in 1938. “In more recent years, since the infectious nature of the disease has been accepted and its chronic course and recurrences recognized, more credence has been given to the assumption that the high familial incidence of rheumatic manifestations is an expression of continuous exposure to persistent foci of infection rather than to an inherited susceptibility.”

The Johns Hopkins School of Hygiene and Public Health and the Baltimore Health Department created what they identified as the “Laboratory of the Eastern Health District” for field studies of new public health procedures, and as a place where new personnel might be routinely trained. The district initially comprised two wards of the city of Baltimore, but was subsequently enlarged to include more than two more. The population in the two original wards was about 43,000 whites and 12,363 blacks, comprising a total of 15,000 families. A report of the number of families, now so important to proper epidemiological investigations, stood at 10,979 white families and 2,800 colored families. Researchers in the Eastern Health District predicated their work upon the then-novel belief “that the community life and environment influence the

College in New York City. Edith Irvine-Jones of the St. Louis Children’s Hospital and Washington University concluded that “the undoubted familial occurrence of rheumatism would seem to be due less to a specific and contagious agent than to certain familial characteristics which favor: (a) the onset of many infections, and (b) the appearance of the syndrome known as rheumatism.” May G. Wilson of the New York Nursery and Child’s Hospital and Cornell University directly patterned her investigations of rheumatic diseases after the methods used by McPhedran and Opie in their studies of familial tuberculosis. See Edith Irvine-Jones, “Acute Rheumatism as a Familial Disease,” American Journal of Diseases of Children 45 (June 1933): 1184-95; May G. Wilson, Rheumatic Fever: Studies of the Epidemiology, Manifestations, Diagnosis, and Treatment of the Disease During the First Three Decades (New York: The Commonwealth Fund, 1940), v, 21; and May G. Wilson and Morton D. Schweitzer, “Rheumatic Fever as a Familial Disease: Environment, Communicability, and Heredity in Their Relation to the Observed Familial Incidence of the Disease,” Journal of Clinical Investigation 16 (July 1937): 555-70.

Jean Downes and Selwyn D. Collins, both of the Division of Public Health Methods of the National Institute of Health and the Milbank Memorial Fund, conducted in this district epidemiological studies of acute and chronic "sicknesses" among the residents. So also did Wade Hampton Frost and his collaborators. These diseases included mental afflictions, common colds, pneumonia, dental caries, tuberculosis, syphilis, rheumatic fever, and diphtheria. Researchers canvassed neighborhoods for "household informants," one to each family and usually a mother or wife, who became responsible for recording all of the illnesses occurring in the family over the course of a year. In regular general surveys, researchers described each individual in terms of age, race, sex, relationship within family unit, occupation, and homeowner status. By this method, for example, the rate of illness found in the district for the year ended June 22, 1939, was determined to be 1,268 per 1,000 population. Downes, Collins, and Frost, also correlated sickness rates against the general survey variables.\(^7\)

Tuberculosis surveys conducted at the outpatient clinic of the Henry Phipps Institute of the University of Pennsylvania\(^7\) also found excess morbidity and mortality when statistics were grouped into families. Institute workers assigned each family attending the clinic its own serial

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\(^7\)Jean Downes and Selwyn D. Collins, "A Study of Illness Among Families in the Eastern Health District of Baltimore," *Milbank Memorial Fund Quarterly* 18 (January 1940): 5-6, 8-9, 12.

\(^7\)Not to be confused with the Henry Phipps Psychiatric Clinic at Johns Hopkins University.
number and file folder, into which they dropped “family sheet” forms, medical histories, and examination records. Beyond x-ray films, tuberculin tests, and diagnoses, the family folder contained pertinent “sociological information” on the state of cleanliness of family members and home, occupation and employment, nativity, and other habits that might mark particular families as prone to tuberculosis infection and transmission. “Family graphs” were also prepared for each folder, updated with arcane symbols tracking the sources and course of tuberculosis infection in family members.96

The results of this reorganization revealed significant information. For instance, it became obvious through family record keeping that almost eighty percent of children with at least one other family member with open tuberculosis diagnosed by sputum sample had acquired the disease themselves by age five. Concluded Henry Phipps Institute physicians F. Maurice McPhedran and Eugene L. Opie, “The spread of tuberculosis occurs in large part by long drawn-out family or household epidemics in which the disease is slowly transmitted from one generation to the next.” Opie applauded the breakthrough of familial recording applied to tuberculosis disease because it opened up a whole new and more useful picture of disease transmission from index cases to their families and down through the generations. “It provides a measure of the relative danger to which members of the family are subjected,” he explained, “and can be used to determine how much medical and nursing care the family needs.”97


Phipps Institute researchers also discovered previously understudied cases of "open tuberculosis of the consort," also known as "marital tuberculosis," in their familial studies. In all, approximately one-half of all the spouses of husbands and wives with open tuberculosis came down with the disease themselves after marriage. Identification of the many cases of marital tuberculosis reverberated throughout the field because it indicated that many more cases of tuberculosis were acquired during adulthood. It was a widely held belief among students of tuberculosis at the time that most cases of apical lesions in adults stemmed from latent childhood infections. It also indicated that much could be done to evaluate prospective brides and grooms in order to prevent tubercular unions. This, of course, led to much sorrow.\(^{708}\)

Epidemiological studies by Jean Downes and other investigators during the Milbank Memorial Fund demonstration project in Cattaraugus County, New York, also uncovered many so-called "tuberculous families." Downes tackled the tuberculosis problem in Cattaraugus County using portable x-ray machines and mass tuberculin testing. Downes found Cattaraugus County an ideal location for familial tuberculosis-finding because it offered an "unusual opportunity for observing the spread of tuberculosis under fairly simple conditions." Milbank Fund workers followed up initial rounds of mass testing with the distribution of "contact books" to public health nurses. These contact books, prepared by tabulators at the county health department, listed the names of all household contacts of persons who had ever had an active case of tuberculosis in Cattaraugus County. Nurses kept track of over 1,200 household contacts over the course of the Demonstration. Individuals, those sharing the tuberculous "pedigree" plus other friends and close associates in the "natural family," in contact with the identified

tuberculous families stood a rate of infection nine times that of the general population and suffered a “considerable excess” in mortality. Downes claimed a definite drop in mortality rates by familial case-finding activities.709

Epidemiologists, vital statisticians, and health officers used the ideas of familial aggregation and association, of secondary attack rates, and of excess familial risk of morbidity and mortality to more fully understand the transmissibility of many other diseases besides tuberculosis. Measles, for example, according to common and professional wisdom traveled and spread among groups, often afflicting several children in a family or a whole community at the same time. F. L. Kelly and Eleanor Reite of the University of California-Berkeley Department of Hygiene in 1934 calculated that over half of all susceptible family contacts with a primary case of measles contracted the disease. Whooping cough, mumps, certain cancers, polio, diphtheria, leprosy, and chicken pox also spread through family contacts, far exceeding their natural rates of infection. But the most troubling of the familial diseases “discovered” in the late 1910s and 1920s, other than tubercular and rheumatic diseases, were syphilis, typhoid fever, scarlet fever, and pneumonia.710


Not surprisingly given their public and private representation as the epitome of social malady, epidemiologists quickly revamped their understanding of the venereal diseases, casting them as ideal "family diseases," diseases seemingly impossible to catch without social contact. “There has come the realization that in many instances syphilis is a disease which invades the family,” wrote neuropathologist Harry Solomon and social worker Maida Solomon of the Boston Psychopathic Hospital. “The family being but a unit of the community, it follows that the communal structure is also involved.” Public health control efforts in this area focused especially upon the freshly delimited etiology and diagnosis of “familial syphilis,” and public health professionals described openly and in troubling detail whole “syphilitic families.” The disease was familial in two important respects. First, syphilis tended to strike adult males, the breadwinners of families. This fact meant all sorts of unpleasant effects were focused directly on the family, including both impoverishment and social stigma. “Syphilis in the family causes more unhappiness than any other single disease,” announced one public health nurse. Second, syphilis easily spread from husband to wife, wife to husband, and even mother to child in utero. Clearly, syphilis was essentially a problem of the whole family.  

A. L. Gray, epidemiologist with the Mississippi State Board of Health, and W. H. Cleveland, a Tupelo health officer, described the unhappy effects of syphilis spread through close family contact in 1935. The “R. Family,” he related, became peculiar propagators of the disease after the seventeen year-old daughter became infected after repeated sexual encounters with a known Wassermann positive clinic patient. A few months later syphilis spread to her two year-old brother after giving him food she had partially chewed for his benefit. The disease

invaded the mother of the family by regular breast feeding of the infant. The mother, in turn, infected the father through sexual intercourse. Meanwhile, the daughter had infected another brother and a sister, possibly from the chewing of "second-hand gum." In another of Gray's cases, the "D. Family" fell prey to the disease through a single razor which several men used "in rapid succession" while on the road picking cotton. One of the men returned home with an eruption on his face, an eruption initially misdiagnosed as measles. By the time the mistake had become known, the man had passed syphilis to his wife who, in turn, passed the infection along to their child by masticated food.712

Harry and Maida Solomon also recounted touching narratives of the familial spread of syphilis in their widely cited book *Syphilis of the Innocent: A Study of the Social Effects of Syphilis on the Family and the Community* (1922):

Case 49. The Bradford family is indeed an unusual one in that there were two children both of whom had juvenile paresis. The family consisted of the father and mother and two girls 16 and 14 years, respectively, at the time of their first appearance at our clinic. The older girl had been quite well until the age of 12 when she suffered a shock which left her paralyzed. Esther, the younger, had been perfectly healthy in her childhood and was considered a bright and active student until she reached the fourth grade in school. Then, at the age of 10, she began to show evidence of deterioration. She complained of headaches, trouble with her stomach, and drowsiness. Next difficulty with speech, gait, and coordination appeared. She deteriorated very rapidly and when seen at age 14 was greatly demented. The whole picture including the laboratory tests of the blood and spinal fluid led to the diagnosis of juvenile paresis [paralysis], with a prognosis of death in a period of months or not more than a few years. The older sister also had a positive blood and spinal fluid. The Wassermann reaction on the mother was positive and that of the father was negative. It may be mentioned that neither child was correctly diagnosed until the ages of 16 and 14 respectively.713


Another case related by the Harry and Maida Solomon describes the Mazzocca family, a family plagued not only by syphilis but by many other diseases:

**Case 80.** Mazzocca family. Father, alcoholic, dead; Mother, poor health, Wassermann positive; Boy, dead, 11 months, diphtheria; Boy, dead, 18 months, scarlet fever; Boy, dead, 22 years, tuberculosis; Boy, dead, 20 years, pneumonia; Patient, 18, juvenile paresis; Girl, 16, syphilitic bone disease, interstitial keratitis; Stillbirth at 18 months; Girl, dead at 14 months, meningitis; Miscarriage, 3 months.\(^7\)

Typhoid fever also flourished in susceptible families. Studies by George H. Ramsey of the Division of Communicable Diseases in the New York State Department of Health found typhoid infection in unvaccinated family members with one active case to have a 90-day morbidity rate 1,900 times that of the general population.\(^7\) So-called human “carriers” of disease, those who harbored and spread disease while showing no symptoms themselves, often cropped up in families of infection. Anna Dean Dulaney, assistant professor of bacteriology and preventive medicine at the University of Missouri, found a dairy farm operating in Columbia being run by a “family of typhoid carriers.” Dulaney traced twenty-two cases of typhoid in a 1925 epidemic to the dairy. The “S. Family,” as Dulaney dubbed them, turned out to have a long history infecting those outside the family with typhoid. In fact, this was the second family dairy to be closed by the authorities. The S. Family had been forced out of the same business eight year before on the other side of town. Only recently, the family had infected a new member through marriage, ten months before customers began coming down with typhoid. Father was found to be a carrier of at least twenty-six years, and Mother for sixteen years.\(^7\)

Dulaney blamed the remittent epidemics of typhoid touched off by this family on poor licensing requirements for milk producers and the family’s improvident sanitary rituals. The S.

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\(^7\)Ibid., 129-30.
Family had made no attempt to separate themselves from the production of milk for sale. They used "wide open mouthed containers" for collecting milk, and capped the bottles by hand. The outdoor latrine stood much too close to the milk house and the cistern for milk bottle washing, and the hose used for washing snaked around the back of the latrine. Dulaney concluded that the sanitary situation at the dairy all but begged an outbreak.\textsuperscript{717}

Even where the disease under study had low secondary attack rates as in the case of endemic scarlet fever, where the figure was about seven percent, the family relationship proved a significant factor. G. E. Foley, researcher in the Department of Preventive Medicine and Epidemiology of the Harvard Medical School and School of Public Health, noted that "endemic scarlet fever [in a given community] is composed of numerous outbreaks occurring in basic units of population such as the family, the whole of which gives the varied type-pattern characteristic of the disease in its endemic form." Follow-up with the Dick test in families where a primary case had been identified reduced secondary transmission by one-third.\textsuperscript{718}

The nature of pneumonia infection also yielded to a familial understanding of its spread. Ironically, epidemiological activities centered on the family unit in pneumonia stemmed from a rather innocuous question: "How does it happen that one particular person in a group develops pneumonia, whereas the other members of his own family, of his own school class, of his own working group, or his immediate friends, remain well?" Experts generally agreed in the early twentieth century that pneumonia was a bacterial disease, communicated person-to-person by the pneumococcus bacillus. Surprisingly, though, the random contact aspect of its spread did not

\textsuperscript{717}Ibid.
preclude in the minds of many experts the as yet unconfirmed possibility of its more general dissemination within family groups. That is to say, experts became interested in familial pneumonia epidemiology even when prior experience suggested no relationship between familial contacts and pneumonia infection.\(^7\)

Milton J. Rosenau, Lloyd D. Felton, James P. Powell, and Reginald M. Atwater in the Harvard Department of Preventive Medicine and Hygiene and Department of Epidemiology investigated this angle as early as 1926. They studied pneumococcus infection not only in family units, but also in natural groups like high school pupils, medical students, laboratory workers, and hospital nurses. And while they determined that nearly everyone is a carrier of a fixed and identifiable kinds of pneumococcus (described as Type I, II, III, or IV) at some time during a typical year, the source of these infections comes from "local contact" with "mutual associations."\(^7\)

Rosenau himself illustrated the spread of pneumonia by mutual associations in families in useful graphical form. In Figure 2 below, Rosenau attempted to determine the course of pneumococcus infection in one family by drawing circles containing the names of natural associates around the initial patient K-313, infected with Type I pneumococcus infection. The number of lines drawn between each individual determines the strength of the their relationship and extent of daily contact.\(^7\)


Contact between Sister 302 and Brother-in-Law 207, for example, is very strong, while contact between Night Nurse 303 and Day Nurse 127 is slight. In Figure 3, Rosenau outlined the spread of pneumonia within a natural family group and its eventual "escape" to another family group represented by Husband 329, unknown to the index case J-117.\textsuperscript{122}

\textsuperscript{122}Ibid., 468.
Wade Hampton Frost hoped that an epidemiological understanding of the familial origins of communicable diseases would be immediately useful. He hoped that epidemiology might directly address important practical problems in the community. The health officer might assess the relative risk of infection in specific situations and take immediate action. Various methods
were employed where a particular individual threatened the health of other members of the family unit. Removal of the sick from their homes was a common method used against a family threat. Tuberculosis sanitariums were only the most aggressive example of this. George Ramsey found a one-third reduction in secondary cases of typhoid fever simply by removing the primary case to the hospital.

The focus of public health, then, was not upon individuals, but upon their ultimate and most natural group in the community: the family. Attending nurses were continually enjoined to consider the wellness of the family first. Public health nurses, in particular, were enjoined to think collectively about sickness and health in family members. Families were on practical and ideal grounds the fundamental units provided public health nursing assistance. New public health nurses were trained, if not already predisposed by their personalities, to “see the individual in need of help in the light of his family background,” as nurses Grace L. Anderson and Mabelle S. Welsh described it.

Family-oriented nursing contributed directly to the more inclusive aim of generalized nursing service described in an earlier chapter. Generalized service was tailor-made for evaluating and assisting families. “The family is the center of interest to a public health nurse, and family health is the end she hopes to attain,” remarked one public health nursing textbook author. Specialized service had not, in their minds, met the needs of families because it did not focus on family, but only upon its constituent parts. The maladjusted family spread disease and

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disorder among its members. Assisting the individual, then, did not guarantee that the problem had been eliminated.\(^\text{725}\)

In complex modern society, nearly every family always stood in need of assistance. Few families could provide members all the necessary functions they had in times past. Public health nurses bolstered the family by providing continuity at times when family relationships disintegrated. Protecting the family had the prophylactic effect of protecting the community. “Through the improvement of living conditions of this small unit,” noted one nurse, “society as a whole is benefited.”\(^\text{726}\) Family bonds did not appear to disintegrate during the Depression. “If anything, economic pressure has brought its members closer together,” claimed public health nurse Violet H. Hodgson. “Never in the history of public health nursing has the family called so loudly to be treated as a unit of service.”\(^\text{727}\)

Reaching out to patients or individuals at risk depended on the rapport established between the family and nurse. Counseling and educating the individual inevitably failed without the approval of their families. Concentration on the family as the fundamental unit in public health nursing practice had several benefits beyond securing family members as agents of patient surveillance. The home, moreover, was an ideal place to glean pertinent health information. Home visits allowed public health nurses to sample real situations and use their ability to “think and feel with the family.”\(^\text{728}\)


Nurses found it difficult, if not impossible, to ignore wider problems that contributed to sickness or the potential for sickness in the first place. Nurses did not separate families from their immediate environments. Families were members of the community, and that community could harm healthy families or be harmed by unhealthy ones. The mission of the public health nurse was to “bring about harmony between the family and its physical, social, and emotional environment by adjusting the family to that environment or by modifying the environment itself.” Producing healthy families, thus, required great choreographic skill on the part of the nurse correlating the needs of the community with those of all families.\(^{729}\)

While there was much agreement among nurses as to the ideal of nursing the sick family, they were less unified about its success in practice. Helen Bean, associate public health nursing analyst for the National Institute of Health, and Georgie S. Brockett, of the United States Public Health Service, surveyed the profession and found “little or no evidence” of public health nurses rendering a “complete family service.” Instead, they concluded, nurses confined themselves too much to sick individuals, neglecting the value of more “diversified” activities. Bean and Brockett lamented the complete lack of appropriate action taken against tuberculous families in particular, even though it was well-understood in the other public health professions that dissemination of the bacillus could only be halted by strictly observing other family members for signs of disease. The records Bean and Brockett compiled from scrutinizing family folders showed, most damningly, that only eleven of 3,074 families contacted saw every member served. And, three of those eleven had only one family member to begin with.\(^{730}\)


The familial understanding of many diseases soon entered as common assumptions in the
professions of health, so common that it became acceptable fare for college textbooks. "More
than two thousand years ago, Hippocrates observed that 'a consumptive is born of a
consumptive,"' recalled University of Colorado bacteriologist R. C. Whitman in his Hygiene: A
College Textbook for Non-Medical Students (1930). "The striking tendency of the disease to cling to
families still remains the central fact of its epidemiology. Cases occur, of course, in persons
whose families have not suffered previously, but the familial type will receive chief attention,
because of its vastly greater importance." So strong was the familial understanding of disease
that epidemiologists could become stumped when a study of family relationships failed to
uncover the familial nature of disease spread. "The frequency with which multiple cases [of
tuberculosis] have occurred within a given household," wrote two researchers in 1942, "has
tended to obscure the importance of contacts outside the immediate household." The possibility
of "extra-familial" contact was just that, exceptions to the familial rule in the spread of many
diseases.\textsuperscript{731}

C. W. Twinam, superintendent of the Lakeville State Sanatorium in Massachusetts, and
Alton S. Pope, director of the Division of Tuberculosis in the Massachusetts Department of
Public Health, discovered the vicissitudes of such familial thinking in an outbreak of pulmonary
 tuberculosis in a small town of four thousand. Each case, all among high school girls, located by
the researchers came from a different family. No domestic link could be determined between
them. "It was during one of the visits to family 'C' that a casual remark was made relative to a
certain church which opened a new approach to the problem because it was known that family
'A' attended the same church," noted Twinam and Pope in their paper. "Visits were made to

\textsuperscript{731}R.C. Whitman, Hygiene: A College Textbook for Non-Medical Students (New York: John Wiley & Sons, Inc., 1930), 249;
C.W. Twinam and Alton S. Pope, "Pulmonary Tuberculosis Resulting from Extra-Familial Contacts," American
families 'B' and 'D' and it was discovered that both of them also attended this church.” Follow up inquiries revealed the source of the infection in the former minister's wife, already in a tuberculosis sanitarium when finally tracked down. “Thus a common source of infection was found for these four girls in their fellow church member,” declared Twinam and Pope. “Failure to find a source of infection within a household should not preclude further attempts at finding the source case.”732 Other “natural” communities like churches, schools, and factories, in other words, should not be excluded from the purview of community health investigators.

732 Twinam and Pope, “Pulmonary Tuberculosis Resulting from Extra-Familial Contacts,” 1215-8.
CHAPTER XI. THE PLACE OF THE INDIVIDUAL IN COMMUNITY HEALTH

Tantalizingly, especially to our fin de siècle eyes, the most fundamental units of the modern community health meme, which preferred to aggregate and coordinate all things in groups, were still individuals. Groups, after all, could not and still do not exist without them. Community health professionals wrote at great length about how to condition and improve the individual organism toward personal health. The singular “I” and “you” are words abundant in their collective lexicon. But even at this level of reduction the impress of community thinking is clearly visible.

Late nineteenth-century public health experts on the whole saw the properly functioning human body in terms of a system of efficiently functioning specialized parts comprising a most perfect machine. “The personal welfare of each individual,” wrote New York City physiologist and surgeon Frank Overton, “depends largely on the efficiency of his bodily machinery.” Organs function solely as divided, specialized authorities in both human anatomy and physiology with the centralized brain and nervous system as absolute arbiter of control, evoking dramatically the economic “division of labor” that made human civilization possible.733

Public health authorities, then, combed the population for individual persons and individual parts in a person’s body that threatened to muck up the properly functioning system of civilization. Educational institutions seemed a good place to make such evaluations, for there human culture was reborn with each new generation. “As a new automobile is searched solicitously for missing or defective parts, to be solicitously and immediately made good before

the machine is sent out to run against competitors on the highway,” noted Western University
professor Hibbert Winslow Hill, “so the new small citizen should have at least his sight, his
hearing, and his breathing tested before he begins the inevitable compulsory-education race
against all comers on the public highway of the public schools.”

The older science of public health also interpreted the inculcation of individual human
bodily perfection as a primary goal of health service. Having a healthy human physiology meant
carrying not one iota of disease. Possibly no human being could seriously achieve perfect health,
health educators lectured, but it was worth aspiring to. Eugene Lyman Fisk, director of hygiene
at the Life Extension Institute, Inc., for instance measured the progress of human vitality in terms
of what he called “functional normality,” by which he did not mean relative or equilibrious
health, but rather an optimal or ideal standard. By constructing an ideal standard for health, Fisk
argued, he might ascertain how far below the ideal American health stood.

Successful application of the principles of conservation and efficiency bore fruits in terms
of individual human longevity, prolongevity, and vitality, and protection against degeneration.
Hill himself described true health as “the highest physical efficiency prolonged for the greatest
period of time.” Vital statistics collected by life insurance companies suggested that many
Americans were in fact becoming healthier. Louis I. Dublin, statistician with the Metropolitan
Life Insurance Company in New York, proclaimed that the average life span of children under
five had increased by ten years between 1881 and 1911, and that with more proper maintenance,
human life might be extended further.

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325.
(April 1915): 313.
It was commonly assumed that different races and classes of men and women had advanced with the help of hygiene to different levels of health, but the progress of hygiene also cultivated the narrowing of the gaps between the health of different races and classes in the minds of late nineteenth century public health workers. A rising tide, in other words, carried all boats. Still, racial and ethnic differences among immigrants adversely affected native American vitality. The commonplace expression "What is meat for one is another's poison," conveyed to the individual seeking health the warning that the specialized aspect inherent in each human body and each race demanded specialized attention to the realization of hygienic ideals. Ideals for human physiological health, in other words, depended upon racial or ethnic affiliation. "The exposure to cold which would be disastrous for the Negro or even the white man," explained Hibbert Winslow Hill, "is likely to suit the Inuit exactly.\textsuperscript{737}

Louis I. Dublin blamed immigrants from eastern and southern Europe, in part, for dampening gains in life span reported on his life tables, and for contributing a disproportionate share of the "degenerative diseases" plaguing the country. Dublin, utilizing evidence he synthesized from state registration area statistics, claimed that between 1900 and 1910 the cancer mortality rate had increased thirty percent; diabetes, sixty percent; cerebral hemorrhage and apoplexy, eighteen percent; organic heart disease, forty percent; cirrhosis of the liver, fourteen percent; kidney disease, eighteen percent; and arterial diseases a whopping four hundred percent. Charles B. Davenport, director of eugenics research at Cold Spring Harbor, N.Y., laid the blame for poor health with native American minority groups, citing figures for black mortality almost double the rate among whites, and an Indian tuberculosis death rate three times as high.\textsuperscript{738}

\textsuperscript{737} Hill, \textit{The New Public Health}, 55.

Professionals found especially disturbing evidence of American health malaise in the decade before the Great War. Eugene Lyman Fisk at the Life Extension Institute conducted physical examinations of large groups of people in 1914 and 1915 and found disturbing degeneracy among even the healthiest classes of Americans. Fisk determined that nearly one hundred percent of all life insurance policyholders had imperfect health, and that ninety-three percent were not even aware of their own impairment. Twenty-five percent had dangerously high or low blood pressure, thirty-five percent showed seriously abnormal urine composition, thirteen percent had arteriosclerosis, twenty-two percent had decayed teeth and gum disease, sixteen percent had uncorrected vision defects, nineteen percent were underweight; and fourteen percent were chronically constipated.\(^{739}\)

Overwhelming evidence by the 1910s of gross defects among American individuals set the stage for an impending crisis in war preparation. When the Surgeon General's Office released its figures summarizing the physical health of two million drafted men experts learned that over a half a million had been rejected outright, a staggering rate of 486 “defective men” per thousand. If any single fact weighed most heavily on the shoulders of public health authorities in the first decade of the new century, it was this one. By the time the War Department released the enormous tome _Defects Found in Drafted Men_ (1920) for publication, a new way of approaching health principles and practices through community health had already been adopted by a new generation of public health leaders.\(^{740}\)

Community health adherents reinterpreted the healthy human body as a harmonious concordance of all its many parts. The human body, explained one professor of hygiene,


consisted not as an artificial analogue to hierarchical civilization, but rather as many "interrelated and interdependent systems—circulatory, digestive, nervous, and so on." Modern physiologists did not deny that the human body could be machine-like. Instead, they denied that the body should be regarded as a special-purpose device. "If it is a machine, it is a very complicated one—it is like no other machine we know—it is at once a heat engine and a chemical engine and an electrical engine, and besides manufactures such things as antitoxins and thought and gametes," explained University of Kansas professor of medicine Logan Clendening. "Besides it reproduces its own parts when they break down, which is like no other machine. It is a Humpty-Dumpty machine because no one can reassemble it: when that spark which is indefinable leaves it, all the parts may be there, but it won't run." 

Modern physiologists transformed the human body into a different kind of machine altogether, a general-purpose one. Defective parts could not be replaced by simply tearing them out and replacing them. The part in the human mechanism became more than its own identity simply by virtue of being a constituent of the whole. The part made its contribution to the working machine, but the working machine also contributed its usefulness to the part. Without the rest of the human machine, after all, the part was useless. And, without the part, the human machine worked imperfectly or not at all.

Sickness and disease stemmed from a lack of proper coordination and cooperation among the parts. Maintaining the body's dynamic internal and external equilibrium, what the Harvard Medical School physiologist Walter Bradford Cannon called "homeostasis," became the aspiration of the hygienic-minded physiologist. "We are many members in one body, for there is a close interrelation between all parts of the body," noted DePauw professor of physiology and

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hygiene Cleveland Pendleton Hickman. “The proper harmonious cooperation and working of all these parts should be our major aim in promoting our health.” Disease, then, became understood as a deviation from a normal state of dynamic (or self-regulative) equilibrium and the old notion of “perfect health,” was dispensed with, replaced by a new goal of achieving “normal health.” The central questions of hygienic physiology, then, involved teasing out the complex mechanisms by which the human body protected, adjusted, and repaired itself.\(^43\)

Hickman himself noted that modern maladjustment in health, so apparent in *Defects Found in Drafted Men*, stemmed from the “artificial environment” Americans had so assiduously constructed in the New World. Americans, Hickman claimed, could only blame themselves for many of the maladies circumscribing good public health by ignoring their animal inclinations in their pursuit for civilization and culture. He perceived the body in its naturally healthy state as a product of prolonged struggle against the natural world, a struggle that had rendered the body closely adapted to natural rhythms of life.\(^44\)

The ascent to modern industrial life, however, had interrupted the progress of this adaptation, ruining human health in the process. Civilization left humanity with the burden of maladaptation in a bewildering new social and physical environment. “Within a very short period of time,” Hickman wrote, humans have “tried to adapt to this new environment a physical body fitted through untold thousands of years for an entirely different environment.” Civilization traumatized humanity by maladjusting it in many ways. The artificiality and over-specialization of


\(^{44}\)Hickman, *Physiological Hygiene*, 1-2.
the human-built world traumatized human anatomy in unnatural ways. Heretofore unheard industrial and commercial noises dulled and pained the ears. The “close concentration to details” in shifting paperwork degraded human eyesight. Changes in the diet, compounded by the artificiality of the “culinary arts,” threatened the gastrointestinal tract and the teeth by making unavailable food that was “simple, coarse, and admirably adapted to the nutritive requirements of [man’s] primitive nature,” offering instead “soft and sweet foods” that lacked “essential nutritive elements.”

Hickman also explained that the complexity of modern life demanded a more complex human nervous system. But too rapid complexification of society had upset the delicate balance of human mental capacities and facilities, driving Americans to “nervous derangements,” like insanity, feelings of inferiority, chronic worry and sorrow. Complex modern life also enervated overcompensation in the use of artificial stimulants and depressants like alcohol, tobacco, coffee, tea, opiates, “dope,” and painkillers. “The employment of such agencies,” Hickman claimed, “has contributed enormously to the artificiality of [man’s] environment and the intensification of his maladjustment.”

The purpose of what Hickman called the science of “physiological hygiene” was to reconcile the human body with civilization in a way that restored health to the populace. He did not advocate a return to the primeval wilderness naturally compatible with human health. Civilization, he wrote, had after all resulted from a marriage of two of humanity’s greatest assets, “inventive genius” and “resourcefulness.” Instead, the continued progress of humanity could be assured by securing a sanitary environment, lessening reliance upon intrusive artificial medications, supporting eugenic measures to protect the adjusted from the unadjusted,

45Ibid., 2, 4-6.
46Ibid., 3-4.
appropriate clothing and shoes, comfortable and movable seats, and training for equilibrious locomotion. The purpose of physiological hygiene, in sum, involved promoting the adjustment of the human body to the new human environment, and the adjustment of the new human environment to the human body.\textsuperscript{747}

Public health principles changed dramatically in even their most traditional and narrow aspects. Indeed, twentieth-century pathology shattered the artificial distinction between that which was health and that which was disease, as well as the very foundations of specificity. Preventive hygiene since the discovery of specificity in the late nineteenth century had involved a cat-and-mouse game between microscopic invaders and the human body. The ideal human body was free from these invaders, but the normal human body of the modern age was thought to be naturally riddled with all manner of disease. Benign human pathological processes, once to be avoided at all cost, were now embraced as helpful to the advance of the individual and the species. "Disease processes are not 'unnatural,' wrote Logan Clendening. "They are the perfectly logical result of the activity of external forces, of the processes of growth and the progress of time."\textsuperscript{748}

Diseases, moreover, were themselves no longer considered simply fixed, specific entities. They instead evinced great plasticity and could vary greatly over time in virulence or their infective capacity. As Stanford, Columbia, and Harvard bacteriologist Hans Zinsser noted in his classic "biography" of typhus fever \textit{Rats, Lice, and History}, "it is entirely logical to suppose that infectious diseases are constantly changing, new ones are in the process of developing, and old ones being modified or disappearing." Scarlet fever, smallpox, and plague all seemed to be losing their war against the human body in the early twentieth century, and influenza, infantile paralysis,

\textsuperscript{747}Ibid., 1, 7-8, 325-38, 420-7, 439-40.
and cancer alternately seemed to be gaining in strength. The once terrible smallpox more and more assumed the milder characteristics of chickenpox.\textsuperscript{756}

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In many ways the overall organization of my dissertation is its own conclusion. My dissertation tends to focus on elite administrative and organizational problems of professionals taken together. My field of vision for this very reason is deliberately narrowed by emphasis upon the published professional discourse in the abundant primary literature. While popular health periodicals like \textit{Hygeia} and extant caches of poster material from popular health campaigns are useful in illuminating the history of the professions, their import and significance do not become clear until we know what central assumptions totaling an intellectual framework lay behind them. This is especially true at a time in American history when professionals, not laypeople, coordinated the experts and the masses.

My dissertation also focuses less on the distinctive abilities of individual experts, even when those individuals distinguished themselves in ways recognized by their colleagues. Instead it attempts to capture ideas offered by individuals that "struck a chord"—perhaps by noting their repetition in speech and writing and centrality to debate—without losing sight of the collective experience of professional life in health. Put another way, this dissertation did not dwell upon—or even mention—Donald B. Armstrong's constitutional shyness, interests in music, or even his graduate student career at MIT under the great William T. Sedgwick. In a longer dissertation, some of this might have been useful, even relevant. Still, it is his ideas and actions

that matter more in a history of this sort, in an intellectual history of the modern re-professionalization of public health.

My dissertation also identifies and uses intellectual discontinuities in order to define what came next. Though it may appear at first glance to present a homogeneous view of a particular group of people in the past, my dissertation actually relies on the ability to identify what was unique and novel about community health professionalism between 1915 and 1940. How else to render it separable than to note its apparent differences from that which came before and (if possible) what came after?

What did come after? Today, as in the early twentieth-century, we accept at face value that individuals comprise groups. But what distances community health thinking from ours today is its insistence that the individual is continuous with, and not divorced from or discrete within, wider society. As one relatively obscure but rhetorically gifted industrial hygienist put it in 1936, “this view seeks to interpret the organism cosmically, and thus subject to the many interacting forces derived from the world in which it lives. In this sense the organism and its internal and external environment are considered as a whole.” This widely held assumption in community health rendered meaningless analysis without synthesis, difference without similitude, mechanism without dynamism, system without network, specialization without generalization, organ without organism, and individuation without association. 750

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